Eastern Himalayas Ecoregion: Terai Arc Landscape

Strategic Goals & Objectives

The goal for the entire Eastern Himalayas ecoregion is to conserve representative facets of biodiversity within habitat areas that are large enough to support the natural ecological and evolutionary processes that maintain the ecoregion. The Terai Arc Landscape program was initiated in July 2001 in order to restore and maintain wildlife corridors that link 11 protected areas between Nepal's Parsa Wildlife Reserve and India's Rajaji National Park. The objective of the Terai Arc Landscape (TAL) 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. Forests connecting these protected areas are in various stages of degradation and fragmentation due to human population and poverty pressures. Restoring wildlife corridors will facilitate the dispersal and genetic exchange of wildlife populations, ensure the long-term survival of key endangered species, and provide ecological and socio-economic services integral for the well being of local communities.

The proposal submitted to USAID focused on seven components of this objective:

1. Program Coordination
2. Forest Regeneration
3. Community Forestry
4. Sustainable Livelihoods (Community Development)
5. Anti-poaching Activities
6. Improved Management of Protected Areas
7. Education, Communication and Coordination
8. Research and Monitoring

Collaborators/Partners

- USAID
- United Nations Development Program (UNDP)
- Netherlands Development Agency (SNV)
- Integrated Centre for Mountain Development (ICIMOD)
- Department of Forests, HMG Nepal
- Department of National Parks and Wildlife Conservation, HMG Nepal

National and community level organizations that WWF partners with include:

- King Mahendra Trust for Nature Conservation (KMTNC)
- Women in Environment
- Environmental Camp for Conservation Awareness (ECCA)
- Buffer Zone Councils
- District Development Committees
- Village Development Committees

- Community Based Organizations including Community Forest User Groups, Community Forest Coordination Committee and Women's Groups and Eco-clubs
- Resource Himalayas

Partnerships to work on the Terai Landscape are being sought with:

- DFID
- CARE

Summary – Period 10/01/02 – 3/31/03

Seven years of Maoist problem has resulted in an unstable political situation in the country. This has lead to a security problem especially for the movement of field and government staffs in the field. However, TAL Program has been able to continue its program activities in the field despite the security situation. This was only possible largely due to the rapport that the TAL program has built within the short period of time with local communities and grass root organizations. TAL program has mostly implemented its activities through grass root level organizations most particularly Community Forest Coordination Committees, Community Forest User Groups and Women Groups.

On 29 January 2003, His Majesty's Government of Nepal and the Communist Party (Maoist) agreed for a ceasefire to facilitate the dialogue to end the 7 years old Maoist problem in the country. This has brought rays of hope to the Nepalese people to end the 7 years of civil war in the country. TAL program took ceasefire as an opportunity to carry out various programs such as large mass meetings, biological monitoring and rigorous field monitoring which were restricted during political instability in the country.

As per the plan, various activities that were carried out in full strength including nursery establishment and seedling production, preparation of community forest operational plans and capacity building for CFUG members. As per the demand from communities, production of 330,000 forest tree and Non Timber Forest Product (NTFP) seedlings was initiated in TAL during this reporting period. These seedlings will be ready for plantation in July/August this year and are planned to be planted in community and private lands along corridors and bottlenecks in TAL. During this period, 14 community forest operational plans were prepared and these plans were submitted to respective forest offices for endorsement. Though the poaching of rhinos seems increasing sharply due to the unstable political situation in the country, TAL program has been initiated various efforts to make anti-poaching more effective in Royal Chitwan National Park. Various strategic meetings were held with senior government official and Park authorities. With the initiation of Department of National Parks and Wildlife Conservation and Royal Nepal Army, Anti-poaching strategic plan is under preparation and expected to be completed by the end of this fiscal year. Despite the prevailing security situation in the country, 17 Anti Poaching Units (APUs) are operating in four protected areas in TAL and community-based anti poaching operation has been initiated in two corridors – Basanta and Bardia-Katarniaghat.

To motivate local communities in conservation, various community development activities including biogas, improved cooking stoves (ICS) were constructed in Basanta and Bardia-Katarniaghat corridors, Mahadevpuri, Lamahi and Dovan bottlenecks and RBNP and RSWR buffer zones during this reporting period. 123 biogas plants and 115 ICS were constructed in TAL during this reporting period. Along with the alternate energy program, stall feeding, income generation activities were promoted alongside corridors and bottlenecks. A dental health post was installed in Bhurigoan, RBNP Buffer Zone.

TAL program has been continuing its focus on conservation awareness and motivation of local stakeholders in corridor restoration through dissemination of information and organizing

stakeholder meetings. A conservation newsletter – Kael Pahura, which is being published in Nepali and distributed locally on a quarterly basis to disseminate TAL outputs and conservation messages to local stakeholders. TAL program has also focused on awareness generation through formation eco-clubs, eco-club networks, literacy classes for 98 backward women in Khata (Bardia-Katarniaghat corridor).

Major Highlights

TAL Strategic Plan Development

A series of meetings were held in September / October 2002 with key international institutions including USAID, DFID, SNV, CARE and UNDP, all of which work on forest and natural resource management and sustainable development issues in the Terai Arc Landscape Nepal. The meetings were initiated with the leadership of His Majesty's Government of Nepal, Ministry of Forests and Soil Conservation. The main objectives of the meeting were to propose a process of coordination, particularly where there is overlap amongst institutional strategic objectives and interests in TAL. These partners or potential partner agencies have been invited to provide input into the planning of the Terai Arc Landscape Strategic Plan. In December 2002, a Root Causes of Environment Degradation Workshop was organized in Kathmandu to identify issues, gaps and root causes of environment degradation in TAL. The root cause analysis workshop was organized as part of strategic plan development process of TAL.

TAL Planning Meeting

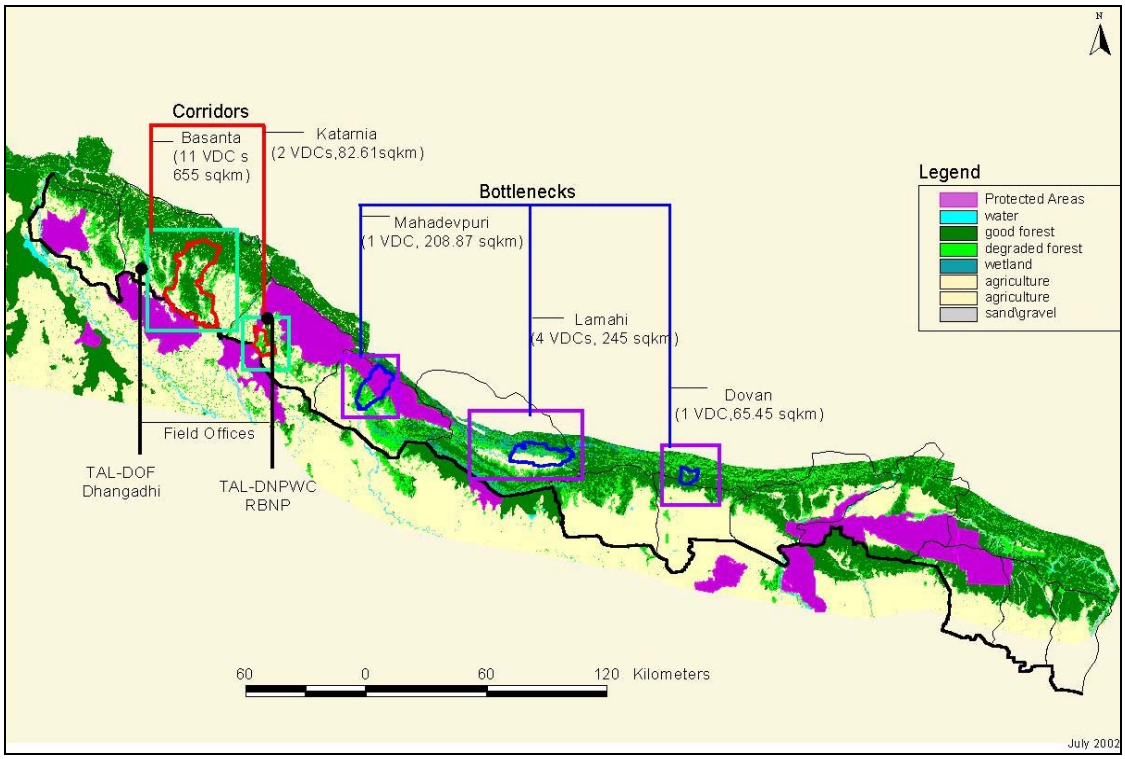
A planning and progress review meeting on Terai Arc Landscape (TAL) Program was held on 28-29 Jan 2003 in Nepalgunj. The meeting was fruitful in setting the targets for Critical Areas Restoration Project (CARP) for next three years (2004-2006) to attain the short-term objectives of TAL program. During the meeting, various activities were identified under Forest Corridor Conservation and Management, Species Conservation, Sustainable Development, Education and Capacity building, Communication and Coordination, Policy and Advocacy program components. Under each program component, the targets for the identified activities were set. The meeting valued the effort and contribution of local people for forest corridor conservation in TAL. During the meeting, the progress made by TAL for the last one and half year also was reviewed. The meeting also focused on the policies, programs and target outputs of TAL.

Root Cause Analysis Workshop

Root Cause Analysis (RCA) is an analytical and logical tool that enables us to identify a set of factors that are the main drivers or causes behind environmental degradation and biodiversity loss. This method allows to understand biodiversity loss using a multidisciplinary and analytical approach to make our conservation actions more appropriately targeted and strategic. Four steps of this method include information search, development of preliminary conceptual model, data collection and revision of the conceptual model. The RCA workshop held in December at Kathmandu identified the main causes of environmental degradation and loss of biodiversity in Terai Arc Landscape. A number of issues including forest conversion for agriculture, encroachment, habitat degradation/fragmentation, over harvesting of forest products, uncontrolled grazing, poaching for wildlife or pollution were discussed during the workshop. What lies behind these? Is it because of wrong policy, poverty, population growth, lack of

economic opportunities? What could be the causes for these issues? Is it political instability, wrong sectorial policies, international trade policies, globalization, regional policies or donor driven agendas? These are some of the questions that we tried to answer through several rounds of discussions, debates and consultations in the RCA Workshop. Finally, conceptual models for major immediate and root causes of environmental degradation and biodiversity loss in the Terai Arc were developed and discovered that there were various opportunities and strategies available to address these causal factors. It is also discovered that the RCA method is very much practical and flexible on one hand while analytical and systematic on the other.

Figure 1: Corridors and bottlenecks within Terai Arc Landscape Program



Results by Objective and Activity

Despite the prevailing security situation in the country, field activities has been carried out successfully in TAL during this reporting period. Some activities such as rigorous field monitoring, biological monitoring and mass meeting that could not be initiated in the field, have been initiated after the ceasefire between His Majesty's Government of Nepal and Maoist rebels in January 2003. However, other activities based in local communities such as seedling production, community development, forest restoration have been continued with great success. This is only possible as these activities were implemented through grass root level beneficiaries organizations including community forest user groups, community forest coordination committees and women groups.

Result (Activity) 1: Program Coordination

Terai Arc Landscape shifted its strategy towards a more coordinated large-scale management approach through development of TAL strategic plan. Along with ongoing restoration activities in critical areas – corridors and bottlenecks in TAL, strategic plan development and coordination team consisting of experts from His Majesty's Government of Nepal, WWF UK, WWF US and WWF Nepal Program has been formed. As part of ongoing TAL partnership development program, a partnership coordination proposal has been developed to share vision, goal, activities and strategies that have been adopted to implement TAL program with other partner organizations including UNDP, SNV, DFID during September / October 2002. Similarly, TAL strategic planning process has been continued under the leadership of HMG Nepal. As part of TAL strategy development process, Large Project Development Coordinator based in Kathmandu has been working very closely with His Majesty's government of Nepal.

In December 2002, a root cause analysis workshop was held in Kathmandu to identify underlying causes of environment degradation and biodiversity loss in TAL. A number of underlying issues including forest conversion for agriculture, encroachment, habitat degradation/fragmentation, over harvesting of forest products, uncontrolled grazing, poaching for wildlife or pollution were identified, analyzed and discussed during the RCA workshop. After three days of group and plenary discussions, conceptual models for major immediate and root causes of environmental degradation and biodiversity loss in the Terai Arc were developed and also discovered that there were various opportunities and strategies available to address these causal factors. Based on these root causes, GCP II proposal was developed and submitted to USAID.

Result (Activity) 2: Forest Regeneration

A milestone, forest regeneration has been adopted to restore the degraded forest corridors with the participation of local communities in TAL. As per the demand from local communities, 330,000 forest tree and NTFP seedlings are under production in community and District Forest Office nurseries supported by TAL program. These seedlings will be ready for plantation in July/August 2003. The plantation will be carried out mostly in degraded forest along corridor in TAL. In addition to community plantation, individual farmers will also be motivated for private plantation in their private lands.

The site selection for natural regeneration has been completed in community lands in Basanta, Khata, Lamahi, Dovan, Mahadevpuri and RSWR buffer zone. TAL program supports for construction of trench and fence to prevent grazing and promote natural regeneration in degraded areas through local people participation. Agreements have been signed with various community forest user groups and community forest coordination committees to construct trench and fence in the community lands.

Given the chance for natural regeneration, the degraded forest patches regenerate very quickly as TAL area supports subtropical climate with fertile soils. In addition, the seedlings and saplings established from natural regeneration are less susceptible to the harsh environmental conditions as compared with planted seedlings from the nurseries. Furthermore, these seedlings/saplings regenerated naturally are less palatable for herbivores. From conservation perspective, natural regeneration is an ecological process in which genetic diversity, species diversity and ecosystem diversity will be enhanced through natural process. To achieve our objective of corridor restoration, TAL program will focus natural regeneration program in future as a key for restoration of degraded areas

Result (Activity) 3: Community Forestry

Strengthening and institutionalization of Community Forestry Users' Groups (CFUGs) is the main thrust of TAL program to restore degraded forest corridors. TAL program promotes community forestry in order to protect, manage and utilize forest resources for the livelihoods of local communities. District Forest Offices can only legally hand over the government owned degraded forest patches as community forests to the local communities who are living around the forests. With the involvement of local communities, district forest offices provides technical support for the preparation of operation plan for the forests and constitution of respective Community Forest User Groups (CFUGs) before handing over the forests to local communities. During this reporting period, 14 operational plans (5 in Basanta, 7 in Khata and 2 in Dovan) were prepared and submitted to the respective district forest offices for endorsement. After the operational plan is endorsed by the district forest office, the forest is then legally handed over to the communities. Then the communities are legally authorized to manage their forest resources and take legal action against illegal activities. As per the operational plan, the user groups carry out forest management, protection and utilization activities in the designated block of their community forest. TAL program supports district forest offices to prepare operational plans and constitution, organize meeting with local communities and provide training including forest management, leadership and organization and financial management to CFUG members. These activities are implemented by the TAL program to enhance good governance in CFUGs through promotion of transparency and equity in product sharing, decision making and fund mobilization. District forest office approves the operational plans for five years. After five years, these operational plans need to be revised in consultation with user group members. Upon request from user groups, then the district forest office reviews and approves the revised plan for another five years. 15 community forest operational plans (10 in Lamahi and 5 in Dovan) were revised with the support from TAL program. The revised and newly prepared operational plans were prepared with greater focus on conservation and sustainable livelihoods for the local communities. As per the timber inventory, sustain yield has been tried to be regulated through the operational plans as inventory is mandate for each community forest before the operational plan gets endorsed.

Strengthening and institutionalization of Community Forestry Users' Groups (CFUGs) is critical for the restoration of degraded forest areas along corridors and bottlenecks. During this reporting period, account and record keeping training, forest management training and Non Timber Forest Product Training organized for 93 local people from various CFUGs in TAL.

Result (Activity) 4: Sustainable Livelihoods (Community Development)

From the past experiences, the success of conservation programs in Nepal depends on the cooperation and participation of local communities. Integrated Conservation and Development Program (ICDP) benefits mostly poor farmers who are dependent on forest resources. Additionally, these ICDPs are introduced in TAL to uplift the socio economic condition of local people who are living along the corridors and bottlenecks. Activities such as income generation activities, livestock improvement and capacity building continued during this reporting period. While these activities were developed partly as a means of fostering a trusting relationship, they were also designed strategically to lead to biodiversity conservation in the region. These ICDP program are implemented in critical areas – Basanta and Bardia-Katarniaghat corridors, Lamahi, Mahadevpuri and Dovan bottlenecks and RBNP and RSWR buffer zones (Figure 1).

The most local communities in TAL use fuelwood for cooking. The TAL program promotes biogas and Improved Cooking Stoves (ICS) in TAL to reduce pressure on forest resources. A total of 123 biogas plants and 115 Improved Cooking Stoves (ICS) were constructed in TAL during this reporting period. In case of biogas plant construction, the TAL program subsidizes 33 percent of material borne cost (in kind 2,000 bricks, one toilet pan and pipe) transportation and technical supports for construction of biogas-toilet plant. Similarly TAL program subsidizes material (Iron rod) and partial technical cost (total worth of NRs 100 i.e. $1.30) for construction of an improved cooking stove in TAL area.

Based on the field visit, the ICS constructed in Dovan, Lamahi and Basanta are functioning well and people are using them not only for saving fuelwood but also from health perspectives as ICS is smokeless. Due to the inadequate awareness program and cultural factor, the ICS constructed in Khata area are not fully used by the local people as it is in other areas of TAL. *Tharu* communities have a big family with family members more than 10 persons. ICS takes time while cooking for big family. As a result, *Tharu* communities rather preferred the traditional stoves. TAL program has been taking it seriously and advised ICS constructor to design the size of the stoves as per the family size. In February 2003, an intensive training was organized for the ICS promoter and video program on the benefits of ICS was shown in Khata area. As a result, the TAL program has received more demand for ICS. Poor farmers who cannot afford biogas plants, improved stoves are the cheapest means of reducing firewood use and consequently reducing the pressure on forest. TAL program has developed the capacity of local community in construction and maintenance of ICS for its sustainability in future. During this reporting period, 16 ICS promoters (including 12 females) received training in Khata and Mahadevpuri area.

Stall-feeding ultimately reduces open grazing in forestlands, thus minimizing forest degradation while simultaneously enhancing income generation potential of local farmers through increased productivity of their livestock. TAL program distributes improve breeds of livestock to the local farmers. Distribution of improved livestock breeds increases productivity of livestock, diversifies household income, promotes stall-feeding and thus, minimizes grazing in national forests. During this reporting period, various improved breeds of 11 female goats were distributed for local farmers in Basanta area. Additional improve breeds of livestock are planned to be distributed for the local farmers. Stall-feeding, which greatly reduces pressure of grazing on forests was also indirectly promoted through the production of fodder-tree seedlings in multi-purpose nurseries for private plantation.

Forest plantation goals were combined with the need for alternative income generation and a NTFP nursery was established in Dovan with the financial and technical support from the TAL program. A total of 10,000 NTFP seedlings were initiated to produce and distribute for plantation, consisting of Harro (*Terminalia chebula*), Barro (*Terminalia belerica*), Banana (*Musa sp.*), bamboo (*Dendroclamus sp*.), and cane (*Calamus sp.*). In the case of Lamahi, District Forest Office – Dang has initiated production of NTFP seedlings most particularly *Asparagus spp*. (Kurilo) with the support from Livelihoods and Forestry Program of DFID. District forest office will provide *Asparagus spp*. seedlings for Lamahi area.

A dental health care facility was installed in Bhurigaon in September / October 2002 with the support from TAL program. Local people were benefited from the health care facilities and the dental care hospital has been operating in close coordination with district health office – Bardia.

TAL Program provided partial financial support to construct a wooden bridge at Sukhad through Sutaiya User Committee of RBNP Buffer Zone. The bridge benefited more than 1,000 households in the area. Similarly, TAL program has also supported 8 km of road gravel in RBNP

buffer zone through buffer zone user council of RBNP. These community services program were introduced in TAL to motivate the people for conservation.

Local capacity building is a major component of the TAL program that ensures long-term sustainability of the program and provides the foundation of local community participation in conservation and development activities. Trainings, workshops and study tours were designed for local people and CBOs on forest management, species conservation, income generation and awareness building activities. Two income generation training on piggery and poultry farming and kitchen gardening were organized in RSWR buffer zone which has benefited 70 households in the area. Later on the program has planned to distribute improve variety of pigs, chicken and vegetable seeds to distribute with subsidize price for those poor families. This type of training enhances alternate income generation schemes for local people who are dependent on forest resources, hence reduce the pressure on forests.

Upon written request from the local communities and protected area authorities, 10 km of trench in Majgoan-Gobariya and Majgoan-Ppipaldadi of RSWR and 10 km of fence in Thakurdwara and Ramuwapur areas of RBNP were maintained with the support from TAL program. The trench and fence protect crops from wildlife damage.

Local communities cultivate mentha for dual purposes – income generation and non lethal barrier of wild animals that come and raid their crop fields. According to the local farmers, mentha oil was sold for Rs 500/kg in Nepalgunj. Approximately the local farmers of Bardia sold 400kg of mentha oil last year only. TAL program has been planning to provide financial support while purchasing mentha root for cultivation in April/May this year.

Result (Activity) 5:Anti-poaching Activities

17 Anti-Poaching Units (APUs) are functioning in four protected areas in TAL. These APUs conduct anti-poaching operation to reduce illegal poaching and trade incidents inside protected areas and their buffer zones in close collaboration with Royal Nepal Army (RNA) and protected area staff as a team. Due to security situation, movement has been restricted in protected areas as a result; sweeping operations (in RBNP) could not be conducted on a regular basis. However, general patrolling for poaching activities has been continued by the APU in each protected area. TAL program provides mobility and informant support to the APO in all four protected areas.

Three community based APUs (two in Basanta corridor and one Bardia-Katarniaghat corridor at Khata) were initiated since last year. These APUs were restructured and anti-poaching strategies were formulated from unit to operations level in forest corridors based on the past experience and success of involving local community in anti-poaching activities. During this reporting period, two Anti-poaching Operation Coordination Committees were formed at two critical corridors in Basanta and Khata.

While poaching figures have risen sharply in the last year and this year too, a number of efforts and strategies on anti-poaching were initiated by the MFSC, DNPWC and TAL program. Various anti-poaching strategy meetings were organized with senior government officials and park authorities. During these meetings, a number of issues related to rhino poaching like communication set, support for mobility, management and well strategize APO were discussed and possible strategies such as basket funding, coordination, rewards to informants and preparation of anti-poaching strategy plan were proposed for immediate action to Park authority and HMG Nepal. Then immediately with the initiation of DNPWC and Royal Nepal Army, Mr. Shiva Raj Bhatta, Planning officer of DNPWC and Mr. Bal Krishna Karki, Major of Royal Nepal Army (RNA) were contracted for the development of anti-poaching strategy plan. Mr. Bhatta

and Mr. Karki had already consulted stakeholders in the field and are in the process of finalizing the strategic plan soon.

Due to the heavy flooding during monsoon 2002, the communication repeater station in Chitwan was damaged. Following the anti-poaching strategic meeting, procurement of new communication set with construction of repeater tower station was completed and the communication set is working well in Chitwan. Four APU posts were renovated one in Majhgaon and two in Singpur at RSWR and one in Ambasa at RBNP. Two new APU posts are under construction in RCNP and Parsa Wildlife Reserve (PWR). APU posts are constructed to strengthen the APU in protected areas for effective movement. In addition these posts provide infrastructures for park and RNA staff to monitor wildlife movement in the area.

Result (Activity) 6: Improved Management of Protected Areas

Reduction of grassland habitat is the one of the major problem of protected areas in TAL. For instance, 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, prey base of tigers. As part of improving management of protected areas, TAL program is supporting the protected areas financially and technically to clear unwanted bushes, burn grasses and uproot the unpalatable trees and shrubs. During this reporting period, 256 ha of grassland has been managed in four protected areas (121 ha in RSWR, 75 ha in RBNP, 50 ha in RCNP and 10 ha in PWR).

Waterholes within protected areas were constructed to make drinking water and wallowing places available for rhinos, elephants and ungulates particularly during dry season. Normally these waterholes are fed by the natural stream or by a manmade canal or by pumping underground water. As per the plan, construction of 3 waterholes out of 4 has been completed in RSWR (Budo *Tal*), at Lalmati in RBNP and RCNP. In addition, two waterholes were renovated while constructing a waterhole at Budo *Tal* in RSWR. The waterholes are renovated as they are invaded by invasive species and shrunk due to siltation over time. The waterhole construction sites are selected based on animal movement and naturally established waterholes in the past within grasslands of the protected areas. The protected areas and TAL staff assessed the positive and negative impacts of waterhole construction while selecting the site for waterholes construction within protected areas. The site selection is crucial while constructing waterholes because the constructed waterholes need to be used by the wild animals in future. During field monitoring, footprints of rhinos, tigers, elephants and ungulates were found around the edge of newly constructed waterholes which gives an indication of the use of waterholes by these targeted wild animals.

Result (Activity) 7: Education, Communication and Coordination

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. To generate awareness and built local capacity, TAL has launched various conservation education programs including Non Formal Education classes for women, eco club support and mobile education.

With the aim of disseminating TAL activities and outputs among local communities, TAL program publishes *Kael Pahura* series quarterly. During this reporting period, 500 copies of *Kael Pahura* series - 2 (year 5) was published and distributed. Similarly, a book entitled “Status, Distribution and Monitoring of Tigers in Protected Areas of Terai Arc Landscape-Nepal” was

published jointly by DNPWC, KMTNC and WWF-Nepal Program. And also 1,000 copies of CITES manual was also reprinted for distribution to various stakeholders related to trade in wild animals and their products.

With the support from TAL program, 10 signposts were prepared and installed in RBNP buffer zone. The sign posts were prepared with the aim of disseminating buffer zone rules and regulation to local communities.

During this reporting period, a Non Formal Education class facilitator training was organized for 11 facilitators in Bardia-Katarniaghat corridor in March 2003. 11 classes for 98 women from various CFUGs were initiated since March 2003. During this reporting period, 6 new eco clubs formed to foster environmental awareness in Lamahi. During eco club formation meeting, the students were briefed on vision, goal and objectives of TAL program. After the formation of eco clubs, they were supported with conservation related materials including books, brochure and leaflets. Additionally, an eco club network was also formed in RSWR buffer zone. There are 96 eco clubs and three eco club networks exist in TAL.

During this reporting period, wetland day, wildlife week were celebrated among student children to generate awareness on conservation of wetlands and wild animals. Similarly, various activities such as conservation awareness, essay, art, folk song, poem and speech competition and interaction programs were organized for the eco club members in TAL area.

A systematic coordination mechanism has been developed at central and field level for TAL program implementation. The Steering Committee, Project Executive Committee and Program Coordination Committee have been formed as per the supplementary agreement signed with HMG of Nepal for the implementation of TAL program. Project Executive Committee (PEC) meeting was held on 28 January 2003 at Nepalgunj. The meeting reviewed the progress of TAL program for last two quarters and also revised the budget and programs for the next two quarters as per the request from project management. The Director Generals of executive departments (Department of Forests and Department of National Parks and Wildlife Conservation) chaired the meeting. Program coordinators were the member secretaries for the PEC. The Country Representative, Program Directors and Finance Director of WWF Nepal Program and TAL Project Managers were also present at the meeting. Similarly for day to day coordination on TAL, Program Coordination Committee (PCC) consisting of Program Directors WWF Nepal Program, Deputy Director General /Program Coordinator – DOF and Deputy Director General /Program Coordinator – DNPWC has been formed and has been meeting once a week.

TAL project staff participated in His Majesty's Government of Nepal (HMG/N) planning meetings organized at various development regions – Central Development Region, Western Development Region at Pokhara, Mid Western Development Region at Nepalgunj and Far Western Development Region at Dhangadhi to plan activities and budget for next fiscal 2004.

Based on the recommendation made by the joint monitoring team, a two-day TAL planning and review meeting was organized in Nepalgunj from January 28-29, 2003. The major targets for next three years and review of the progress of TAL for the last one and half years were the main agenda of the meeting. At the conclusion of the meeting, site based targets for the next three years were identified and refined from participatory ways. The meeting was participated by senior officials from Ministry of Forests and Soil Conservation, Department of Forests and Department of National Parks and Wildlife Conservation, Directors from Mid Western and Far Western Regional Forest Directorates, District Forest Officers of Kailali, Kanchanpur, Bardia, Dang, Banke, Palpa and Parsa, Chief Conservation Officers of Royal Suklaphanta Wildlife Reserve, Parsa Wildlife Reserve and Royal Bardia National Park, Assistant Conservation

Officer of Royal Chitwan National Park, Director of King Mahendra Trust For Nature Conservation (KMTNC) Bardia and senior officials from WWF Nepal Program.

Result (Activity) 8: Research and Monitoring

Monitoring with research and scientific database is the backbone of the success of landscape level conservation program. To support the TAL Program with scientific database, spatial data were collected and stored using remote sensing and GIS technology for entire TAL.

The protocol for vegetation monitoring at site level using permanent sampling plots is under development by the Resources Himalayas. A MOU (Memorandum of Understanding) has been signed between the Resource Himalayas and WWF Nepal Program Office to develop vegetation monitoring protocol and carry out site level vegetation monitoring in TAL. The Resource Himalayas has already assigned a team with a scientist and necessary field staff to carryout vegetation monitoring and establish permanent plots in TAL. After the ceasefire, the team started their field work. In the past, the field work was postponed due to the security reason.

Recently available satellite images were used to determine forest condition along corridors throughout the Nepalese portion of TAL (from Bagmati River to Mahakali River).TAL program hired Dr. Anup Joshi and experts from the University of Minnesota and Hunter College to analyze the satellite images for the entire TAL. 8 satellite images covering entire TAL identified and procured. However analysis of data hasn't been progressed as expected due to the security situation. After the ceasefire, Dr. Anup Joshi, his team member from University of Minnesota, and representatives from DoF and DNPWC carried out rigorous field verification of satellite images covering west from Bagmati River to Mahakali River (Nepalese portion of TAL) in March/April 2003. The field verification was delayed due to the security situation in the field. The satellite scenes were 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. Based on this field data, the vegetation classification for TAL will be completed in June 2003.

The GIS database with Roads, rivers, landuse system, contours, political boundary (district and Village Development Committee levels), community forests, population and geology were digitized and stored in GIS system for the entire TAL. The spatial data can be used for landscape level planning and develop Strategic Plan for TAL. In addition, the database can be used as a monitoring tool in the field. The land use data most particularly forest cover from satellite images are useful while monitor vegetation change over time. Not only that these spatial database are most powerful tool to assess the effectiveness of TAL strategies and programs on corridor restoration. Similarly the database provides the foundation to design and develop effective conservation and management plan that will address conservation at the landscape level.

A joint TAL program monitoring team consisting of Mr. Shiva Raj Bhatta from DNPWC, Mr. Bal Ram Kandel from DOF and Mr. Bharat Pokharel from WWF Nepal Program visited field from 23 December 2002 to 1 January 2003 to monitor TAL progress in the field. The team appreciated progress made by the project despite the prevailing security situation in the field.

Progress and status

Benchmark	Output	Status
1. Program Coordination		
1.1 Develop partnership and TAL strategic plan	1. Partnership proposal developed 2. Root cause of biodiversity loss in TAL carried out 3. Gaps identified and research and studies conducted. 4. Rigorous consultation for strategic plan development carried out 5. Partnership development continued 6. TAL Strategic Plan	1. Completed 2. Completed 3. On track 4. On track 5. On track 6. On track
2. Forest Regeneration		
2.1 Restore degraded forests along corridors and bottlenecks	1. Quality seedlings produced and distributed 2. Natural regeneration initiated 3. Plantation established in community and private lands	1. On track 2. On track 3. On track
3. Community Forestry		
3.1 Establish and Institutionalize community forest user groups	1. Degraded forest patches identified to hand over as community forests to local communities 2. 26 Community Forest Operational Plans prepared 3. 20 Community forests handed over to local communities	1. On track 2. On track 3. On track
3.2 Build capacity for community forest user groups	1. Empowerment and participation increased of CFUGs in the local communities 2. Empowerment increased to women's participation in CFUGs	1. On track 2. On track
4. Sustainable Livelihoods		
4.1 Promote community development activities	1. Community services provided to local communities 2. Alternate energy promoted 3. Local communities motivated in conservation	1. On track 2. On track 3. On track
4.2 Enhance income generation of local communities.	1. IGA groups formed and institutionalized 2. Income generation enhanced and local people trained on income generation activities 3. Agro-forestry promoted 4. Staff feeding and improved breed adapted by the local communities	1. On track 2. On track 3. On track 4. On track
4.3 Minimize human wildlife conflict	1. Non lethal barrier for wild animals established 2. Decreased in crop depredation by wild animals	1. On track 2. On track
4.4 Local capacity building	1. Local communities trained and empowered 2. Local people trained on various aspects include income generation, alternate energy, stall feeding	1. On track 2. On track
4.5 Build capacity of government implementing agencies	1. Government field staff trained successfully in community forestry and income generation 2. Increase in participation of local communities in planning, managing and developing of conservation activities as a result of better-trained forest officials	1. On track 2. On track
5. Anti-poaching		
5.1 Strengthening anti poaching operation in PA	1. Anti-Poaching Operation strengthened 2. AP post constructed 3. AP strategic plan developed 4. CITES implementation and monitored illegal trade of wildlife 5. Government officials and local communities trained	1. On track 2. On track 3. On track 4. On track 5. On track

	in anti-poaching efforts through series of anti poaching training sessions 6. Trained manpower and better communication system in place 7. Improved communication among APU members and coordinated anti-poaching efforts	 6. On track 7. On track
5.2 Strengthening community based anti poaching operation along corridors	1. Community based Anti-Poaching Operation in two corridors institutionalized 2. Capacity of APU team including local community built	1. On track 2. On track
6. Improved management of protected areas		
6.1 Improving protected area management	1. 256 ha grassland managed in four protected areas in TAL 2. 4 waterholes constructed 3. 4 waterholes renovated	1. Completed 2. On track 3. Completed
7. Education, communication and coordination		
7.1 Generate conservation awareness	1. Conservation awareness generated among local people and school children 2. Brochure, leaflet, books and newsletter published and distributed to disseminate information	1. On track 2. On track
7.2 Facilitate international dialogue and cooperation between Nepal and India	1. Field level transboundary meeting held will result in collaboration and cooperation between field staff of two countries. 2. Cooperation on transboundary issues such as illegal trade control gained.	1. On track 2. On track
7.3 Systematic coordination mechanism	1. Systematic Coordination mechanism in place	1. On track
8. Research and Monitoring		
8.1 Obtain GIS Mapping and ground truthing results	1. Field verification completed 2. Vegetation classification for entire TAL completed by June 2003 3. Established GIS database for TAL 4. Vegetation monitoring protocol developed and permanent plots established	1. Completed 2. On track 3. On track 4. On track
8.2 Wildlife monitoring through collection of baseline data	1. Status of wild elephants in western Terai known. 2. Blackbuck conservation strengthened 3. Regular monitoring of flagship species and other species such as blackbuck and swamp deer	1. On track 2. On track 3. On track
8.3 Establish baseline in socio-economic condition	1. Feasibility of NTFP in Terai explored with detail action plan for critical areas 2. Socio-economic baseline data collected and analyzed through development of site level plans for four critical areas.	1. On track 2. On track
8.4 Monitor TAL activities	1. Regular program monitoring in place as a regular activity 2. Regular feed back and comments provided to TAL field staff in program planning, implementation and monitoring	1. On track 2. On track

Note: some of the activities were delayed due to field security situation

Next steps

The TAL program was initiated in July 2001 with the aim of linking 11 protected areas in Nepal and India. The first stage of the program was to identify critical areas for immediate intervention. As a result five critical areas – two corridors and three bottlenecks were identified in 2001. Then a five year critical area restoration plan was developed for these sites. As per the plan, various activities forest restoration, community forestry, anti-poaching, wildlife monitoring, habitat improvement, Integrated Conservation and Development Programs (ICDP), awareness generation programs are initiated in TAL. The TAL program, which is jointly implemented by HMG Nepal and WWF Nepal Program took on Large Program Management Planning with the help of a Task Force that consisted of experts from Goldman Sachs and McKinsey, scientists, forestry experts, and socioeconomic experts in this year as a means of developing TAL strategic plan that would address all the needs and issues on a landscape level. One of the priorities of the strategic plan consists of developing a coordination mechanism with various key stakeholders at central and field levels that can lead to the successful scaling up and implementation of current activities. Another component involves building partnerships with institutions that work on conservation and development issues in the Terai. Memorandums of Understanding have been signed by WWF Nepal with UNDP, SNV and ICIMOD, all encouraging cooperation on a landscape level. WWF will continue to pursue close relationships with these and other partners, including national NGOs and CBOs.

Moreover, mobilization of local people is critical for the success of landscape level program. In coming year, TAL will focus on various awareness generation programs for the local communities. TAL program has been organizing various stakeholder meetings and interaction workshops for local communities. TAL program will also focus extension program in future. Local capacity building is vital for the long term sustainability of the program. TAL program has been organizing various exposure tours, trainings and workshop program related to community forestry and income generation for the local communities. These programs are vital for the success and sustainability of landscape level conservation in Nepal. The impact of awareness and capacity building program has been seen in the past year as people has confronted for the forest encroachment and assisted District Forest Offices. *Gothala* education and Non Formal Education for women are quite popular as they are the key to generate conservation awareness at grass root level.

Women's involvement is crucial for the sustainable management of forest resources in long run. TAL program has been promoting women participation in community forestry, income generation activities and alternate energy program.

Success Stories

Within a short period of time, the TAL program, which is jointly implemented by HMG Nepal, and WWF Nepal Program has been able to develop a good rapport with local communities, government line agencies and NGOs working in the area. As a result, despite the political turmoil in the country, the TAL program was been successful in implementing its planned activities in the field. This is only possible as the programs were implemented through grass root level organizations most particularly CBOs, CFUGs and CFCC. Community participation in most of the TAL activities is remarkable. Communities are motivated to participate in forest corridors restoration and community development activities.

TAL program has been working very closely with district forest offices and Parks / Wildlife Reserve offices. TAL has received extensive support from district forest offices while planning,

implementing and monitoring seedling production, plantation, community forest user group legalization and institutionalization in corridors and bottlenecks.

A good coordination mechanism has been developed at both field and central levels to plan, implement and monitoring TAL program. Furthermore, not only in the field, WWF Nepal Program has also developed good rapport with central level government line agencies most notably Ministry of Forests and Soil Conservation, Department of Forests and Department of National Parks and Wildlife Conservation. In the field, the program has also received extensive support from local community, CBOs and NGOs.

Challenges and Lessons Learnt

Seven years of Maoist problem resulted in an unstable political situation in the country. This lead to a security problem especially for movement of field and government staffs in the field. However, TAL Program has been able to continue its program activities in the field despite the security situation. This was only possible largely due to the rapport that the TAL program has built within the short period of time with local communities and grass root organizations. TAL program has mostly implemented its activities through grass root level beneficiaries organizations most particularly Community Forest Coordination Committee and Community Forest User Groups.

On 29 January 2003, His Majesty's Government of Nepal and the Communist Party (Maoist) agreed for a ceasefire to facilitate the dialogue to end the 7 years old Maoist problem in the country. This has brought rays of hope to the Nepalese people to end the 7 years of civil war in the country. TAL program took the ceasefire as an opportunity to carry out various programs such as large mass meetings, biological monitoring and rigorous field activities monitoring which were restricted during political instability in the country.

The political instability and state of emergency provided opportunity for rhino poaching in Royal Chitwan National Park and Royal Bardia National Park. WWF Nepal Program made various attempts including organizing various strategic meetings, coordination at central and field level government senior officials and strategizing various AP activities through involvement of local communities in the area. Success of community based anti-poaching operation has proved the role of local community in anti poaching operation. As they are involved as informants for anti poaching operation, the poaching incidences including illegal timber cutting, encroachment, fire and grazing in corridor has been reduced drastically.

The success of landscape level program depends of more rigorous field monitoring of activities. A joint monitoring team consisting of representatives from executing agencies – Department of Forests and Department of National Parks and Wildlife Conservation and WWF Nepal Program monitored the TAL progress in the field. Such program monitoring provides feed back for the improvement of the program in future. Furthermore, the Project Executive Committee meeting has also decided to carry out program monitoring as a regular activity. Similarly, the meeting also suggested that small scale impact monitoring should also be conducted to assess and get feed back on various activities ongoing in the field.