Eastern Himalayan Ecoregions Complex
Global 200: Terai - Duar Savannas and Grasslands

Terai Arc Landscape (TAL)- Nepal

Implemented by His Majesty's Government of Nepal/Ministry of Forests & Soil Conservation,
Department of Forests, Department of National Parks and Wildlife Conservation
and
WWF Nepal Program

Annual Technical Progress Report

July 01, 2001 – June 30, 2002

Report prepared by
WWF Nepal Program
GPO Box 7660,Baluwatar,
Kathmandu, Nepal
Tel: +977 1 434820, Fax: +977 1 438458
Email: mns@wwf.mos.com.np

July 2002

Eastern Himalayan Ecoregions Complex
Global 200: Terai - Duar Savannas and Grasslands

Terai Arc Landscape (TAL)- Nepal

Annual Technical Progress Report
July 01, 2001 – June 30, 2002

Implemented by

His Majesty's Government of Nepal/Ministry of Forests & Soil Conservation,
Department of Forests, Department of National Parks and Wildlife Conservation,
and
WWF Nepal Program

Funded by

United States Agency for International Development,
Directorate General International Cooperation, Ministry of Foreign Affairs-Netherlands, US Fish and Wildlife Services, Save the Tiger Fund/NFWF,
AREAS, World Bank,
WWF Netherlands, WWF International, WWF UK, and WWF US

Report prepared by

WWF Nepal Program
GPO Box 7660,Baluwatar,
Kathmandu, Nepal
Tel: +977 1 434820, Fax: +977 1 438458
Email: mns@wwf.mos.com.np

July 2002

Table of Contents

List of Tables

Acronyms

AFO	Assistant Forest Officer
APU	Anti-Poaching Unit
APO	Anti-Poaching Operation
BCP	Bardia Conservation Project
BICP	Bardia Integrated Conservation Project
BZ	Buffer Zone
CBO	Community Based Organization
CCS	Creative Conservation Society
CFC	Community Forest Committee
DFO	District Forest Office
DDC	District Development Committee
CFUG	Community Forest User Group
CFCC	Community Forest Coordination Committee
DNPWC	Department of National Parks and Wildlife Conservation
DOF	Department of Forests
GIS	Geographical Information System
ha	Hectare
HH	Household
ICDP	Integrated Conservation and Development Program
IGA	Income Generation Activity
WIGA	Women Income Generation Activity
KMTNC	King Mahendra Trust for Nature Conservation
MFSC	Ministry of Forests and Soil Conservation
M.Sc.	Master of Science
NTFP	Non Timber Forest Products
PCPC	People's Campaign for Park Conservation
RNA	Royal Nepalese Army
RBNP	Royal Bardia National Park
RCNP	Royal Chitwan National Park
RSWR	Royal Shuklaphanta Wildlife Reserve
PWR	Parsa Wildlife Reserve
RTCPA	Regional Training Center Protected Area
TAL	Terai Arc Landscape
TAL – DOF	Terai Arc Landscape, Department of Forests Component
TAL – DNPWC	Terai Arc Landscape, Department of National Parks and Wildlife Conservation Component
VDC	Village Development Committee
WETTREC	Western Terai Tiger, Rhino and Elephant Complex
WWF	World Wide Fund for Nature also known as World Wildlife Fund
WWF NP	World Wildlife Fund Nepal Program

Summary Sheet

Project Number NP 0086075	**Country and Project Title** Nepal: Terai Arc Landscape Program
Project Start Date: July 2001	**Project End Date:** June 2006
Report Prepared By: Terai Arc Landscape Team WWF Nepal Program Office	**Date:** July 30, 2002 **Reporting Period:** July 1, 2001 - June 30, 2002

What is the long term goal of the project?	To conserve the biodiversity, soils and watersheds of the Terai and Churia (Siwaliks) hills in order to ensure the ecological, economic and socio-cultural integrity of the region.
What are you trying to achieve this financial year?	• Restoration of forest corridors of Basanta and Katarniaghat. • 36 User group form and institutionalize • 7 multi-purpose nurseries establish and produce of 150,000 seedlings • Afforestation of 100 ha along corridors and bottlenecks. • Geographic Information System (GIS) baseline and biological monitoring develop. • Protected area management: strengthened of Parsa Wildlife Reserve (PWR), Royal Chitwan National Park (RCNP), Royal Bardia National Park (RBNP) and Royal Shuklaphanta Wildlife Reserve (RSWR). • Capacity building and mobilization of users groups and 250 ha of forests protected by users groups. • 200 ha of grassland manage in protected areas • Translocate 10 rhinos to RBNP. • Establish 3 community APU along corridors • Promotion of biogas and improved cooking stoves. • Reduce in poaching, illegal trade of forest resource use reduced. • Implement ICDP (Integrated Conservation and Development Program) including income generation activities, agro forestry and ecotourism. • 17 anti poaching units operating in PA in TAL • Increase conservation awareness among communities and school children. • Build capacity for local people

What have been the important developments during the period under review?

- Supplementary Agreement signed with the Ministry of Forests and Soil Conservation on July 13, 2001 for TAL implementation.
- Two field offices set up in Bardia and Dhangadi for the two TAL project components - TAL-Department of National Parks and Wildlife Conservation (DNPWC) and TAL-Department of Forests (DoF).
- Program Coordinators and Project Managers appointed by DNPWC and DoF for the respective project components, and 3 technical staff were hired by WWF NP
- 13 nurseries including 2 agro-forestry nurseries were established with seedlings production capacity of 330,000.
- 161.5 ha of plantation carried out.
- 536ha area restored from plantation and natural regeration
- 5 community forests handed to local communities in Dovan
- 4 community forest operational plans prepared
- 26 CFUGs constitutions prepared and registered in respective district forest office
- Encroachment removed from 5500 ha of forests in the Basanta corridor with people's participation.
- GIS baseline data including land use, road and river of TAL digitized and stored
- Metadata is under construction using satellite data using remote sensing for biological monitoring in TAL
- Remote sense images procured and vegetation classification and analysis underway.
- 250 ha of grassland managed in RSWR and RBNP
- 5 waterholes constructed at RSWR and RBNP
- 17 APU operating in four protected areas in TAL
- 4 APU new posts were constructed in RBNP and RSWR

- The proposed black buck conservation area demarcated with support from local people.
- 10 rhinos were translocated in RBNP
- Book, posters and booklets were published on CITES.
- 3 community based anti poaching units (APU) have been started in the forest corridors.
- 130 bio gas plants and toilets were constructed.
- 30 female piglets were distributed to members of 3 women's groups for income generation.
- A day care center was started and 42 children are attending it.
- 10 literacy classes for 275 local livestock herders have been completed.
- 39 new eco clubs were formed
- A health post renovated in Mahadevpuri VDC
- 30 '*Sampada sandook'* environmental education kits prepared and used for environmental education programs in schools.
- Two DOF staff awarded scholarship to study M.Sc. degree in India.
- TAL fact book, video on TAL and brochure published
- Street theatre for conservation awareness organized in different locations.
- A field level transboundary-planning meeting held in RBNP and RCNP.
- A draft TAL policy document published in both Nepali and English, and distributed for feedback among stakeholders.

What important development or activities do you expect in the coming year?

- Production of 360,000 quality seedlings in 12 multipurpose nurseries
- Plantation of 225 ha of degraded land along corridors and bottlenecks
- Regeneration of 165 ha community land along corridors and bottlenecks
- Legalize and institutionalize of 20 CFUGs and 3CFCC
- Establish vegetation monitoring plots at 5 sites
- Conduct forest management regimes for TAL and sustainable livelihood research in TAL
- Establish a metadatabase in GIS of TAL
- Manage 335 ha of grassland inside protected areas
- Construct 6 waterholes inside the protected areas
- Conduct regular community APO along corridors
- equip RCNP with AP equipment
- CITES implementation
- Research and monitoring of wildlife.
- Translocate 4 rhinos
- Promote alternate energy and appropriate technologies – bioigas, Improve cooking stoves
- Promote income generation activities
- Promote ecotourism
- Establish socio economic database of TAL
- Generate conservation awareness among local people
- Build the capacity of local people, CBOs and partners
- Publish promotional materials on TAL
- Initiate transboundary cooperation between government of Nepal and India.

Are you satisfied with progress to date? (please cross a box)

Completely		More than 50%	X	Less then 50%		Not at all	

Is there anything you would like from WWF to help or facilitate you in your Work?

Please send your feed back on technical report and annual work plan

Who can be contacted for more information?

Name: Anil Manandhar **Position:** Director of Programs – Terai Program
Phone Number: +977 1 434820/434970 **Fax**: 438458

Executive Summary

The Terai Arc Landscape (TAL) Program in Nepal was initiated in July 2001. A Supplementary Grant Agreement was signed on July 13, 2001 between the Ministry of Forests and Soil Conservation (MFSC) HMG of Nepal and WWF Nepal Program (WWF NP). This programme is thus being jointly implemented by Department of Forests (DOF) and Department of National Parks and Wildlife Conservation (DNPWC) and WWF-Nepal Program in collaboration with the local communities and NGOs. TAL Program has two project components - TAL Department of National Parks and Wildlife Conservation (TAL-DNPWC) and the TAL Department of Forests (TAL DOF). Both projects – TAL DNPWC and TAL DOF have established their respective field office at Royal Bardia National Park at Bardia and Dhangadi at Kailali. After July 2001, the Western Terai Churia Conservation Program (Tiger, Rhino and Elephant Complex) better known as WETTREC was merged into TAL program. At the same time, the Bardia Integrated Conservation Project (BICP) funded by the Directorate General International Cooperation of the Ministry of Foreign Affairs, Netherlands (DGIS) was also merged into the TAL program as it completed its 6 years implementation in November 30, 2001.

Despite the state of emergency throughout the country since November 26, 2001, TAL Program has been successful in implementing its planned activities in the field through local people and CBOs including Community Forest User Groups (CFUGs) and Community Forest Coordination Committee (CFCC). The TAL field staffs have been interacting and co-ordinating with the local communities in whatever way possible to successfully implement as many activities of the program as possible.

With the initiation of TAL program, activities on improving protected areas, corridor and bottleneck forests, anti-poaching Units (APU), community services, conservation education and culture conservation has continued after the completion of BICP and WETTREC projects. During this reporting period, 5 Community Forests were handed over to local communities in Dovan by the District Forest Office, Palpa with the support from TAL Program. In addition, four community forest operational plans were prepared and these community forests will be handed over in the next fiscal year. Furthermore, constitutions for 26 CFUGs were prepared and registered in respective district forest offices along corridors and bottlenecks. 35 Community Forest User Groups (CFUGs) have been institutionalized during this reporting period and the Community Forest Co-ordination Committees (CFCCs) have been formed in four places for better net working among the CFUGs. Thirteen forest nurseries including two agro-forestry nurseries were established with a capacity of producing 330,000 seedlings and plantation activities were carried out in 161.5 ha area. A major achievement of the program has been the removal of illegal settlers from 6,500 ha of forests in the Basanta Corridor with the participation of local communities.

In the Protected Areas of Parsa Wildlife Reserve, Royal Chitwan National Park, Royal Bardia National Park and Royal Sukla Wildlife Reserve, the species conservation component activities like habitat management (250 ha), wildlife monitoring (tiger,

rhinoceros, swamp deer, birds etc.) rhino translocation (10), antipoaching operations, research and monitoring have been implemented. For the first time community based anti-poaching operations were started in the forest corridors with the establishment of three community Anti-Poaching Units (APUs). There are 17 such APUs operating in the protected areas of RCNP, RBNP, PWR and RSWR and anti-poaching capacity building training and equipment has been provided to Park and army personnel.

As part of the Integrated Conservation and Development Program (ICDP), activities were carried out in selected Village Development Committees (VDCs) of Bardia, Banke, Kailali, Kanchanpur, Nawalparasi, Dang and Palpa. These include livestock management (distribution of improved breed, veterinary services and stall feeding facilities), alternate energy (biogas plants, improved cooking stoves), health and sanitation (toilets), community services (irrigation, drinking water, health posts, day care centre etc), income generation (agroforestry, piggery, mentha cultivation, poultry, ecotourism), gender sensitisation and skill development.

As part of the conservation awareness and education program 10 *gothala* education classes for 275 local livestock herders were completed. 39 Eco clubs have been formed and audiovisual programs for conservation awareness have been shown. '*Sampada sandook'* which are environmental education kits have been prepared and distributed to schools in the TAL site while street theatre shows for conservation awareness were organized in various locations.

As part of the research and monitoring component of the program, GIS baseline data collection for TAL which includes land use, road, river, contours and administration boundary has been completed. In addition, 8 satellite images coving entire TAL area have been identified and procured, and vegetation classification is expected to be completed by March 2003. Studies on socio-economic conditions, forest conditions and biodiversity, community and corridor forest management of the TAL area have been carried out.

Additionally, field level planning meeting on transboundary cooperation was organized in RBNP and RCNP. During this reporting period, report on tiger status survey, draft rhino action plan, bird monitoring reports have been completed. In addition, HMG Nepal has endorsed RBNP Management Plan, Tourism Plan and Buffer Zone Management Plan. The program has also got remarkable support from local community, community based organizations (CBOs), government line agencies, national and international non-governmental organizations and donor agencies. In fact the local communities have contributed to more than 34 percent in cash, voluntary labor and material support for all TAL activities initiated through the CFUGs in bottleneck and critical corridor areas.

1. Introduction

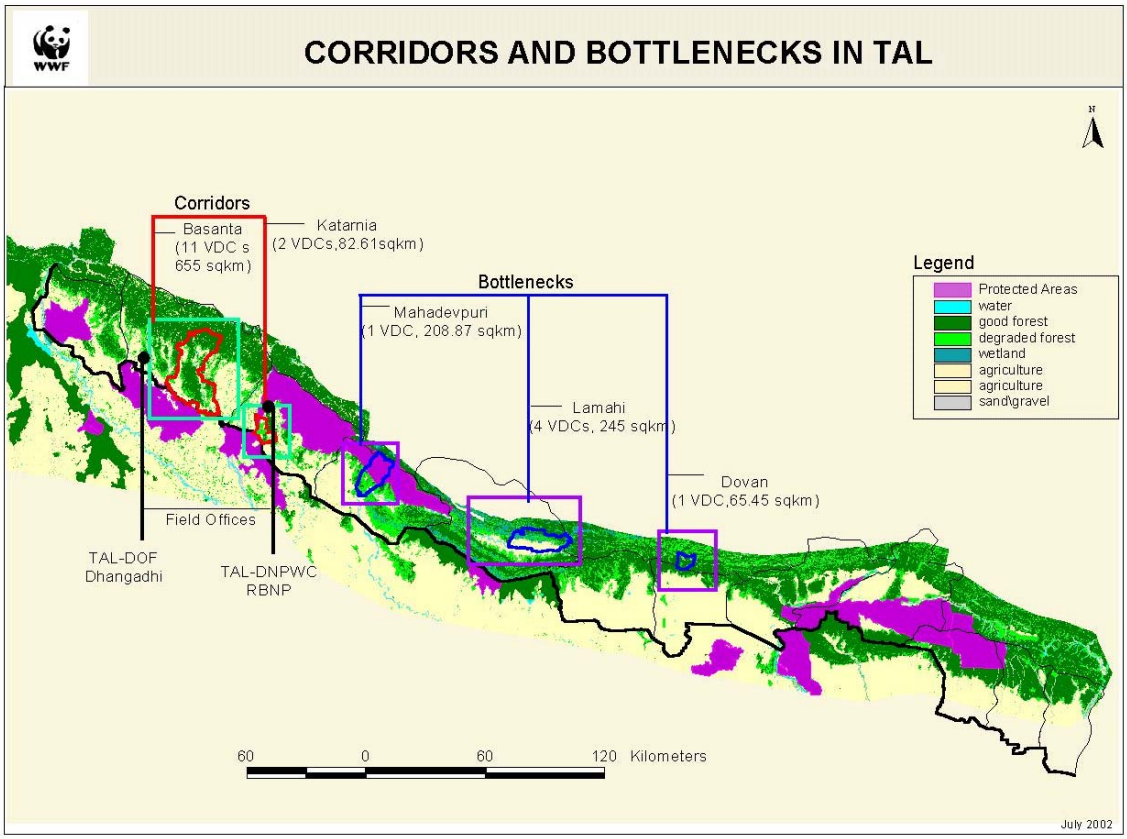
The Terai Arc Landscape (TAL) spreads across more than 49,500 km^2 along the outer foothill of the Himalayas from Bagmati River (Nepal) in the east to Yamuna River (India) in the west. The TAL Program was initiated in 2001 to restore and maintain the critical forest corridors and bottlenecks connecting 11 protected areas in Nepal and India (Figure 1). The goal of the program is to conserve the biodiversity, soils and watersheds of the Terai and Churia hills in order to ensure the ecological, economic and socio-cultural integrity of the region. TAL Program encompasses one of the most biologically diverse habitats on the earth and is a part of the Terai Duar Savannah and Grasslands ecoregion. The alluvial grasslands and subtropical deciduous forests of TAL support 86 species of mammal, 550 species of birds, 47 species of herpeto-fauna, 126 species of fish, and over 2100 species of flowering plants. The area comprises of the highest recorded densities of the tiger (*Panthera tigris tigris*) in the world and the second largest population of the Greater One Horned Rhinoceros (*Rhinoceros unicornis*). Besides, it also supports a wide variety of megafauna including elephants (*Elephas maximus*), Gangetic Dolphin (*Platanista gangetica*), Swamp Deer (*Cervus duvauceli),* Blue Bull (*Boselaphus tragocamelus*), bison (*Bos gaurus*) and hog dears (*Axis porcinus)*.

TAL plays an important role in maintaining linkage among 11 protected areas in Nepal and India. Along the corridor, the forests connecting these protected areas vary from dense intact forests to degraded forest patches. Due to human pressure on forest resources, the forest cover of low land Terai and Churia have decreased during the last three decades. Connectivity among protected areas is crucial for effective and sustainable landscape level conservation. Hence, TAL program was started to create a single landscape level functioning unit by connecting 11 protected areas in Nepal and India through restoration of degraded forest corridors. This would give rise to trans-boundary dispersal corridors and migration paths for tigers, rhinos, elephants and many other species, which are crucial for maintaining biological diversity and gene flow.

In Nepal's context, the conservation of TAL is equally important from an economic point of view. The Nepalese portion of TAL extends from the Bagmati River in the east to the Mahakali River in the west and includes over 75% of remaining forests of Terai and foothills of Churia Range. Conservation of the Churia forests is crucial for preventing soil erosions, flash floods, and recharging the water table of the Terai, the most productive land in the country. Therefore, sustainable management of TAL will help maintain biological diversity and also meet national demand of forest products and food supply for its rapidly growing human population.

The Terai Arc Landscape is thus important from the national, regional, and global perspective for its rich biological diversity. If managed properly it will be the largest and the only remaining natural habitat on earth where endangered megafauna such as tigers, rhinos and elephants will live in harmony with human beings.

Figure 1: Corridors and bottlenecks within Terai Arc Landscape Program



2. Wider Context:

The year 2001 has been a year of political upheavals for Nepal. The insurgency activities, that have been going on for over 5 years gained momentum in the rural parts of the country and entered the urban areas. The government of Nepal declared a state of emergency throughout the country from November 26th, 2001 for 3 months, which was again extended to August 28th 2002. Despite the extreme difficulties in the field brought about by the security situation the field staff of TAL program were able to accomplish the target activities.

3. Objectives

TAL program has following specific objectives;

1. To restore and manage degraded forest corridors and maintain links between protected areas within the TAL as dispersal corridors through community forestry, plantation and natural forest regeneration and by strengthening community forestry user groups

2. To conserve tiger, elephant, rhino and other species of special concern including plants and bird, while preserving their habitat integrity and increasing the land base that supports their viable population by improving and strengthening all protected area in the TAL.
3. To maintain and enhance environmental services for agricultural productivity, soil conservation and watershed management that enhance local livelihoods and reduce poverty through community participation using innovative approaches to integrate conservation and natural resource management.
4. To promote conservation education to local communities and strengthen stakeholders capacity by supporting institutions, developing environmental education packages and conducting environmental interactions.
5. To develop effective coordination and communication among conservation partners and stakeholders and develop promotional materials for fund raising and information dissemination.
6. To strengthen institutional policy, legal framework and enhance coordination between India and Nepal as well as achieve long-term financial security for TAL conservation.

4. Changes

As per the grant agreement signed with Department of National Parks and Wildlife Conservation (DNPWC) and Department of Forests (DoF) on August 15, 2001, both departments deputed their staff as Project Managers for the respective TAL project components. WWF appointed Project Co-Managers and finance personnel for each project components.

Ms Sushila Nepali received the Women in Conservation Award from WWF US recognising her outstanding efforts and role in conservation. In addition, Ms. Nepali played an important role in mobilising local women in conservation programs. She received her award on June 26, 2002 in Washington. Ms Nepali, has been working for WWF Nepal Program supported projects in Terai region since 1997.

5. Progress

5.1. Forest corridors conservation and management

5.1.1. Nursery

Forest nurseries were established in order to produce quality seedlings for community and private plantation. A total of 11 multi purpose nurseries have been established with seedling production capacity of 310,000 per year. Various species of forest trees seedlings like Sal (*Shorea robusta*), Sisoo (*Dalbergia sisoo*), Khair (*Acacia catechu*),

bamboo (*Dendroclamus spp*.), Kapok (*Bombax cieba*), Siris, (*Albizia sp*), cane (*Calamus sp*) were produced in community and range post nurseries. Forest tree seedlings were distributed to both community and private plantations. It is expected that a total of 300,000 seedlings will be distributed for community plantation through user groups by the end of August 2002 and 74,100 seedlings will be distributed for private plantation to individual farmers. Table 1 shows the seedling production status in the nurseries supported by TAL Program.

Table 1: Seedlings production status in the nurseries supported by TAL Program

S.N.	Name	Address	Managed By	# of Seedlings Ready for Plantation in '0	Remarks
1	Pahalmanpur Range Post Nursery	Pahalmanpur, Kailali	Pahalmanpur Range Post	40,000	Basanta Corridor
2	Basanta Range Post Nursery	Badaka Mudha, Kailali	Basanta Range Post	80,000	Basanta Corridor
3	Ratanpur Community Nursery	Ratanpur VDC, Kailali	Ratanpur CFUG	20,000	Basanta Corridor
4	Amrit Mahila Community Nursery	Nimabhoji, Kailali	Amrit Mahila CFUG	20,000	Basanta Corridor
5	Khata Range Post Nursery	Khata, Bardia	Khata Range Post	50,000	Katarnia Corridor
6	Rapti Community Nursery	Bhalubang, Dang	Rapti CFUG (supervised by Narti CFCC)	20,000	Lamahi Bottleneck
7	Deuki Community Nursery	Paharwa, Dang	Deuki CFUG (supervised by Narti CFCC)	20,000	Lamahi Bottleneck
8	Bhawani Community Nursery	Narti, Dang	Bhawani CFUG (Supervised by Narti CFCC)	20,000	Lamahi Bottleneck
9	Ajambari Community Nursery	Lamahi, Dang	Ajambari CFUG, (Supervised by Narti CFCC)	20,000	Lamahi Bottleneck
10	Ghantadev Community Nursery	Masuria, Dang	Ghantadev CFUG, (Supervised by Narti CFCC)	10,000	Lamahi Bottleneck
11	Shankar Community Nursery	Pipari, Dang	Shankar CFUG	10,000	Lamahi Bottleneck
Total				**310,000**	

In addition to, community and range post nurseries, a total of 44,100 seedlings will be purchased from private nurseries. These seedlings will also be planted in community lands.

5.1.2. Plantation

In western Nepal, due to delayed monsoons, plantation work could not be completed till the end of July 2002. However, preliminary works like site selection, site preparation and pits hole digging were completed for plantation of approximately 300,000 seedlings in community land. The respective CFUG and CFCC have taken the lead role in

plantation program. During July – August 2001, the CFUGs planted 38,933 forest tree seedlings (161.5 ha of enrichment plantation) in degraded community land along corridors and bottlenecks (Table 2). The local communities also fenced the plantation blocks with support from TAL program. In addition to community plantation, individual farmers initiated plantation in their private lands. Seedlings were supplied from community and range post nurseries supported by TAL and also bought from private nurseries.

Table 2: Community plantation along corridors and bottlenecks supported by TAL Program during July-August, 2001

SN	Plantation Site	Planted by	Approx. area (ha)	# of Seedlings Planted	Type of Land
1	Hasulia-1, Bhitaria,	Mahila CFUG	10	777	Encroached land
2	Hasulia-1, Ke Gaon,	Milan CFUG	39	8,213	Encroached land
3	Hasulia-2, Badka Mudha	Shuva CFUG	10	586	Grazing land
4	Hasulia-4, Dakhinbharri	Bhagyasali CFUG	5	914	Grazing land
5	Hasulia-4, imabhoji	Amrit CF	14	3,000	Grazing land
6	Hasulia-5, Lalpur	Lallpur CF	17	2,997	Grazing land
7	Hasulia-5, Khonpur	Mohan CF	20	9,450	Riverside
8	Hasulia-6, UttarBharre	Youth Club	10	1,530	Degraded Forest
9	Has-6, Kamalpokhari	Vid. Jan. CF	1	50	Grazing land
10	Hasulia-8, Bishanpur	Bisanpur CF	2.5	25	Re -planted
11	Hasulia-8, Choupheri	Bandevi CF	25	10,040	Encroached
12	Rat-9, Bhuinyaphanta	Sarswoti YC	3	270	Grazing land
13	Pawera- 3,Chotipalia	Srijana	3	783	Riverside
14	Basouti-9, Kailali Gaon	Santoshi YC	2	800	Canal side
	Total		**161.5 ha**	**38,933**	

(Note: Enrichment plantation was carried in most of these areas)

5.1.3. Natural Forest Regeneration

Forest encroachment has become a major problem in Terai area. As the forest patches along the corridors get degraded, it provides ample opportunities for encroachment. The District Forest Offices – Kailali initiated a number of attempts to remove encroacher from the national forest. Local communities were also mobilized to protect their forest areas from encroachment, which resulted in the successful removal of encroachers. Over 10,000 families who had encroached 6500 ha of forest areas were removed by District Forest Office (DFO) – Kailali with the support of the local communities.

The proposed CFUGs in the Basanta forests are protecting existing forests in their areas from further degradation. During July-August 2001 several local individuals, women's groups, clubs and CFUGs planted seedlings of various species in their land. In order to promote natural regeneration, it is most essential to control grazing at least for the first

few years until the seedlings are established. For this, fences were built and trenches dug around the regeneration plots to stop livestock from entering. A total of 30.22 km of trench and 28.79 km of barbed wire fence was constructed along corridors and bottlenecks with 30 percent support on total cost by the TAL Program (Table 3).

Table 3: Status of fence and trench for natural regeneration along corridors and bottlenecks.

SN	Site	Trench (km)	Barbed Wire Fence (km)	Total (km)	Remarks
1	Basanta Corridor	20.32	20.67	40.99	With the contribution of user groups, DFO
2	Katarnia Corridor	9.90	0	9.90	With the contribution of user groups
3	Lamahi Bottleneck	0	5.40	5.40	With contribution of user groups
4	Mahadevpuri Bottleneck	NA	NA	NA	50 ha of degraded land regenerated and fenced with contribution from user groups
5	Dovan Bottleneck	0	0.15	0.15	With the contribution of user groups
6	Kanchanpur Bottleneck		2.35	2.35	With the contribution of user group and DFO
Total		**30.22**	**28.57**	**58.79**	

District Forest Office – Banke, carried out 50 ha regeneration on degraded land in Dhakeri at Mahadevpuri. The entire area was fenced using barbed wire to ensure that the domesticated animals did not damage the regenerated seedlings. District Forest Office – Banke has also formed a user group to protect the regenerated site by the local communities.

In addition, 10 CFUGs along Katarnia corridors were supported to protect their community forest through *Heralu* (watchman). With recommendation from District Forest Office – Bardia, the newly formed CFUG supported 10 *Heralu* for 7 months from TAL program to regularly patrol the forest area. This has minimized the illegal encroachment and timber harvesting in the community forest by poachers.

Kanji House

To discourage uncontrolled cattle grazing which damages agriculture crops and natural regeneration along corridors, CFUGs in Katarnia and Lamahi were supported to construct 17 *Kanji* houses with the 50 percent support from TAL Program. *Kanji* houses are pens that are traditionally constructed to keep captured livestock (illegally grazing in other people's lands or community forest areas) temporarily so that their owners can be fined when they come to stake their claim.

5.1.4. Institutionalization of Forest User Groups

5.1.4.1. Formation and legalization of Community Forest User Groups.

Community Forests under the DOF can legally receive the management authority from the government in what is termed as 'handover'. With this legal authority, communities are able to fully manage their forest resources. The institutional strengthening process of CFUGs includes training the members in forest management, leadership, organization and financial management (Table 7).

A total of 5 community forests were handed over to the local communities (Figure 2). In addition, 4 CFUGs operational plans (2 in Basanta and 2 in Katarnia) were prepared and are in the process of being submitted to respective district forest offices for endorsement. Furthermore, constitution of 26 CFUGs were prepared and registered in the district forest offices (Table 4). The areas, which are handed over to communities are degraded patches of forest, open grazing areas, riverside land and encroached lands. CFUGs are legalized and institutionalized in close coordination with respective district forest office.

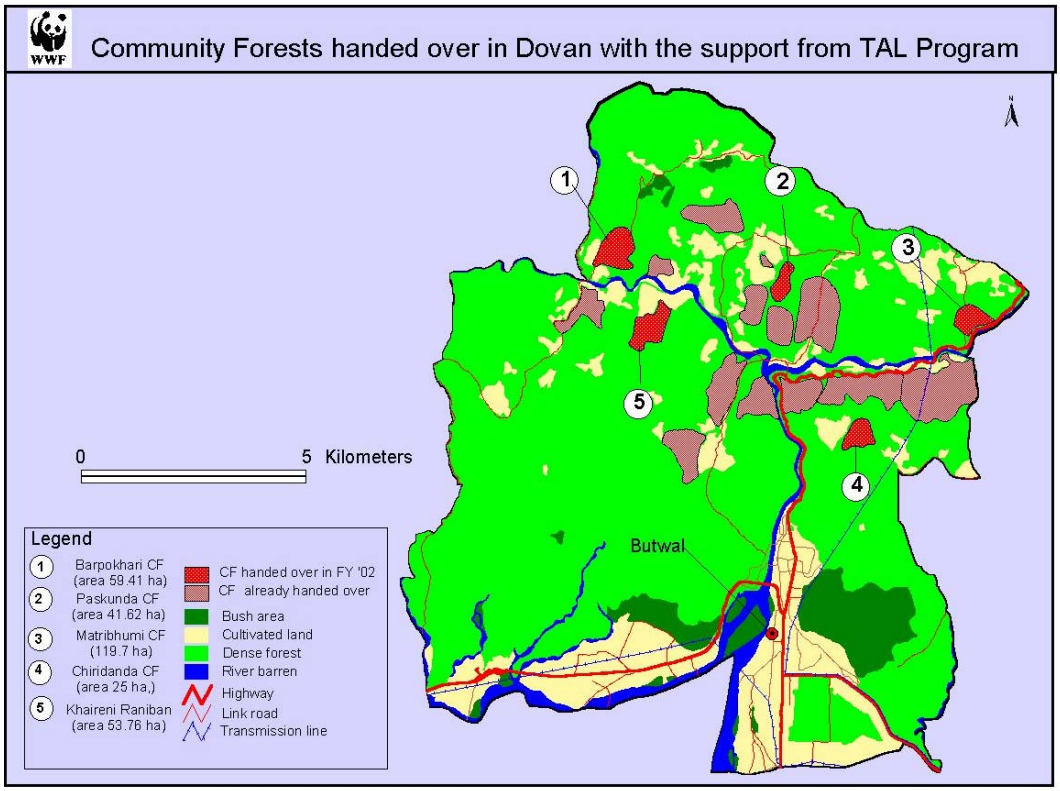
Table 4: Stages of Community Forest hand over along corridors and bottlenecks

S.N.	Achievement	Corridors and Bottlenecks				Total
		Basant	Katarnia	Lamah	Dovar	
1	CF Handed over	0	0	0	5	**5**
2	CF Operational Plan prepared	2	2	0	0	**4**
3	CFUG constitution prepared and registered	15	9	2	0	**26**

(Note: In addition, there are 39 CFUGs existing in Katarnia (1), Lamahi (25) and Dovan (13) corridor and bottlenecks)

Two CFUGs - Srijanashil and Janajagriti managed solely by women in Katarnia corridor were supported to establish their own office management system. Each CFUG was supported with a total of NRs 10,000 to procure stamps, signboard, stationary and furniture from TAL Program.

Figure 2: Community Forests handed over during FY '02



Similarly, 13 Buffer Zone Users Committees (BZUCs) and the Buffer Zone (BZ) council of Royal Bardia National Park (RBNP) Buffer Zone were supported for their meetings and community strengthening by TAL Program during this reporting period. The BZUCs according to BZ regulations manage their forests in a similar manner CFUGs outside the protected areas.

5.1.4.2. Formation of Community Forest User Group Coordination Committee (CFCC)

In order to internalize the importance of people's participation in conservation and to work together with CFUGs in corridors and bottlenecks, 4 CFCCs were formed in Basanta, Katarnia, Lamahi and Dovan (Table 5). CFCCs play a key role in networking, experience sharing and supporting the various CFUGs within and outside their network. The networking by CFCC has become an effective tool in mobilizing and supporting CFUGs for conservation and ICDPs.

Table 5: Status of CFUG Coordination Committee (CFCC) along corridors and bottlenecks

SN	Name of CFCC	No of CFUGs	No of Executive members			Remarks
			Male	Femal	Tota	
1	CFCC at Basanta Corridor	19	14	5	19	In the process of registration
2	CFCC at Katarnia Corridor	10	4	6	10	Draft constitution ready
3	CFCC at Lamahi	26	11	4	15	Already registered
4	CFCC at Dovan	21	9	0	9	Draft Constitution ready

5.1.4.3. Capacity building for CFUGs

During this reporting period, a total of 5 study tours were conducted for 149 participants from various CFUGs in corridors and bottlenecks. The main objective of the exposure tour was to motivate CFUG members about conservation and protection of forest. The participants visited various places to observe various activities including community forest management, soil conservation, NTFP, National Parks and Wildlife Conservation and ICDP in various places of Nepal (Table 6).

Table 6: CFUGs members benefited from exposure tours organized by TAL Program

SN	Origin of CFUG members	# of Study tours	Duration (Days)	Participant from CFUGs	Number of Participants			Remarks
					Male	Femal	Tota	
1	Basanta Corridor	2	7	19	48	13	61	Visited Dhankuta for CF management
2	Katarnia Corridor	1	2	7	12	13	25	Visited Kailali for CF management
3	Lamahi Bottleneck	1	5	26	23	11	34	Visited Pokhara for CF management.
4	Dovan Bottleneck	1	5	20	29	0	29	Visited Kavre and Tamagadhi for CF mgt.
Total		**5**	**26**	**72**	**112**	**37**	**149**	

During this fiscal year, 17 community forest management trainings were organized for 332 participants from various CFUGs and rangers in TAL. The trainings were organized to build the capacity of local people for sustainable forest management through community forestry program (Table 7).

Table 7: Training provided to CFUGs member in community forest management

SN	Location/Name of the training	# of training	Duration (Days)	Participants from # of CFUGs	Number of Participants			Remarks
					Male	Female	Total	
Basanta Corridor (Location for the training)								
1	CF start up workshop	1	3	3	13	2	15	Institutional management training
Katarnia Corridor (Location of the training)								
2	Workshop on encroachment control	1	1	10	15	17	32	Forest encroachment training
3	Account and record keeping training	1	4	9	15	7	22	Accounting for CFUGs
4	Grazing Management training	1	3	6	13	3	16	Grazing management training
Banke								
5	Biodiversity conservation training	1	3	NA	20	0	20	Training organized for rangers
6	Record Keeping training	1	1	NA	6	6	12	Accounting for CFUGs members
7	CF management training	1	1	NA	8	4	12	Community forestry management training
8	Grazing management training	1	1	NA	9	3	12	Alternate to grazing management training
Lamahi Bottleneck (location for the training)								
9	Training on forest fire	1	1	24	21	3	24	Forest fire training for CFUGs
10	Grazing management training	1	2	18	14	4	18	Alternate to grazing management training
11	Gothala training	1	2	26	24	26	50	Training to cattle herders on forest management and conservation
12	Women empowerment training	1	2	17	0	17	17	Empower women for social mobilization training
13	Nursery Naike Training	1	4	6	6	0	6	Nursery manager training
Dovan Bottleneck (Location for the training)								
14	CF management training	1	3	13	23	2	25	CF management
15	Account and record keeping training	1	4	14	18	1	19	Accounting training for CFUGs
16	Tools training	1	3	7	17	2	19	Handling tools while managing forest
Dhangadhi Office								
17	Officer workshop on CF	1	1	7	12	1	13	Update HMG officers on CF and new regulation
Total		**16**	**-**	**-**	**234**	**98**	**332**	

The trainings were useful for effective and efficient forest management by local people and to motivate CFUG members about plantation, forest regeneration and patrolling activities in the area. At Dovan, the CFCC and 4 CFUGs were supported with tools for harvesting and silvicultural operations and a training on handling of these tools was organized.

A total of 20 demonstration plots in 48 ha land were established for various silvicultural operations in Lamahi, Katarnia and Dovan. The main objective of establishing demonstration plots was to use them for community forest training, forest extension and community forest management in future (Table 8).

Table 8: Status of demonstration plots

SN	Site	# of demonstration plots	Area (ha)	Remarks
1	Katarnia Corridor	1	8	5 plots (15m X 15m) in one place
2	Lamahi Bottleneck	9	38	In 9 Community forest areas
3	Dovan Bottleneck	10	10	
Total		**20**	**58**	

Similarly, in order to encourage protection and promotion of rare tree species like Vijay Sal (*Pterocarpus marsupium*) and Sati Sal (*Dalbergia latifolia*), small-scale experiments were started at District forest office, Dhangadhi. This includes in-situ preservation of 19 Vijay Sal trees in Dovan and attempts to grow seedlings of Vijay Sal and Sati Sal in Kailali.

5.1.5. Impact

Within a short period of time, the TAL program was able to gain the involvement of local people in forest conservation and protection. It is remarkable to note that the local people also contributed approximately forty percent of actual cost in forest conservation and management in corridors and bottlenecks. The demand for forest tree seedlings has been increasing every year for both community and private plantations. TAL has received extensive supports form district forest offices while planning, implementing and monitoring seedling production, plantation, community forest legalization and institutionalization in corridors and bottlenecks.

5.2. Species Conservation.

5.2.1. Habitat Management

5.2.1.1. Grassland Management

The DNPWC, ICIMOD and BICP/WWF jointly organized a 5-day international workshop on ecology and management of grassland at the Research and Training Center for Protected Areas (RTCPA), Lalmati, RBNP from March 15 to 19, 1999. The workshop recommended continued grass cutting on the basis of a mosaic, continued early burning to avoid damage due to uncontrolled fire, and maintenance of grasslands by removing invasive trees and bushes.

Invasive and unpalatable trees species emerging in the grasslands reduce the size of the *phanta* (open grassland) and decrease availability of palatable species for ungulates. To clear these unwanted species and maintain the grassland habitat, TAL program is supporting the parks financially and technically to clear unwanted bushes, burn grasses and uproot the unpalatable trees and shrubs. Approximately, 50 ha of grassland in Lamkauli (RBNP) have been managed especially to rehabilitate the decreasing Blue Bull population. In addition, 100 ha of grassland in Chepang area (RBNP) has been managed by uprooting invasive species such as Simal (*Bombax ceiba*) and unwanted grasses.

In RSWR, 100 ha of grassland have also been managed for restoring swamp deer population by uprooting 200 trees of invasive or unpalatable species. In most of the grass land areas the grasses are managed by manual cutting for thatch with the help of laborers and local villagers. Most of this work is carried out with the consent and coordination of the respective park authorities. Respective park staffs have played a key role while planning, implementing and monitoring of grassland management activities in protected areas.

5.2.1.2. Waterhole construction.

Waterholes were constructed in RBNP and RSWR to make drinking water and wallowing places available for rhinos and swamp deer particularly during the dry season. The site selection was carried out in coordination with respective park personnel. A total of 5 waterholes (3 in RBNP and 2 in RSWR) were constructed with the technical and financial support from TAL Program. In RBNP, three waterholes were constructed in Baghaura, Lamkauli and Dhunge Khola, which are fed from natural streams. Here the construction work started in December 2001 and was completed in January 2002. In RSWR, two waterholes were constructed in Singhpur and Ranipur, which are fed from water pumps. The work was started in October 2001 in RSWR and was completed in November 2001. During the field visit, footprints of rhinos, tigers, elephants and ungulates were found around the edge of waterholes which gives an indication of the use of waterholes by wild animals.

5.2.1.3. Eradication of invasive species

In TAL area, unwanted or invasive species such as *Lantana camara*, *Mallotus* spp. etc have invaded the forests along corridors and park areas. Wild animals neither eat these species nor are they valuable species to maintain the ecosystem in and around the park. During February 2002, in 75 ha area at Chepang, RBNP invasive species like these were uprooted and burnt. 10 translocated rhinos were released in this area in March 2002. In addition, invasive species were also uprooted and burnt in Gainda machan area at Thakurdwara from May 2002 to June 2002.

5.2.2. Anti-poaching

5.2.2.1. Strengthening anti-poaching operation (APO) in protected areas and buffer zones

Anti poaching activities were conducted to reduce poaching and illegal trade incidents inside protected areas and along corridors. Royal Nepal Army (RNA) and RBNP both have been working as a team to conduct patrolling in and around the national park. RBNP regularly conducts sweeping operations and patrolling to minimize illegal activities inside the park (Annex 1). Sweeping operation could not be conducted due to the State of Emergency since November 26, 2001. However, general patrolling for poaching activities has been continued on a regular basis.

In Chitwan, two people were apprehended with rhino horn on September 24, 2001. The information was received from APU at Chitwan and RCNP authorities took prompt legal action against those poachers.

In September 2001, a coordination meeting of APU of PWR and RCNP was held at KMTNC Chitwan. APU members of Parsa and Chitwan, KMTNC representative, Chief Warden of RCNP, Project Co-Manager of TAL-DNPWC Program and Chief Warden of PWR, RNA personnel of PWR and RCNP were present in the meeting.

In June 2002, during several AP operations from RBNP and Bhim Kali Gulm, three major poachers at East Chisapani, were killed. Similarly, in April – May 2002, rhino poachers at Thakurdwara, Babai and Chepang areas of RBNP were caught and were put into custody. Furthermore, the Royal Nepalese Army was able to capture the most wanted poacher Kunjok Lama from Humla, Padam Bahadur Lama and Karma Namgyal Lama from Tibet. It was also found that some people from Kathmandu were involved in rhino poaching indirectly, those people were apprehended and later released on bail.

DNPWC organized an anti-poaching strategy meeting on February 5, 2002 at RCNP Sauraha. 26 participants including Mr. Narayan Poudel, Deputy Director General, DNPWC, Mr. Jamuna Krishna Tamrakar, Deputy Director General, DOF, Mr. Ukesh Raj Bhuju, Conservation Program Director, WWF NP, Mr. Anil Manandhar, Director of Programs, WWF NP, chief wardens of RCNP, RBNP, PWR and RSWR, KMTNC representative were present at the meeting. The main objective of the meeting was to review the anti-poaching activities in and around lowland national parks and wildlife

reserves and frame future course of actions. In addition, the meeting also finalized a clear strategy on anti-poaching operations in critical areas.

Procurement of communication sets for RBNP and RSWR have been initiated through TAL Program and local contractors have already signed agreements for the installation of communication sets in the respective field sites.

5.2.2.2. Anti-poaching post construction

A total of four APU posts- two in RSWR and two in RBNP are under construction. Construction of 2 APU posts in Arjuni at the eastern sector of RSWR and 2 APU posts in Hattisar (Shivapur) and Parewawodar at RBNP were started in April, 2002 and are expected to be completed by the end of September 2002. The aim of constructing these posts is to monitor rhino and other animal movement and watch for illegal poachers. Furthermore, new posts at RBNP were built one in Hattisar (Elephant camp) and Parewawodar. The Hattisar post will not only serve the purpose of keeping animal food but will also serve as veterinary support with clinic facility for the domestic elephants, wild animals and domestic cattle. The post in Parewawodar is built to monitor crocodile movements during its breeding season (May – June). In future this area is planned to be developed as a crocodile-breeding center. The post in RSWR is built in the extension area of RSWR (Arjuni Post) because the extension area has been recently cleared of illegal settlers but is still vulnerable to encroachment.

5.2.2.3. Community based anti-poaching unit

A systematic APO mechanism has been developed outside the protected areas since November 2001 by establishing three community based anti poaching units (APUs) in Basanta (2) and Katarnia (1) corridors. These APUs regularly patrol illegal activities such as illegal timber harvesting and trading, wild animal poaching and forest encroachment along the corridors mainly on forest areas along the Indian border where most illegal activities take place. In addition, 17 anti poaching units are operating in the protected areas of TAL. RBNP regularly conducts sweeping operations based on the information from APU in coordination with RNA and Park staff.

5.2.2.4. Anti-poaching training

A three day APU capacity building training was organized in RSWR from September 24– 26, 2001. A total of 44 persons including RSWR staff (24 persons) and RNA personnel at RSWR (20 persons) participated in the training. Mr. Surya B. Pandey, Mr. Lal Bihari Yadav, Mr. Ramesh Thapa, Mr. Krishna Tiwari, Mr. Bal Krishna Karki and Mr. Bharat Poudel were the resource persons for the training. At the conclusion of the training certificates and anti-poaching equipment supported by TAL program were distributed to the trainees. The major items that were handed over to RSWR were sleeping bags, tents, rain coats, mattresses, water bottles, bicycles, torches and first aid boxes for the APU posts. The main objective of the training was to update and equip the park and army personnel for anti-poaching in RSWR.

A two days anti-poaching units capacity building training was organized for 61 participants including rangers, senior game scouts, army personnel from Barakh Gulm –

Thakurdwara and Bhimkali Gulm – East Chisapani from October 2-3, 2001. The main objective of the training was to update the park and RNA staff in conducting anti-poaching operations in RBNP. Major Babu Krishna Karki and Major Ajit Thapa were the main resource persons for the training. Mr. Manoj Shah, ranger from RBNP was the coordinator for the training. APU bag with basic medical kits was distributed to the trainees at the end of the training.

A 5-day APU training was organized for park staff including rangers, senior game scouts, game scouts and administration officer of Parsa Wildlife Reserve and Royal Chitwan National Park from 5 – 9 February 2002 in Chitwan. The training focused on APU technologies, CITES and its implementation in Nepal and handling poachers and poaching incidents. Resource persons included the Chief Warden of Parsa Mr. Tika Ram Adhikari, Mr. Shiv Raj Bhatta, Planning Officer DNPWC, Mr. Puran Bhakta Shrestha Chief Warden RCNP, Mr. Barna B. Thapa, Project Manager – TAL DNPWC and Mr. Janardhan Dhakal, CITES specialist, DNPWC.

A 3 days training on Anti-poaching was organized for the community APU members in Mahendranagar. A total of 23 participants including Regional Director for Far Western Development Region, District Forest Officers, Chief warden RSWR and Army personnel participated in the training. The basic and necessary field equipment for anti-poaching operation was distributed to APU members.

5.2.3. CITES implementation

Nepal is signatory to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). DNPWC is government designated authority for implementation of CITES in Nepal and has set up a CITES Unit with financial and technical support from WWF Nepal Program. The aim of the unit is to deter poaching and illegal trade in endangered wildlife species of flora and fauna and their parts. The unit has played a key role in generating conservation awareness and developing coordination mechanism with concerned stakeholders including DOF, Department of Customs, Nepal Police, Department Postal Service, Scientific Authorities and national and international conservation organizations working in Nepal. A total of 6 coordination meetings on CITES were organized during this fiscal year. In coordination with TAL program, 80 rangers and game scouts were provided training in collaboration with anti-poaching and biodiversity training. The educational materials on CITES were distributed to the trainees. The database on illegal wildlife trade and poaching in Nepal is under compilation which will be analyzed and stored confidentially.

DNPWC published 1600 copies of book on CITES implementation in Nepal with the support from WWF Nepal Program. The books were distributed to park staffs, DOF staff, conservation partners and CITES stakeholders. Furthermore, DNPWC has also published 700 copies of CITES poster and 5000 copies of booklet on CITES with the support from TAL Program. These posters and booklets are useful tool to generate conservation awareness among local people and tourist on CITES.

5.2.4. Problem animal management:

TAL program financially supported RCNP and RBNP to solve problems related to wild animals like the man eater tiger at RCNP which was killed in February 2002. TAL Program has supported RCNP for construction of a cage for capturing such problem animals and the operational cost for management of problem animal in TAL.

Similarly, in RBNP one common leopard caused problem by killing infants and local people in Rambhapur area. A team consisting of the experts from KMTNC and RBNP were sent to the field to control and monitor the leopard. Finally, after a month long monitoring, the leopard was captured and released in Danab Tal in the core area of RBNP. The victims of the incident received the cost for medical treatment from the TAL program.

5.2.5. Minimize wildlife damage

Phase One BICP experimented with several methods of fencing and diversion devices to minimize wildlife damages. Wildlife damage on both crops and domestic animals was the major cause for park and people conflict. Later on, after the declaration of buffer zone of RBNP and RCNP, local people were made aware about the conservation and economic development from conservation. Minimizing wildlife damage programs includes construction of biofence (Mentha cultivation), trench and water tower, which were promoted by BICP and are being continued through TAL programs, as they have become popular among local people.

5.2.5.1. Trench / biofence

Upon the request of Buffer Zone User Committee (BZUC) of RBNP, with the support of TAL Program, 21 km of trench has been dug in RBNP. A total of 5 km of fence has been established in RSWR. These biofence and trenches protect crops from wildlife damage.

5.2.5.2. Mentha Farming

Mentha cultivation has become popular among local people as its serves two purposes – its leaves can be used for menthol production, which has good market value, and it is unpalatable for wildlife.

TAL assists local people on Mentha farming through distribution of Mentha root with 50 percent subsidy. In addition, a processing plant has been installed in Thakurdwara RBNP. Value adding of raw material at the production site provides an additional profit to the local people. Now locals are farming Mentha in their own private land and thirty farmers have directly benefited form Mentha farming. Mentha oil has been sold for Rs.550/kg to the Herbal Production Company at Nepalgunj. The yearly earning varies from Rs. 3000 to Rs. 40,000. A total of 400 litres of oil has been distilled in the processing plant. A three days tour was organized for Mentha cultivation group to Lucknow, India where they were shown around the Mentha cultivation sites and Mentha processing plant.

During this fiscal year, 700 kg of Mentha root with 50 percent-subsidized price was distributed to 36 households Betani area of Thakurdwara VDC. Some of the Mentha roots were damaged due to heavy rainfall in monsoon.

5.2.5.3. Watch Tower

5 watchtowers in RSWR and 4 watchtowers in RBNP were maintained with the financial support from TAL Program. A new watchtower was constructed in Chepang, RBNP, where recently 10 rhinos were translocated from RCNP. The watchtowers were constructed for effective monitoring of wildlife in the area. Furthermore, the most important use of these watchtowers is to monitor the movement of wild animals entering the settlements for crop depredation, to alert the people and chase them away.

5.2.6. Rhino translocation

Royal Chitwan National Park (RCNP) has the world's second largest population (over 500) of the Greater one-horned rhinoceros (*Rhinoceros unicornis*). Prior to the translocation of rhinos to the Royal Bardia National Park (RBNP), the Chitwan population was the only rhino population in Nepal. Considering the vulnerability of a single population to stochastic and other events, an objective to establish a second viable population was formulated, and rhinos were translocated to RBNP from Chitwan from 1986. In March 2002, 10 rhinos were translocated form RCNP and released in Babai valley of RBNP. At present there are 87 rhinos in RBNP of which 73 rhinos are the translocated rhinos from RCNP since 1986. Rhino translocation program has been financially supported by US Fish and Wildlife Services, Rufford Foundation and WWF UK.

5.3. Research, Survey and Monitoring

5.3.1. Status survey and wildlife monitoring

Viable populations of wildlife species can be maintained if landscape level approach for management is applied and all the species are regularly monitored. Conservation of the flagship species such as tiger and rhino has been initiated in Nepal by WWF since the 1960s. One of the major successes of this species conservation is rhino translocation program.

Mr. M. K. Shrestha and B. B. Gurung research students from University of Minnesota have been conducting research on relative abundance of tiger prey species and distribution of tigers outside the protected areas of TAL. A base line data with presence and absence of different species in TAL needs to be created and maintained for effective corridor management for species conservation.

5.3.1.1. Tiger monitoring

An agreement exists with the King Mahendra Trust for Nature Conservation (KMTNC) to support the tiger monitoring activities in the RCNP, RBNP and RSWR. Accordingly support has been provided for tiger monitoring mainly by photographing tigers using infra red equipment. Camera trap techniques supplemented by pugmark studies were used for tiger monitoring. Camera trap equipment has been installed in various locations in the RCNP, RBNP and RSWR. Information was also collected on foot and with the use of elephant and vehicles. A total of 83 tigers have been camera trapped so far in RBNP.

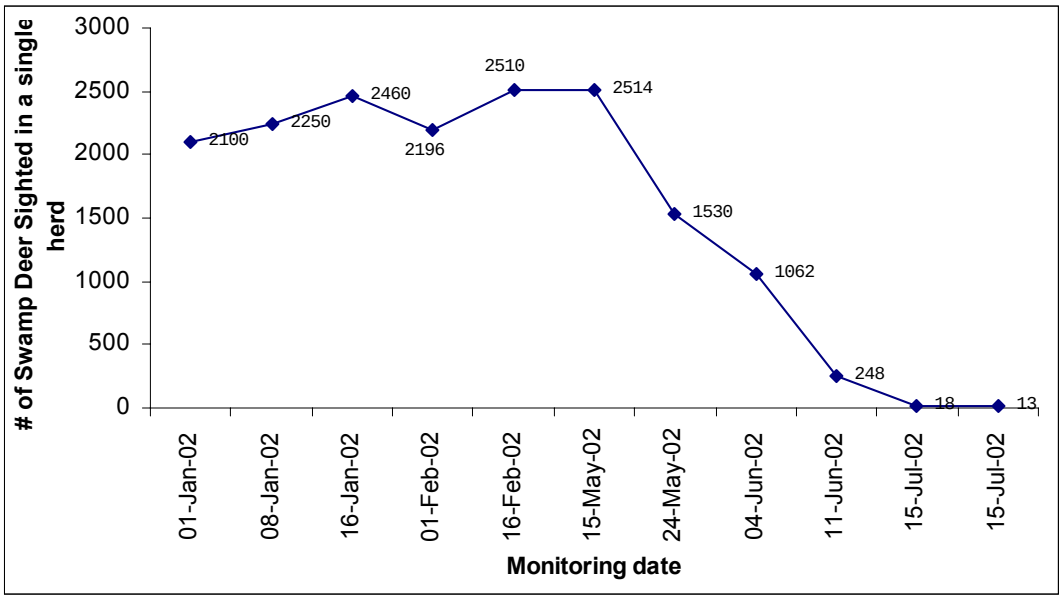
5.3.1.2. Rhino monitoring

The translocated rhinos in the RBNP and RSWR are monitored regularly by the respective park staff. Rhino monitoring has been conducted by the KMTNC in coordination with respected park staff. At present, there are 6 rhinos in RSWR an increase by one from the originally translocated four and one residential individual. An indication of the success of translocation was the birth of a baby rhino.

5.3.1.3. Monitoring of prey species (swamp deer in Sukla)

TAL in coordination with RSWR started regular monitoring of swamp deer (*Cervus duvaucelii*) in RSWR. It is estimated that approximately 2500 – 3000 individuals of swamp deer are found in RSWR. The monitoring of swamp deer started during spring season after control burning of grassland within RSWR. Swamp deer sightings were higher in the areas with controlled burning and in newly constructed waterholes. In winter and spring seasons, sightings of swamp deer increased where as sightings decreased in summer probably because of the presence of very tall grass which is not suitable for the species (Figure 3).

Figure 3: Monitoring of swamp deer in RSWR



5.3.1.4. Black Buck conservation and monitoring

The one and only surviving wild population of Black Buck (*Antelope cervicapra rupicapra*) in Nepal is found in Khairapur, Gularia close to the RBNP. RBNP has been managing the Proposed Black Buck Conservation Area in cooperation with District Forest Office Bardia. Full time game scouts from RBNP are assigned for regular and day to day support for the conservation of Black Bucks.

Black Buck is threatened by Hyena (*Hyaena hyaena*) and stray dogs. On May 2002, 2 male Black Bucks were killed by hyaena The RBNP has killed stray dogs and threats from hyena have been minimised by fencing the area. As Black Buck graze on very short grasses and prefer cultivated legume crops, RBNP with the support from TAL has sown seeds of peas, lentils, mustard and wheat in 13.5 ha area. Currently total wild population of Black Buck is 66 in Khairapur. Black Buck habitat has also been managed through uprooting of unpalatable species such as *Ipoemia* sp.

On September 30, 2001, RBNP organized a coordination meeting, which was held at the District Administration Office – Gularia. Mr. Khagendra Joshi, Chief District Officer – Bardia, Mr. Govinda Prasad Pandey, Mayor, Gularia Municipality, Mr. Gopal Prasad Upadhaya, Chief Warden, RBNP, Ms. Sushila Nepali, TAL Project Co-Manager were present at the meeting. The meeting decided that Gularia municipality, RBNP and TAL will jointly implement the Black Buck conservation program in Khairapur. The meeting also decided to propose to HMG Nepal for gazette notification of Khairapur as a Black Buck Conservation Area. After the meeting on September 30, 2001, with the financial and technical support from TAL Program, the proposed black buck conservation area has been demarcated. A demarcation team consists of 12 members including Mayor of Gulariya Municipality, political party representatives (4 persons from four political parties), representative from district survey and mapping office, ranger from RBNP, ranger District Forest Office-Bardia, representative from District Administration Office-Bardia, ward chairman, administrative assistant of Gularia Municipality and research representative. After the formation of demarcation team, an interaction meeting on 13 May, 2002 was held among the member of demarcation team with local people at the RBNP post, Khairapur. The main objective of the interaction meeting was to inform local people on proposed black buck conservation area and importance of black buck conservation.

With the participation of local people and demarcation team, the proposed black buck conservation area was surveyed on 14^{th} -15^{th} of May 2002. Then 171 demarcation and 12 reference pillars were constructed along the boundary of the proposed conservation area. The total area of black buck conservation area is 5.25 square kilometer with a perimeter of 10.25 km. The proposed conservation area consists of different habitats including *Phanta* (open grassland) – 2.15 sq km, forest – 2.1 sq km and settlement – 1 square km.

Khairapur is situated on the bed of old Babai river. There are only nine remaining waterholes along the old Babai river. In addition, two waterholes (size length, breath and depth - 134' X 26' X 27' and 107' X 22' X 27') were constructed at northern and southern sides of Khairapur.

5.3.1.5. Feasibility study of swamp deer translocation

A TOR has been developed to conduct feasibility study for the translocation of swamp deer. Mr. Shyam Bajimaya, ecologist, DNPWC was consulted for the study and research methodology to collect necessary data from the field. Mr. Naresh Subedi, Ranger RBNP has collected necessary information form the field. Furthermore, Mr. Subedi has prepared a draft report on swamp deer translocation from RSWR to RCNP. The detailed final report is expected to be finalized by the end of August 2002 and based on the recommendations made in the final report, DNPWC will take a decision on swamp deer translocation.

Following the study, issues related to swamp deer translocation were discussed in the population estimation, translocation and buffer zone management training organized from June 13-22, 2002 in Sauraha, Chitwan.

5.3.1.6. Training on Wildlife Monitoring

A 10 days population estimation, translocation and Buffer Zone Management training was conducted from June 13-22, 2002 in Sauraha, Chitwan. A total of 15 rangers from protected areas and district forest offices in TAL were present in the training. Mr. Jhamak Karki and Mr. S. S. Thagunna from DNPWC were resource persons for the training. The main objective of the training was to enhance the practical knowledge and skills of park and forest rangers on survey wildlife population, wildlife behavior, capture wildlife, management of wildlife habitat within and outside protected areas.

5.3.2. Vegetation Monitoring

TAL program hired Dr. Anup Joshi as a consultant in order to develop the TAL biological monitoring at two spatial scales – landscape and site level monitoring. Landscape level monitoring includes GIS and Remote Sensing (RS) information to analyze land cover, land use change, habitat fragmentation, habitat loss, and coarse scale intactness of critical corridors and bottlenecks.

Similarly, site scale monitoring has been planned for habitat structure, disturbance and vegetation compositions, regeneration in restoration areas, focal species (presence or absence, relative abundance, demographic trends) and water quality as an indicator of both aquatic and terrestrial habitats. A detailed work plan with methodology has been developed for biological monitoring. A first draft of the detail manual to carry out tiger and carnivore survey has also been prepared by Dr. A. Joshi.

A draft TOR and work plan for vegetation monitoring has been developed and sent to the Department of Forest Research and Survey (DFRS) for review. A grant will be signed with DFRS for detail vegetation monitoring in TAL. DFRS will establish a number of permanent growth plots in TAL. The department will carry out vegetation monitoring regularly in the field.

Monitoring with research and scientific database are the backbone of the success of conservation programs of TAL. To support the program with scientific database, spatial

data were collected and stored using remote sensing and GIS technology in TAL. The digital satellite data were collected using satellite images to determine forest condition along corridors throughout the Nepalese portion of TAL (from the Bagmati River to the Mahakali River). The database of TAL has been created using GIS, the tool used to identify priority areas that need for immediate intervention for preventing further degradation and fragmentation. The GIS based database can be used to monitor vegetation change over time. In addition, the baseline data can also used to analyze wildlife dispersal more particularly tigers.

5.3.2.1. Remote Sensing

Dr. Anup Joshi has consulted with the experts from the University of Minnesota and Hunter College to discuss on the best time period for which satellite scenes should be analyzed for the best representation of the forest cover. He has reviewed remote sensing and photometric literature on choosing right season for acquiring satellite data. 8 satellite images covering entire TAL have been identified and procured. The data has been processed and later on the data will be verified in the field. Dr. Joshi is currently working to rectify satellite images and analyzing data for forest classification with colleagues at University of Minnesota.

Based on the satellite images, the aggregate result of the analysis generated 36 classes (28 classes from the original cluster analysis and 8 classes from reclassification of classes 10 and 17). After 36 classes were generated, an analysis of attribute and distribution of classes were done by using similar colors to represent those classes that have similar characteristics. Later on these classes needs to verified in the field. Security situation in Nepal has delayed field verification to analyze data.

In May 2002, satellite images covering west from Bagmati River to Chitwan National Park was ground verified by M. Shrestha and J. Arce. The satellite scene was taken in a notebook computer and ground control points were verified using Arcview Tracking Analyst software and a GPS (Global Positioning System). The accuracy of the images was high with less than 10m error. More rigorous field verification is planned for March 2003. By the end of March 2003 final version of classification will be presented. Due to the security situation in the field, the field verification work has been delayed.

5.3.2.2. GIS (Geographic Information System)

Dr. Anup Joshi discussed with experts for developing metadata standards for TAL GIS center. Along with WWF GIS technicians, he is developing an outline for metadata standards to be created for TAL. An MOU was signed in January 18, 2002, between WWF NP and ICIMOD to establish a system for GIS information exchange between two organizations. WWF/NP is currently digitizing various maps on land use pattern within TAL.

The base line data for TAL GIS has been completed with digitization of base maps. Eighty-four sheets of topographic maps from 1996-98 (latest available maps in Nepal) have been digitized at WWF Nepal Program office. Digitized GIS layers include 1) land use, 2) roads, 3) rivers, 4) altitude (contours), and 5) administrative boundaries. These

GIS layers will form the basis for landscape level planning and monitoring of TAL. A metadata has been developed with detail documentation of data source, data errors, and contact person for data details.

At the project level, a Geographic Information System (GIS) was installed at RBNP. A number of GIS maps of RBNP and TAL-DNPWC Program activities have been prepared. The maps consist of a number of features including trail within RBNP, communication areas, BICP activities, KMTNC activities, anti-poaching and tourism facility. Various stakeholders in the field including local people, VDC, RBNP, KMTNC, BZDC and RNA have used the database and maps.

5.3.3. Research and study

5.3.3.1. Rhino action plan

The final draft of rhino action plan has been completed. The action plan is planned to be published in next fiscal year.

5.3.3.2. Study on domesticated elephants

A study was conducted on the management and husbandry of domestic animals in protected areas of Nepal. A draft report has been produced.

5.3.3.3. Bird Monitoring

Mr. Rajendra Suwal, bird expert was hired as a consultant for bird monitoring in TAL. Mr. Suwal visited the field and collected required data and information on bird species found in the TAL area. A bird survey was conducted using transect method along the forest corridors and protected areas in TAL. Mr. Suwal has prepared a report on "Bird Monitoring in TAL". 218 species of birds were recorded in the TAL area during the study (178 species in the eastern part of TAL and 147 in the western part of TAL) of which 8 are globally threatened and 6 are nationally protected species.

5.3.3.4. Status, Distribution and Monitoring of Tigers in TAL

A final draft of status, distribution and monitoring of tigers in TAL report has been completed and the report has been sent for publication.

5.3.3.5. Study of community forestry in Terai

A study was conducted on community forestry policy and management in TAL districts. The report gives the status of community forests existing in TAL. Another study on the documentation of community forest of TAL and integration of biodiversity conservation in community forests was conducted.

5.4. Sustainable development

The success of landscape level conservation programs depends on the cooperation and participation of local communities in conservation programs. Participation of local people, who in the case of TAL are mostly poor farmers dependent on forest resources, are enabled if they receive immediate benefits from conservation programs. Furthermore, ICDPs have been launched in TAL to uplift socio economic condition of local people. In addition, ICDP aims to reduce the dependence of local people on forests and protected areas. TAL has implemented its ICDP programs along corridors and bottlenecks – RBNP buffer zone area (Thakurdwara, Suryapatuwa, Shivpur and Mahadevpuri VDCs), Basanta, Katarniaghat, Lamahi and Dovan.

On January 30, 2002, community meeting was held in Mahadevpuri VDC to do need identification for community services. One TAL community development *mool samiti* (main committee) was formed to plan, implement and supervise all community development projects with the financial support from TAL. In the committee, members were represented from all wards of Mahadevpuri VDC. These members again have formed a sub committee in the villages who inform other villagers about the program. This *mool samiti* has been formed under the chairmanship of Mr. Rati Ram Tharu, Chairman of Mahadevpuri VDC.

5.4.1. Livestock management

Livestock management includes motivating livestock owners to experiment with alternatives to free grazing such as stall-feeding and improve breeds. A number of activities including community managed fodder nurseries and strengthening traditional pasture management through pasture user groups has been introduced in the area. In addition, TAL Program is also exploring community's interest on feasibility of rotational grazing practices. The indigenous livestock produce little milk so that it is only the bulls that come in use for ploughing. However, large numbers of unproductive livestock are still owned by farmers, as the Hindu religion does not permit the slaughter of cows for meat. These livestock are a threat to the forest areas as they are grazed there freely.

5.4.1.1. Stall-feeding of livestock

Community awareness on livestock stall feeding has been generated through training, tours, and workshops (Table 12). In addition, stall feeding has been promoted through distribution of 36 *dunda* (feeding troughs) in Katarnia corridor. Stall feeding subsequently reduces pressure of grazing on forests. Stall feeding has been indirectly promoted through production of fodder tree seedlings in multi purpose nurseries for private plantation.

Furthermore, for effective livestock management and cowshed management, a training was conducted for 52 households in Mahadevpuri VDC from March 12-14, 2002. The training was organized with the coordination of District Livestock Training Center at Bardia.

5.4.1.2. Improved breed distribution

Following discussions, the CFCC network of Dovan VDC in Palpa is planning to procure improved livestock. Similarly, in the Basanta forest corridor area, discussions were held with concerned groups to purchase improved breeding bulls in order to improve livestock. A total of 8 breeding pigs, four in Basanta, three in RBNP Buffer Zone – Mahadevpuri and one in Katarnia were distributed for breeding in the area. Similarly three improved breed piglets were distributed in RBNP BZ on September 2001. In addition, 20 male goats, two in Katarnia, eight in Lamahi and ten in Dovan were distributed for breeding with the support from TAL Program. Furthermore, 4 male buffaloes were distributed in Katarnia for breeding.

5.4.2. Alternate energy support program

Most of the local communities use fuelwood for cooking. Only a small number of households use alternative energy such as biogas for cooking. Therefore the program aims to promote biogas and improved cooking stoves in the project sites.

5.4.2.1. Biogas plants and toilet construction.

Since the implementation of BICP project, biogas especially for cooking has become the most popular alternate energy program for local people in TAL area. TAL program has continued this successful program to reduce firewood consumption and build the capacity of local people in installing bio gas plants at local level. TAL has encouraged farmers to construct toilets in conjunction with biogas plant. During this reporting period, 130 biogas-toilet plants were constructed (Table 9).

Table 9: Number of biogas plants constructed in TAL

SN	Site	# of Biogas plants installed	Remarks
1	Basanta Corridor	94	In all biogas plants toilets were constructed in conjunction with biogas plants.
2	Katarnia Corridor	9	
3	Mahadevpuri Bottleneck, RBNP BZ	27	
Total		**130**	

Project subsidised 33 percent of material borne cost (in kind 2000 bricks, one toilet cost and pipe) transportation and technical supports for construction of biogas-toilet plant. The farmers had to bear 66 percent material cost for a set of biogas-toilet plant. Biogas plants were constructed in close coordination with Nepal Gobar Gas Company.

5.4.2.2. Improved Cooking Stove (*chulo*)

For poor farmers who cannot afford biogas plants, improved stoves are the cheapest means of reducing firewood use and consequently reducing the pressure on forest. The improved smokeless stove is better from health prospective too. A-week long Improved Cooking Stove (ICS) training was organized by CFCC, Dovan. In the training 20 participants, 3 female and 17 male were present from 19 Community Forest User Groups.

The resource persons from a local NGO conducted the training. During this reporting period, 1,147 Improved Cooking Stoves were constructed in Basanta, Katarnia, Lamahi and Dovan areas (Table 10).

Table 10: Number of improved cooking stoves constructed in TAL

SN	Site	# of Improved *Chulo* installed	Remarks
1	Basanta Corridor	173	
2	Katarnia Corridor	104	
3	Lamahi Bottleneck	279	
4	Dovan Bottleneck	591	
Total		**1,147**	

5.4.3. Income generation program

TAL aims to maintain and enhance environmental services to increase agricultural productivity and enhance livestock management to integrate conservation and natural resource management programs. Most of the people living in corridors and bottlenecks are poor with ownership of limited land. Hence, TAL aims to develop alternate income generating schemes for local people who are dependent on forest resource, hence reduce pressure on forests and national parks. Future project areas may include village level operated decentralized processing mechanisms or other techniques that add value to products at the source. Income generation activities including piggery, poultry farming and agro-forestry give opportunity for cash income in a short period of time. As they engage with alternate source of income, their dependency on forest for living will be reduced.

5.4.3.1. Piggery and poultry farming

A two days pig-farming training was organized from March 8-9, 2002 in Mahadevpuri VDC in coordination with District Livestock Training Center, Nepalgunj. A total of 22 participants (5 men and 17 women) attended the training program. Similarly a two days poultry farming training was also organized from March 10-11, 2002 at Mahadevpuri with the coordination from District Livestock Training Center, Nepalgunj. 29 participants (15 men and 14 women) attended the training. The training focused on site selection, shed/cage construction techniques, diet preparation and feeding techniques, improved breeds and diseases and its prevention measures. The participants were also briefed on how TAL can support them to initiate the program. A total of 100 chicks were distributed free of cost to the participants. In addition, TAL provided the support for cage construction for 10 households.

Similarly, 65 improved variety of female pigs, 65 improved variety of female goats and 450 chicks were distributed in Katarnia Corridors. In addition, 27 female piglets were distributed in Basanta area. Pig farming has lots of potential of success in the area as Tharu communities of TAL has been practicing local breed of pigs. In comparison to local breed, the improved breed gives higher economic returns to the local communities.

5.4.3.2. Agro-Forestry

Two NTFP nurseries were established in Katarnia Corridor and Dovan with the financial and technical support from TAL program. A total of 20,000 NTFP seedlings are under production in two nurseries. Various species including *Harro (Terminalia chebula), Barro(Terminalia belerica),* Banana (*Musa* sp.), bamboo (*Dendroclamus* sp.), cane (*Calamus* sp.) are growing in the nurseries. Srijanashil Mahila CFUG will distribute 2000 NTFP seedlings to other CFUGs and rest of the seedlings will be sold to generate income for the CFUG. The NTFP nurseries promote NTFP cultivation among local people in the area (Table 11).

Table 11: NTFP nurseries supported by TAL program

S.N.	Name	Address	Managed by	Capacity	Remarks
1	Jhumsa NTFP Nursery	Jhumsa, Dovan, Palpa	Jhumsa Range Post	10,000	Dovan Bottleneck
2	Srijanshil Mahila NTFP Nursery	Khata, Bardia	Srijanshil Mahila CFUG	10,000	Katarnia Corridor
Total				**20,000**	

In addition, 9,025 seedlings of banana (7000), cane (1500), Cinnamom (150) and other fruit tree species (375) were distributed among local people in Basanta, Katarnia, Dovan and Lamahi.

5.4.4. Gender mainstreaming

5.4.4.1. Gender Sensitization Training

A three-days gender sensitization training was conducted by Kisan Jagaran Sangh at Thakurdwara, RBNP to the user committee members of different buffer zone user committees. 14 participants including 6 women were attended the training. Similarly, District Forest Office – Dang with the support from TAL Program organized a two -day gender workshop in Lamahi. 20 CFUG members (13 men and 7 women) were present in the training the main objective of which was to generate awareness on role of women in natural resource management.

5.4.4.2. Girl Student Stipend

Women Environment Sub-Committee meeting on March 25, 2001 decided to establish an endowment fund for girl student stipend. An advisory committee comprising of TAL project manager, a headmaster, BZ Council chairperson, a lady teacher and representative from KMTNC was formed for the nomination of girl student stipend to be distributed on June 5 each year. 82 girl students from the schools within RBNP Buffer Zone area were awarded stipend this year. While nominating the students for stipend, priority was given to those students whose family member was either killed or wounded by wild animals. If no such case is found, then priority is given to physically handicapped students and then to meritorious students. The committee has also decided to award stipend to orphan boys from this fiscal year.

5.4.4.3. Day Care Center

A Day Care Center has been established in Bhuinyaphanta at Ratanpur VDC, Basanta with 42 children registered in the center. 14 children (9 boys and 5 girls) left the day care center and joined school and 14 new children (7 boys and 7 girls) were admitted to the center. In an unfortunate incident in February, the day care center was ransacked by an unidentified group of people. The Women Management Committee of Ratanpur was managing the Day Care Center with financial support from TAL Program. The day care center is closed for the time being due to security situation.

5.4.5. Community services

Community services program including health care support drinking water supply, irrigation, road, culvert, toilets, temple renovation and school were supported to gain trust of the local community and motivate them in conservation and protection of forest corridors in TAL. These programs were launched along with forest corridor conservation and management programs.

5.4.5.1. Health Care Support

The medical doctor visits the Park Community Health Post – Thakurdwara twice a month. Besides that, support of a woman health assistant has also been continued in the health center from TAL program. In addition, BICP supported Japanese Encephalitis Vaccination program for children up to 12 years was organized at RBNP BZ. More than 2600 children received the vaccination from Thakurdwara sub-health post, Nikunj community health post and Barakh gulm (army) health assistance camp. The vaccinations were given in Thakurdwara VDC office and Thakurdwara temple. TAL Program provided financial support for health post renovation in Mahadevpuri area which has since been completed.

A health camp was conducted in RSWR area on the occasion of World Environment Day, June 5, 2002 by a local NGO-SUBICOS (Shuklaphanta Biodiversity Conservation Society) with the support from TAL Program. The health campaign especially targeted those people who were displaced from RSWR. A total of 5000 people benefited from the program.

5.4.5.2. Drinking water support

The program supported the construction of 30 concrete drinking water taps in Mahadevpuri VDC. This benefited 100 households in Mahadevpuri VDC. The program provided the material cost for the construction of concrete drinking water taps whereas local people contributed to the transportation of materials and unskilled labor for the project. Furthermore, a total of 197 tube wells (94 in Basanta corridor and 103 in Katarnia corridor) were constructed with 30 percent of total cost subsidized by TAL Program.

5.4.5.3. Irrigation and infrastructure support

Betani User Committee of RBNP BZ constructed a concrete dam to replace the traditional one that used wood. The traditional dams from wood are normally washed away during the rainy monsoon season and require constant rebuilding which means the felling of trees for its maintenance. Local people contributed unskilled labor for the construction and only technical support (skilled labor cost of NRs.5000) was supported by the TAL program. The dam provides continuous water during the dry season and supports Mentha farming, which has been introduced in the area to reduce wildlife damage.

TAL Program has also supported Tanduwa, Brindapuri and Chitkaiya User Committees for upgrading wooden dam into concrete dam. Traditionally people use wood to construct dam for irrigation. Upgrading of traditional wooden dam reduces the pressure on forests and also saves the labor cost of local people.

Similarly, concrete irrigation dam was constructed through Bishnu CFUG at Basanta corridor. TAL program supported fifty percent of total cost of dam construction, whereas local people contributed the rest. The dam provided regular water in 136 ha land and benefited 60 households. Similarly, a gabion structure was also supported at Sonahaphanta CFUG at Katarnia corridor for regular water supply to agriculture land.

5.4.5.4. Other infrastructures for community development

A total of 272 toilets (94 in Basanta corridor, 103 in Katarnia corridor, 25 in Dalla, RBNP BZ and 50 in Mohanpur, RBNP BZ) were constructed with 30 percent of total cost subsidized by TAL program. Similarly, a culvert in Deuki village at Lamahi, 22 humepipes (10 in Sunhara CFUG at Basanta and 12 in Bahadurpur, RBNP BZ) and gravel 5 km road in Lamahi and 2 boring facilities at Katarnia were constructed with support from TAL Program. Local people have contributed more than 70 percent of the total cost of those infrastructures construction. Later on, local people will maintain them through their respective CBOs such as CFUG and CFCC. In addition, eight schools (6 schools from Basanta and 2 schools in Katarnia) were supported with furniture, construction materials and educational materials. The school support program provides the basic infrastructure for school and conservation educational materials. Similarly, a community hall has been constructed in Gouri Ganesh CFUG at Basanta with 50 percent of total cost supported by the TAL program.

To preserve cultural heritage that exist in a site TAL provided financial support in the form of renovation of the Krishna Pranami Temple in the vicinity of Thakurdwara in coordination with RBNP.

5.4.6. Ecotourism

The construction work of Tikauli Museum at Chitwan is under way and is expected to be completed by the end of November 2002. The museum will be useful in generating awareness among tourists and local people on conservation issues. The DFO will

manage and maintain the museum in future. HMG Nepal has endorsed RBNP management plant, tourism plan and buffer zone management plan.

5.5. Education and Capacity Building

5.5.1. Conservation Education and awareness

Education is the key to the success of any conservation program. Unless people understand the reasons for conservation of forest corridors and wildlife, their active participation cannot be expected. Conservation awareness programs need to be developed for different target groups to help them understand how, by conserving biodiversity and restoring forest corridors will benefit them in the long run. As TAL aims to promote conservation beyond protected areas, it is important that the people in TAL need to understand their role in the protection of forest corridors and conservation of biodiversity and the endangered species including tiger, rhino and elephant.

To generate awareness and built local capacity, TAL has launched various conservation education programs including teacher training, Non Formal Education classes for women, eco club support and mobile education. Women participation is vital for the success and sustainability of programs.

5.5.1.1. Awareness Program

Community Mobile Education and Extension

Audio Visual Programs were organized at all wards of Masuria VDC within Basanta corridor where 5 different conservation related videos (*Bandevi,* Ranger, Women's involvement in community forestry, *Ban Pale*) were shown to villagers during October 2001. Over 700 people mainly females were present in the program. Pragatishil Samaj Tatha Vatavaran Samraktshan Manch organized the audiovisual program with the financial support from TAL program. A local CBO, Vidhyarthi Jana-Jyoti Yuba Club organized a drama in local Tharu language " *Hamar Pichhadal Tharu Samaj*" in 3 sites within Ratanpur VDC. The main objective of the program was to make the local people aware on negative impacts caused by deforestation, encroachment and ignorance. Approximately 800 Tharu people participated in the program.

***Gothala* Education**

In 3 VDCs of Basanta corridor, 6 literacy classes were organized for one year (January-December 2001). 150 local cattle herders (*gothala*) have successfully completed these classes. Similarly, a 11 months long four *gothala* (cattle herder) education classes were organized in Tanduwa, Chitkaiya, Motipur and Thakurdwara, RBNP Buffer Zone area from December 2001 to January 2002. A total of 125 *gothala* students were benefited from this education program. The program was supported by BICP. The program became successful in motivating 40 *gothala* (cattle herders) to join school after the education program.

Publication *Kael Pahura*

TAL publishes *Kael Pahura* series quarterly, aimed to disseminate the project activities and impacts among local people. During this fiscal year *Kael Pahura* series - 2, 3 and 4 were published and distributed. The program published and distributed 500 copies of *Kael Pahura* in each quarter.

Campaigns

Street theater is an effective means of communication with local people. These kinds of shows have been organized in different villages – Thakurdwara, Shivapur, Neulapur, Katarnia and Mahadevpuri. The main aim of these shows was to involve local people in natural resource management and also to make them realize the importance of National Park and conservation in Nepal. These shows were organized by a local NGO, RARA library from East Chisapani with the financial support from TAL program. Similarly, three street dramas were also organized in Basanta in October 2001 which was viewed by 753 local people.

Celebration

On June 5, 2002 world environment day was celebrated in 5 places in Basanta, Katarnia and Lamahi with a wide range of conservation related activities including plantation, essay competition, quiz contest. A total of 1,235 people participated in the program. Similarly, on the first week of April 2002, wildlife week was celebrated where 155 local people participated in Basanta through art competition and interaction program. In addition, forest day on January 2, 2002 was also celebrated by organizing various programs including training, plantation of cane and pipla in Basanta and Dovan. A total of 310 people were involved in the activities.

Conservation signboards

A total of 11 signboards were installed along the road in Masuria VDC, Basanta. These signboards contain slogans – "conserve forests" and "green forest, wealth of Nepal". The signposts aim to generate awareness on forest protection from encroachment, fires and other illegal activities.

5.5.1.2. Conservation education

Eco Club support

Eco Club were formed in TAL to enhance conservation education among school children. A total of 39 eco clubs (3 in Mahadevpuri, 4 in Dovan, 11 in Kanchanpur and 21 in Basanta) was formed in corridors and bottlenecks during this reporting period. There are 90 Eco clubs existing in two corridors and four bottlenecks. The program supports conservation awareness and environmental education programs in the schools. A total 500 copies of school calendars were published and distributed among schools within TAL. Eco clubs were involved in plantation, essay, quiz and art competition on conservation related issues, clean up campaigns and conservation education programs.

Table 12: Status of eco clubs in corridors and bottlenecks

SN	Corridors and bottlenecks	Number of Eco Clubs	Remarks
1	Basanta Corridor	21	New formed
2	Kanchanpur bottleneck	11	New formed
3	Mahadevpuri bottleneck	54	3 new formed
4	Dovan bottleneck	4	New formed
Total		**90**	

Environmental Education Package (*Sampada Sanduk*)

Thirty boxes of *Sampada Sanduk* were developed for conservation awareness program in schools within TAL. Each box contains brochures, body parts of animals, birds and insects, seeds of various forest tree species found in Nepal, audio visual cassettes and publication related to environmental education. Body parts of animal, bird and insect body parts were made available form Natural History Museum as a courtesy for educational purpose only. *Sampada Sanduk* has become a useful educational tool in schools to generate awareness on conservation and environmental issues. 2 *Sampada Sanduks* have been handed over to Chitwan Lions Club for the promotion of conservation education for youth in the villages.

Teachers study tour

One of the objectives of TAL Program is to increase public awareness and strengthen local capacity for the long-term sustainability of the program. In addition, TAL has also aimed to promote conservation education program by strengthening the capacity of school through conservation education program.

A five day study tour was organized for schoolteachers from March 3 – 7, 2002. A total of 14 schoolteachers (9 men and 5 women) from different schools of RBNP extension area participated in the study tour. The participants visited RBNP headquarters at Thakurdwar and various schools in Mahadevpuri area. The objective of the study tour was to expose teachers to biodiversity conservation, national park and buffer zone area management system and role of teachers and eco club in conservation.

A three days teachers and journalists study tour was organized by a local NGO (SUBIKOS) in RSWR from May 25-27, 2002. A total of 20 participants (14 men and 6 women) participated in the study tour. In the study tour, fifty percent of total participants were teachers from various schools from RBNP Buffer Zone.

5.5.2. Capacity Building

5.5.2.1. Capacity building for local people

A total of 13 trainings, 5 in Basanta, 6 in Katarnia, 1 in Lamahi and 1 in Dovan were organized for local people during this reporting period. The trainings benefited 202 local people including 59 women along corridors and bottlenecks. Table 12 shows details of the trainings organized with the support from TAL Program.

Table 13: Details of training organized to build the capacity of local people.

SN	Name of the training	Location	# of training	Duration Days	Participants from # of CFUGs	Number of Participants			Remarks
						Male	Female	Total	
Income generation									
1	Training on piggery	Basanta	1	2	6	22	0	22	Training on pig farming
2	Kitchen gardening Training	Katarnia, Basanta	2	1, 2	16	10	28	38	Training on promoting kitchen gardening
3	Livestock management training	Katarnia	3	1	10	50	11	61	Training for livestock management including install feeding promotion
4	Training on poultry farming	Basanta	1	1	10	18	3	21	Training to promote poultry farming, IGA
5	Training on toilet construction and *dund* (trough) construction	Basanta	1	14	2	2	0	2	Training on toilet construction and trough for livestock
Alternate energy promotion									
1	Training on Biogas	Basanta	1	30	3	3	0	3	Local capacity building on biogas plant construction
4	Improved Cooking Stove	Basanta,	1	5	15	10	5	15	Training on construction of improved cooking stove
8	Improved cooking stove training	Katarnia	1	5	3	1	2	3	
10	Improved cooking stove training	Lamahi	1	5	17	10	7	17	
11	Improved cooking stove training	Dovan	1	14	19	17	3	20	
Total		**13**		**-**	**-**	**143**	**59**	**202**	

5.5.2.2. Workshop

In August, a one-day community orientation meeting was organized in VDCs of Hasulia, Pawera and Ratanpur of Basanta corridor to disseminate the vision, goal, objectives,

activities and implementation mechanism of TAL. These meetings were very effective in clarifying concepts of TAL among local people. Furthermore, similar workshops were also organized in Dhodhari and Suryapatuwa villages.

Similarly, in November and December, DFO Bardia organized 3 one-day orientation programs, to CFUG members and other stakeholders to share TAL activities and working modalities.

A 3-days Community Forest Interaction workshop organized in Dhodhari. A total of 25 people from various CFUGs, representatives from Federation of Community Forestry Users Nepal (FECOFUN), local leaders and DFO staff participated in the program. The main objective of the interaction workshop was generating awareness among stakeholders about TAL, its vision and activities. TAL program staff made clear statements on the TAL program and support of CF legalization and institutionalization in TAL area. In addition, the coordination mechanism among TAL stakeholders and role of stakeholders in various activities of TAL were also clarified in the interaction workshop. The workshop was successful in developing a good coordination mechanism among various stakeholders including – local people, DFO, FECOFUN and TAL for strengthening CFUGs.

5.5.3. Partner's capacity building

Two DoF officers – Mr. Surya K. Mishra and Mr. Upendra. Choudhary were awarded M.Sc. scholarship to study master degree at the Wildlife Institute of India (Deemed University), Dehradun, India. Both awardees have started their study from September 2001.

5.5.4. Training Manuals:

Various training manuals were developed for different target groups specially CBOs during this reporting period by the TAL Program field staff. These manuals are useful in future while conducting similar trainings in other parts of TAL. Table 14 gives details of training manuals.

Table 14: Details of the training manual

SN	Training	Target group	Duration (Days)	Course	Remark
1	Basic CF Training	User Groups	3-5	Introductory with practical exercise	Draft
2	Planning Framework (guidelines)	DOF staff and Co-ordination committee members	-	-	Draft
3	Gothala Training	*Gothala* (cattle herders)	7-10	Field based	Draft and in process of finalization
4	Manual on Anti-poaching unit	APU members	4 - 6	Field based	Draft and in process of

	training/operation				finalization
5	Environmental Education for school children	School Children	10-15 classe	Orientation	Draft

5.6. Communication

5.6.1. Publication and production of promotional materials

During this reporting period, a TAL video film and a TAL fact book were produced by Mr. Kishor Pradhan a communication consultant. The communication strategy addresses various methods of communication with wide range of target groups including local people, donors and partners. The Himalaya Films Kathmandu produced TAL video with the financial support from TAL Program. A brochure on TAL in Nepali and English is planned to be published in the next fiscal year. A number of feature articles on TAL program were published in national and local newspapers highlighting TAL vision, goal and major activities.

5.7. Policy and Advocacy

5.7.1. TAL Policy document

Considering the need of a clear TAL policy document, Dr. Uday Raj Sharma, then chief, Environmental Division, MFSC was hired as a consultant to conduct a study and proposed policy guideline for TAL. A draft document in both Nepali and English has been published and circulated to the concern stakeholders for their valuable inputs.

5.7.2. Transboundary meeting

Most of the illegal activities such as wildlife trade, poaching, illegal timber trade and collection of endangered species of orchids and other plants occur along the Nepal and India border. To achieve the objectives of TAL, trans-boundary cooperation and collaboration is necessary. Based on the need of trans-border relations, DNPWC with WWF NP organized two different field level transboundary agenda preparation meetings at RBNP and RCNP. All park wardens, DFOs and project partners from TAL participated in the meeting held from September 15-25, 2001. During the transboundary preparation meeting, the team visited various field sites along corridors and bottlenecks.

A central level trans-boundary meeting between Nepal and India planned to be held in August 2002 at Kathmandu.

5.7.3. Coordination

TAL program has also been able to develop partnerships with donor agencies and international NGOs including DFID, CARE, SNV and UNDP. Memorandum of Understanding (MOU) has been signed by WWF NP with the UNDP, SNV and ICIMOD for cooperation on landscape level conservation most particularly on TAL. The TAL team has been meeting with various persons from those partner organizations. It has built a good rapport between WWF NP and partners for landscape level of conservation approach.

At the field level, Mr. Ram P. Lamsal, Project Manager, TAL-DOF participated coordination workshop organized by DFID at Bhairahawa on March 24, 2002. Various governmetn line agencies working in the area

A good coordination mechanism has been developed between HMG and TAL program at both central and field levels. The TAL programs and budget for fiscal year 2003 was also developed in coordination with HMG regional planning workshops held in Dhangadhi, Pokhara and Nepalgunj.

5.8. Others

Illegal settlers of about 4,300 households were removed from eastern sector of RSWR. Royal Nepalese Army at RSWR and RSWR staff started removal of illegal settlers from September 2001 to April 2002 with the financial support from TAL Program. Recently, WWF's 2002 Abraham Conservation Award was also awarded to Chandi Dal Gulm of RSWR and RSWR in recognition of their effort on conservation and restoration of corridors and bottlenecks in TAL.

RBNP extension area-gift to the earth announced by HMG Nepal in WWF Annual Conference in November 2000 has not yet been gazetted. TAL Program was supposed to provide financial support for infrastructure building in the area but this has been stalled because of the state of emergency throughout the country. The infrastructure construction will be started after the gazette notification of RBNP extension area.

The program supports the infrastructure construction works that enhance the biodiversity conservation and corridors restoration in TAL. A total of 40km forest road was planned to construct in RBNP extension area. Due to the delay in gazette notification by the HMG Nepal, the infrastructure work has been postponed. The budget was utilized for forest road construction in RSWR. During this reporting period, a total of 40km of forest road has been constructed within RSWR.

6. Large Scale Management Planning for the TAL

A Task Force was constituted for Large Scale Management Planning for TAL. The first workshop took place from 17 to 25 March 2002. Various experts attended from WWF US and WWF UK and the WWF Nepal Program staff participated in it. The Goals of the

workshop were to (1) To explore the value, relevance and following critical elements of large scale management for TAL namely organisational plan, financial plan, partnership plan, financial control plan, information management plan and sustainability plan.
(2) To determine major needs and next steps in large scale management, in particular about information gaps/financial planning, organization roles and responsibility including first tier partners, critical policies and issues that have impact on TAL vision and sustainability/benchmarks/monitoring.

This was followed by a second workshop in Washington DC from 10 to 14, June 2002. This workshop came up with the draft TORs for studies on forestry and sustainable livelihoods in the TAL. It discussed strategies and activities for sustainable livelihoods and how this links with conservation along with risks assessments and management. Another output was a guideline for partnership development for TAL. Following the workshop, the TORs for the studies are being completed with the consultation of line agencies working in the Terai. The studies on forestry and sustainable livelihoods will take place from September 2002. At the same time, line agencies and international and national non governmental agencies are being contacted to study their inputs in the Terai, access available resource banks and begin a collaboration process for future cooperation.

7. Conclusions

The TAL program, which is jointly implemented by HMG Nepal, and WWF Nepal Program has been able to develop a coordination mechanism with TAL stakeholders at central and field levels to smoothly implement the program. TAL is actively engaged in achieving integrated conservation and development activities for biodiversity conservation and community development. WWF NP has drawn on its previous experience with ICDPs particularly the successfully implemented of BICP at Bardia. Field level stakeholders meetings were successful in clarifying the TAL vision to local people, government line agencies and donor agencies particularly working in TAL. Monitoring visits in the project sites continue to reflect the need for extension programs therefore extension will remain a focus of the program in future. Project activities, particularly those dealing with community services, infrastructure development and income generation must be coordinated with the Village Development Committees, women's groups and youth clubs. Exposure tours, training and workshops play a vital role for the success of the program. Hence, project has focused on to build the capacity of the local people most particularly on community forest management and income generation activities. The impact of these trainings is apparent in the way that CBOs have been mobilized to improve the forest conservation and confront the encroachment problem. In the meantime, these trainings are also useful among local people specially in promoting income generation activities. Literacy and conservation education programs have been effective in generating conservation awareness among local people and stakeholders. Women's involvement in resource management is expected to be crucial in the long-term sustainability of the program. Women are involved in every stage of program from planning, implementation and monitoring in the field. In TAL, women's involvement in community forestry is considerably high. Furthermore, the program has

also been able to develop partnerships with donor agencies and international NGOs. Memorandum of Understanding (MOU) has been signed by WWF NP with the UNDP, SNV and ICIMOD for cooperation on landscape level conservation.

Local communities contributed about percent of total cost of the project in forest corridor conservation and sustainable development activities. Despite the state of emergency through out the country, local people's mobilization for conservation as well as involvement of DOF and DNPWC has been the key to the successful implementation of TAL's annually planned activities in bottlenecks/corridors and protected areas of TAL.

Annex 1: Anti-poaching sweeping operations in RBNP (July 1 – Nov 13, 2001)

Date	Location	Activities	Action taken
June 20-30, 2001	Babai valley, Geruwa riverside and Khairbhatti	Combined sweeping carried out with 4 elephants and 22 RBNP and BARAKH gulm staff	No incidents were recorded
July 1, 2001	Danavtal and Khairbhatti	2 days sweeping operation carried out	No incidents recorded
July 2, 2001	Parewawodar	2 rhinos came out of the park	Drove back to the park
July 3, 2001	Thulo and sano shree	RBNP and Bhimkali gulm carried out sweeping operations	No incidents recorded
July 1, 2001	Taratal	One person involved in rhino horn marketing captured	Investigation still going on
July 9, 2001	BZ Manau forest	Timber and wood collecting event found	Combined patrolling with the UC members carried out
July 16-20, 2001	Karnali Floodplain	3 poachers arrested who killed a rhino near lalmati area on June 19, 2001	3 poachers namely Bal B. Bogati, Ghan B. Oli and Ratan B. Sahi sent to jail, others are still on search.
August 1, 2001	Tiger island	Sweeping by 8 elephants and park staff conducted	11 rhino sighted and no incidents recorded
August 2, 2001	Motipur north	A maneater tiger killed Chhesang Lama on the highway of Gumna Khola cause way	The man eater tiger is being searched by elephants and researchers
August 2, 2001	Kailashi BZ	3 three timber smugglers were arrested	Investigation is going on.
August 3-6, 2001	Motipur to Lalmati	Sweeping to find the man eater tiger and illegal activities	Nothing found and search team stationed in Ambasa and Lalmati
August 9, 2001	Karnali geruwa floodplain	11 timber smugglers were arrested and 8 boats were destroyed on the Karnali	Investigation under process
August 12, 2001	Ambasa-Shivpur	305 encroachers settling in the Bhavani phanta area.	Encroachers removed
August 14-16, 2001	Karnali floodplain	Sweeping operation carried out	Nothing reported
August 15-16, 2001	Bhimapur	4 rhino was found in Indo-Nepal border at Shanker village	Banjaria post is monitoring the area DFO requested to urge Rajapur range post to help
September 18-21, 2001	Gaine kanda/Manim Kanda/Babai valley	Sweeping operation conducted day and night	Few incidences found but no one captured
September 22, 2001	Parewawodar	Heard a gun shot around 12:30 in the night in the buffer zone near to Parewawodar	Night patrolling conducted

Date	Location	Activities	Action taken
September 26, 2001	Bhurigaon	3 day combined patrolling in Bhurigaon area	No incidences recorded
Sept. 22-28, 2001	Manau Tapu/Khauraha	Illegal fishermen entering the park area	No one captured
October 2-4, 2001	Lalmati	Combined training for army and park staff	60 staff trained
October 16, 2001	Gaida Machan/Lalmati	Combined patrolling from elephant conducted	No incidences recorded
October 20, 2001	Hattisar/Baghaura Phanta	Combined patrolling from elephant	No incidences recorded
October 27, 2001	Parewawodar	Gunshot heard near the buffer zone	No incidences recorded
November 6, 2001	Babai valley	4 day long patrolling from Chepang to Ramuwapur	One tiger sighted and only huts found
November 8-10, 2001	Parewawodar/Guthi	Combined long patrolling conducted	No incidences recorded but 4 elephants sighted
November 13, 2001	Amreni	One Sambar killed by a truck	Truck driver taken into custody.

Annex 2: TAL annual work plan for fiscal year 2002/03

TERAI ARC LANDSCAPE (TAL) PROGRAM

Annual Work Plan

(July 2002 – June 2003)

TAL VISION: TO CONSERVE ONE OF THE MOST DRAMATIC HABITATS IN ASIA, WHERE LARGE SPACE-REQUIRING SPECIES SUCH AS TIGERS, RHINOS, AND ELEPHANTS WILL THRIVE WHILST BRINGING ECONOMIC BENEFITS TO THE LOCAL PEOPLE

PROGRAM GOAL: TO CONSERVE THE BIODIVERSITY, SOILS AND WATERSHEDS OF THE TERAI AND CHURIA (SIWALIKS) HILLS IN ORDER TO ENSURE THE ECOLOGICAL, ECONOMIC AND SOCIO-CULTURAL INTEGRITY OF THE REGION.

1: Forest Corridor Conservation and Management

Objective 1: To restore and manage degraded forest corridors and maintain links between protected areas within the TAL as dispersal corridors through community forestry, plantation and natural forest regeneration and strengthening community forestry user groups.

Output No	Outputs	Indicators	Assumptions/Risks
1.1	Nurseries established and seedlings produced	• 360,000 quality seedlings produced in 12 multi purpose nurseries • 360,000 seedlings distributed for plantation	CBOs take over the responsibility to manage nurseries, availability of quality seed and DFO will participate actively
1.2	Plantations established	• 225 ha of degraded land planted along the critical corridors and bottlenecks	DFO hand over community forests to local communities and local people initiate community and private plantation
1.3	Regeneration of natural forest initiated	• Regeneration plots with a total area of 165 ha established within critical forest	DFO, CBOs and local community will actively participate

		corridor and bottlenecks	
1.4	Legalized and institutionalized CFUGs and CFCCs	• 3 CFCCs legalized and 4 CFCCs institutionalized, • 20 CFUGs legalized and 40 CFUGs institutionalized	DFO, CFUGs and CFCC will take lead role in the process
1.5	Conducted research and maintained database	• Vegetation monitoring plots established at 5 sites, • Vegetation Baseline for 5 sites developed • Vegetation Monitoring protocol developed • Study reports on forest management regimes • Report on economic valuation of Churia • Study report on forest fire in TAL • Study report on NTFP utilization	Availability of consultant, stable political situation and support from local people
1.6	GIS material produced	• GIS maps of TAL available • Spatial database in GIS stored and maintained	Support from local community for field data collection

Output No	Activities	Who	When	Indicators	Resources
1.1	• Sign grant agreements with CBOs for multi purpose nurseries establishment and management • Establish and manage nurseries for seedling production • Produce seedlings for plantation • Distribute seedlings for plantation	DFOs , CFUGs & CFCC, TAL field staff	• Aug • Aug-June • March – April • June-July	• CBOs commitment for seedling production • 2 new nurseries established and 10 old nurseries managed • 360,000 quality seedlings produced • 360,000 quality seedlings distributed for plantation	PM/PCM DFO CFCC
1.2	• Community mobilization • Seedling plantation along corridor	DFO, CFUGs, CFCC	• March – May • June-July	• 225 ha plantation along corridor and bottlenecks	PM, DFO, CFUGs and CFCC

1.3	• Select and survey natural regeneration site • Form community groups for protection and management • Construct trench and establish fence • Hand over to community	CFUGs, Rangers, CFCC and TAL field staff	• Aug – Sept • Aug – Sept • Aug – May • July	• Appropriate site selected for natural regeneration • Community group formed • Trench and biofence constructed in 165 ha of regeneration sites • 165 ha of degraded forest regenerated by local communities • Handed over regenerated sites to the local communities	PM, DFO
1.4	• Legalize CFCC • Legalize CFUGs • Provide management support to CFUGs • Provide training to CFUGs	CFUGs DFO, TAL field staff	• Dec – Feb • Sept – May • Nov – June • Oct – Dec	• 3 Community Forest Coordination Committee legalized • 20 community forest user groups legalized • Registered CFUGs and CFCCs • Capable CFUGs members	PM, DFO
1.5	• Establish vegetation monitoring plots • Develop vegetation baseline database • Develop vegetation monitoring protocol • Conduct forest management and Churia economic research • Conduct research on forest management regimes • Conduct study on NTFP and its utilization • Conduct study on forest fire in TAL	TD, Ecologist, Consultant and Community, PM	• Aug – June • Aug – June • Aug – June • Aug- Dec • Aug – Dec • March - May • March - May	• Vegetation plots set up, Monitoring protocol developed, consultant reports, technical report	PC, TD, PM, PCM
1.6	• Produce GIS materials and manage spatial data	Asst. GIS officer, Ecologist, PO	• Through out the year	• Required maps produced using GIS • Spatial data stored and managed in GIS	Asst. GIS Officer, Ecologist, PO

2: Species Conservation

Objective 2: To conserve tiger, elephant, rhino and other species of special concern including plants and bird, while preserving their habitat integrity and increasing the land base that supports their viable population by improving and strengthening all protected areas in the TAL.

Output No.	Outputs	Indicators	Assumptions/Risks
2.1	• Habitat managed in protected areas	• 335 ha grassland inside protected area managed • 6 waterholes constructed	Support from stakeholders and improvement in the situation
2.2	• Anti-poaching operation strengthened	• Regular AP operation conducted in 4 protected areas • 3 Community based AP unit established outside the park • 6 AP posts renovated • 3 AP posts constructed, • Royal Chitwan national park fully equipped with communication equipment • Poaching incidents reduced in Parks and Reserves in TAL	Political situation improves and local people support APO
2.3	• CITES implemented	• CITES database updated • CITES monitoring systems established • Regular CITES meeting conducted • Reports on CITES	Coordination and support from different stakeholders;
2.4	• Status of tiger, rhino, elephant and black buck population	• Report on status of tiger, rhino and black buck	Support from NGOs, CBOs and community
2.5	• Research conducted and document published	• Research report on human wildlife conflict/interface • Rhino action plan, tiger status report • Tiger, rhino and elephant conservation action plan	Availability of consultants
2.6	• Rhino translocated	• Viable population of rhino established in Bardia and Sukla	Support from DNPWC
2.7	• Stray species translocated and translocated rhino monitored	• Damage from stray species reduced • Status report on translocated rhino	Regular support from Parks

Output No	Activities	Who	When	Indicators	Resources
2.1	• Grassland management within PA • Waterhole construction	DNPWC, RBNP, RSWR	• Sept – Dec • Jan –March	• 335 ha of grassland managed • 6 waterholes constructed	PM, Chief Wardens
2.2	• Conduct APO training • Purchase and install communication equipment • Establish APU in corridors and bottlenecks • AP posts construction • AP posts renovation • Develop APU operational plan	Rangers, park staff, DNPWC, DOF, TAL field staff	• Feb – May • Feb – June • Sept – Jan • Feb – June • Feb – June • Oct – March	• Reduced poaching incidents of tiger, rhino and other animals • 3 community based AP units established in corridor and bottlenecks • 4 AP posts constructed • 7 AP posts renovated • 75 person provided training on APO • Communication equipment installed at RCNP • Practice of sustainable AP system in PA and corridors • APU operational plan	PM, DFO Chief Warden
2.3	• CITES implementation	DNPWC	• Through out the year	• CITES related information updated and available • Monitoring systems practiced • Regular meeting on CITES conducted • Reports	PC, TD, PM
2.4	▪ Tiger monitoring • Rhino monitoring • Conduct status survey of prey species • Black buck conservation • Conduct elephant status survey • Problem animal management • Construct trenches and establish biofence • Watch tower construction • Mentha plantation	DNPWC, consultants, NGO, park staff, local communities, TAL field staff	• Oct – March • Oct – March • Aug-Sept • Through out year • April-June • As per need • Oct – March • Sept –Dec • Jan – March	• Status of tiger available • Status of rhino available • Status survey reports on prey species including swamp deer, four horn antelope and blue bull • Black buck conservation area – Khairapur endorsed by the government • Increased number of black buck in Khairapur • Status of wild elephant known • Problem animal managed • 30 km trenches and biofences	PM, Chief Wardens

				constructed • 13 watch towers constructed • 40 ha mentha planted	
2.5	• Conduct study on human wildlife conflict/interface • Status survey of common leopard • Publication of rhino action plan • Publication of tiger status report • Develop TAL biological monitoring protocol • Prepare tiger, rhino and elephant conservation action plan in RSWR	TAL field staff, DNPWC, DFO, Consultants, NGO	• April. – June • April – June • Sept – May • Sept – May • Jan – April • Nov – April	• Database on human wildlife conflict/interface developed • Report on human wildlife conflict/interface • Status of common leopard available • Rhino action plan • Tiger status report • TAL biological monitoring protocol available • Tiger, rhino and elephant conservation action plan	PM, Chief Wardens, DFO
2.6	• Rhino translocation	RCNP, DNPWC, technician, RSWR	• March	• 4 rhinos translocated to RSWR	PC, TD, PM
2.7	• Translocation of stray species and monitoring of translocated rhinos	Park staff, PM, technician	• Feb - April	• Updated database on translocated rhinos • Number of stray species translocated • Damage from stray animal reduced	PC, TD, PM

3: Sustainable Development

Objective 3: To maintain and enhance environmental services for agricultural productivity, soil conservation and watershed management that enhance local livelihoods and reduce poverty through community participation using innovative approaches to integrate conservation and natural resource management.

Output No	Outputs	Indicators	Assumptions/Risks
3.1	Improved breed of livestock adopted	• Improved breeding livestock distributed	People accept improve breed and people will promote stall feeding
3.2	Alternative energy promoted	• Fuel-wood consumption decreased, pressure on forest reduced	People use alternate energy for cooking
3.3	Agro-forestry promoted	• Multiple land use system/models developed and introduced	People will practice agro-forestry in their private land
3.4	Income generation activities introduced	• Livelihood of local people improved, cash flow of local people increased	Favorable market situation exist
3.5	Gender mainstreamed in the program	• Women participation in community development activities increased	Family encourages and supports to women
3.6	Eco-tourism initiated in TAL	• RBNP Eco-tourism plan implemented	Govt. policy supports to carry out the activities
3.7	Community services provided	• Community services including drinking water, culvert and village road constructed • Community participation increased in corridors and bottlenecks conservation	Active participation of local community
3.8	Socio-economic research conducted and database established	• Database on socio-economic status of communities dependent on corridors and bottlenecks forest • Report on sustainable livelihood practice in TAL	Availability of consultant

Output No	Activities	Who	When	Indicators	Resources
3.1	• Support Veterinary service • Promote stall feeding • Promote improved Breed	Motivators	• Feb – June • Feb – June • Feb – June	• Veterinary service available at 7 sites • 155 HHs practice stall feeding • 40 cross-breeds distributed in 20 villages	PM
3.2	• Promote biogas	CFUGs, AFO, CFUGs, Ranger	• Sept – May	• 210 HHs installed biogas at corridors and buffer zone areas	PCM, CFUGS

	• Provide improved chulo • Conduct ICS training		• Sept – May • Aug – Sept	• 1200 HHs install ICS at 5 sites • 3 training at 4 sites benefits 30 people	
3.3	• Establish agro-forestry demo plots • Promote agro-forestry through support of conservation farmers • Organize training on agro-forestry • Produce NTFPs seedlings	CFUGs, Ranger	• Feb – May • Feb – May • April - May • Feb - June	• Agro-forestry demo-plot established in 10 ha along corridor and bottlenecks • Agro-forestry practice on 47 ha. private land by local people • Conservation farmers selected to promote agro-forestry practices • Training on agro-forestry practice organized for 40 people • 60,000 NTFP seedlings produced and distributed to local communities	PM, DFO, CFUG
3.4.	• Form and institutionalize Women Income Generation Group • Support to Women Income Generation Groups • Provide training and support for bee keeping program • Support for pig and goat farming	Motivators, PCM, Rangers	• Feb – May • Feb – June • Feb – March • Feb – June	• 40 WIGA groups formed and institutionalized • 40 active WIGA groups • 21 person trained & started bee-keeping • Local people practice bee keeping • 45 HHs started pig & goat keeping • Income generation of local people enhanced	PM, PCM, CFUGs
3.5	• Conduct gender sensitization training • Form and institutionalize mother groups • Conduct training to mother groups	Motivators, PCM, Rangers	• Feb – June • Jan. – Feb • March	• 4 training on gender sensitization conducted in 4 sites, benefits 60 people • 28 mother groups formed at 4 sites • Training on saving credit and income generation organized for 280 mother group members	
3.6	• Conduct feasibility study for Eco-tourism	DNPWC, DOF, TAL field staff,	• Oct - March	• Feasibility study report • Eco-tourism management plan	PM, Chief Wardens,

	• Develop Eco-tourism management plan • Implement Eco-tourism plan in RBNP • Support Visitor Information Center (Tikauli) • Upgrade wildlife museum in RBNP • RBNP Eco-tourism plan publication	CBO's	• Oct – March • Jan – June • Aug – March • Jan – March • Aug – Oct	available • Tourism counter established at Nepalgunj • Communication center established at RBNP • An information center established at Tikauli • Display materials produced and installed at Tikauli museum • Wildlife museum upgraded at RBNP • RBNP Eco-tourism plan	DFO
3.7.	• Promote Public Health & Sanitation • Construct drinking water, ,irrigation and culvert • Support infrastructure	CFUGs, AFO, Rangers	• Feb – June • Feb – June • Feb – June	• 240 toilets constructed at corridors and buffer zone • Drinking water, irrigation and culvert constructed at 9 sites • School, village road and culverts constructed through partial support at 7 sites	PM, PCM, CFUGs
3.8.	• Conduct socio-economic survey • Conduct study on unsustainable livelihood practices in TAL	PCM, consultant	• Aug – Dec	• Socio economic database of corridor and bottlenecks available • Consultant report on sustainable livelihood practice in TAL	PC, TD

4: Education and Capacity Building

Objective 4: To promote conservation education to local communities and strengthen stakeholder capacity by supporting institutions, developing environmental education packages and conducting environmental interactions.

Output No	Outputs	Indicators	Assumptions/Risks
4.1	Conservation awareness generated	Participation of local communities in conservation and environmental issues increased Number of eco club in TAL increased	Improved current political situation and active participation of local communities
4.2	Local capacity built	Capacity of partner organizations strengthened	Institutional support from partners

Output No	Activities	Who	When	Indicators	Resources
4.1.	• Conduct awareness programs-NFE • Increase environmental awareness (celebrations) • Support Eco-clubs • Organize study tours and training for teachers • Conduct community mobile education and extension	Rangers, Motivators, CBOs, Eco-clubs, Schools	• July – June • July – June • Sept – Oct • Aug – June • July – June	• 7 literacy classes conducted • 47 environment awareness events organized • 54 Eco-clubs supported • 4 study tours and training conducted for teachers and students • Mobile education conducted at two site • People aware about conservation and environmental issues • 200 people benefited from mobile education • Technical report	DFO, CFUGs, PM
4.2.	• Award MSc. Degree scholarship	DOF, WWF NP	• July –June	• 2 person awarded MSc. degree scholarship from DOF, capacity of partner strengthened	PC, TD

5. Communication and Marketing

Objective 5: To develop effective coordination and communication among conservation partners and stakeholder and develop promotional materials for fund raising and information dissemination.

Output No	Outputs	Indicators	Assumptions/Risks
5.1	TAL Promotional materials produced	• TAL-Audio-visual materials produced in Nepali • TAL brochures, booklets and news letter published	Availability of consultant and publishers
5.2	TAL stakeholders consultation meetings	• Stakeholder meetings conducted • TAL vision shared with partners	Current political situation improves

Output No	Activities	Who	When	Indicators	Resources
5.1	• Publish brochure -Nepali & English • Publish feature articles • Publish booklet - Nepali & English • Publish and distribute TAL news letter • Produce TAL Video - Nepali • Broadcast in radio	Consultant, TAL field staff	• July-Dec • Jan-March • Jan. –June • July – June • Jan. – June • July – June	• 4000 copies of English and Nepali brochure published • Feature articles related to TAL published • 2000 copies of English/Nepali booklets on TAL published • TAL newsletter quarterly published and distributed • Produced TAL video in Nepali • Bi-monthly radio broadcaster in two sites on TAL activities • Local people and donors aware about TAL vision and activities	PM, PCM, CO
5.2	• Field level stakeholders meeting • Large scale TAL stakeholder meeting	TAL field staff, PC, TD	• July – Sept • Nov – Dec	• 8 field level stakeholders meetings organized • Local people aware about TAL vision and goal • A large scale project development stakeholder meeting organized	PM, DFO PC, TD

6. Policy and Advocacy

Objective 6: To strengthen institutional policy, legal framework and enhance coordination between India and Nepal by providing long-term financial security for TAL conservation.

Output No	Outputs	Indicators	Assumptions/Risks
6.1	Transboundary meetings held	• Field level transboundary meeting held between Nepal and India • Transboundary meeting held between Nepal and India at central level	Current political instability in Nepal will improve and government of both countries cooperate
6.2	Systematic central level coordination and advocacy mechanism	• Central level systematic communication and coordination mechanism developed	Regular support from government
6.3	Clear TAL policy document	• TAL stakeholders – DDC, VDC, CBOs, community aware on TAL policy • Partners supported TAL activities in the field. • Clear TAL policy document produced	Partners will actively participate and support

Output No	Activities	Who	When	Indicators	Resources
6.1	• Organize field level transboundary meetings • Organize central level transboundary meeting	TAL field staff	• July – March • Aug	• 2 field level transboundary meetings held, minutes of the meeting • A central level transboundary meeting held between Nepal and India, minutes of the meeting	PM, PCM
6.2	• Develop central level coordination and advocacy mechanism	TD, PC	• July – June	• Regular central level coordination meetings - steering committee, PEC and TAL coordinators meeting held	TD, PC
6.3	• Clear TAL policy • Conduct TAL policy document workshop	DFO, Warden	• July - Dec. "02	• TAL policy issues became clear • CBOs and local community support TAL program • TAL policy document in favor of local people and conservation prepared	DFO, PM