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Eastern Himalayas Ecoregion:

Terai Arc Landscape

Annual Report

10/01/2003 - 09/30/2004

for

World Wildlife Fund

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Submitted by:
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Eastern Himalayas Ecoregion: Terai Arc Landscape

Strategic Goals and 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 increasing 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. Strengthening Community Forestry Management
2. Restoring Habitat
3. Strengthening anti-poaching operations
4. Promoting sustainable livelihoods
5. Enhancing conservation education, communication and coordination
6. Carrying out research monitoring and evaluation
7. Implementing TAL strategic planning and program coordination

graph about the ecoregion's goals and objectives.

Collaborators/Partners

TAL Program is implemented by World Wildlife Fund Nepal Program, the Department of Forests, HMG Nepal and the Department of National Parks and Wildlife Conservation, HMG Nepal. Key international agencies that TAL Program works closely with include:

- USAID
- United Nations Development Program (UNDP)
- Netherlands Development Agency (SNV)
- DfID
- CARE Nepal

National and community level partner organizations 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 Forest User Groups, Community Forest Coordination Committee
- Community Based Organizations including Women's Groups and Eco-clubs
- Resources Himalaya

Summary: Period 10/01/03—09/30/04

Highlights

The fiscal year of 2004 was marked with widespread political chaos and turbulence in Nepal caused by intensification of the Maoist insurgency and the government's failure to adequately address it. In a similar scenario as 2003, program activities involving large meetings, mobilization events and high publicity were either postponed or cancelled. Unfortunately, several field research and monitoring activities were also postponed or had to be carried out at a smaller scale so as to be unobtrusive.

At the same time, TAL Program was successful in carrying out the majority of targeted activities through adaptive strategies, emphasizing those activities where inroads can be made despite the security restrictions. These include building and leveraging partnerships, policy advocacy, strategic coordination of interested agencies, and forest management, species conservation, and sustainable livelihoods through community-based organizations. The latter adaptations have channeled the project's resources directly to local beneficiaries and significantly increased ownership of project activities among local communities.

In the policy and partnership arena, achievements include:

- The inclusion of the TAL vision and program in His Majesty's Government of Nepal's 10th 5 Year Plan as the priority program for biodiversity conservation and sustainable livelihood development in the Terai;
- Endorsement of the TAL Strategic Plan by Ministry of Soil and Forest Conservation (MFSC), which was prepared in a representative and participatory process by a core team of members from USAID, UNDP, DfID, SNV and WWF, under the leadership of MFSC, HMG of Nepal.
- Approval of the Western Terai Landscape Complex Project (WTLCP) by the Global Environmental Facility (GEF) to initiate conservation activities in the western part of Nepal's Terai Arc Landscape and implementation by MFSC, SNV, UNDP, and WWF through the Western Terai Landscape Building Program (WTLBP) in the three far west districts of Kanchanpur, Kailali and Bardia

Highlights at the site level include:

- Successful forest restoration through the handing over of a total of 1,745 hectares (ha) of government forests to a total of 31 Community Forest User Groups (CFUGs), production of 380, 829 forest tree seedlings planted on over 200 hectares (ha) of degraded lands in corridors and bottlenecks as well as promotion of natural regeneration in 588 ha of degraded lands
- Habitat management in the protected areas through maintenance of 420 ha of grasslands and the construction and renovation of 11 waterholes
- Community based anti-poaching operations mobilized effectively outside the protected areas in Basanta and Khata Corridors, Mahadevpuri and Dovan bottlenecks and Chitwan,

Nawalparasi and Parsa districts through involvement of local communities in close collaboration with District Forest Offices

- Dependence on forests for income minimized through alternative income generation activities made available to 2154 households through 54 IG groups
- Pressure on forests reduced through the installing of alternative energy technology including 290 biogas plants for middle-income households and businesses and 1149 improved cooking stoves for poorer households.

Finally, in order to become proactive in conflict risk mitigation, WWF Nepal Program underwent a conflict risk analysis in this year and modified various management approaches, setting up a clear chain of command given any crisis as well as decentralizing the current decision making infrastructure. Based on the recommendations of the analysis, WWF Nepal will continue to integrate conflict resolution strategies throughout the planning, implementation and monitoring stages.

The achievements of the program had been possible largely due to the rapport that the TAL program built with local communities and grass roots level organizations where the majority of activities were carried out through these organizations, particularly community based organizations such as CFCC, CFUGs and CBOs. Additionally, WWF Nepal Program developed a plan to analyze threats, strengths and opportunities in relation to management risks in situations of conflict.

Results by Objective and Activity

The ultimate objective for TAL is to restore key wildlife corridors linking protected areas in the Terai Arc Landscape. Despite the critical security situation in the country and various constraints for program implementation at sites, the TAL program has yielded encouraging and meaningful results in the restoration of corridors, protection of protected areas, and minimization of pressures on forest and grassland habitat.

Result (Activity) 1: Form and Strengthen the Community Forest User Groups

The TAL program has envisaged Community Forestry as one of the major institutional vehicles to carry out protection and sustainable management of forest resources for restoration of degraded forest corridors through Thus, TAL program has been providing technical and financial support for formation, handing over of community forest and institutionalization of Community Forest User Groups in collaboration with District Forest Offices (DFO) of the project sites. In FY04, the TAL program has collaborated with the DFO to facilitate as well as accelerate the process of handing over forest for community management. TAL program facilitated the process through social mobilization at the community level for organizing users and making them aware of their ownership on the forest resources and their sustainable management. At the same time, the TAL program provided necessary technical and financial support to the DFO for carrying out forest resources inventory and area survey for preparation of operational plans of CFUGs.

CFUG formation, operational plan preparation and forest handover activities of the TAL Program gained momentum in FY 04 as a total of 1745.51 ha forest area was handed-over to 31

CFUGs in the Basanta (14) and Khata (3) corridors and Lamahi (3), Mahadevpuri (3), Dovan (7) and Kanchanpur (1) bottlenecks. This far surpasses the targeted output of 15 community forests to be handed over to local communities. Along with the forest handover, the program also supported the revision of operational plans of 6 existing CFUGs of Lamahi and Dovan bottleneck area. Likewise, 8 new CFUGs were registered with the DFO. While these numbers fell below the targeted output of 15, DFO identification of potential CFUGs, and improvement of CFUG management performances are ongoing. Altogether 15.5 Km of fire line have been built inside the community forest. Similarly, the program supported evacuation of 285 ha of forest from the hands of encroachers in Basanta and Balchaur area of Kailali district. Although not anticipated in the beginning of the fiscal year, this activity is a very good indicator of success of conservation effort of TAL program in the area.

The TAL program has emphasized the institutional and managerial capacities of CBO partners (CFUGs, Buffer Zone Councils), looking particularly at the governance structure so as to promote equity in benefit sharing, wider participation of marginalized groups such as *Dalits* and women in decision making, transparency in fund mobilization and a pro-poor focus in livelihood development activities. In accordance with the goal of increasing participation and empowerment of local communities, TAL Program has used forest management and restoration as a means to improve good and equitable governance.

The TAL Program has identified four major areas for capacity enhancement – technical, institutional, governance and financial. In FY 04, a total of 14 training events were organized to enhance technical capacity for community forestry management. The training events benefited 885 CFUG members. Likewise, another 5 training events were organized on institutional development of CFUGs such as account and record keeping, and advocacy. A total of 134 CFUG members underwent the training. The TAL Program facilitated the networking of CFUGs through the Community Forest Coordination Committees (CFCC) as planned. A total of 7 CFCCs were targeted to be registered or institutionalized and TAL Program completed the formation of 2 CFCCs in Basanta corridor as well as undertook the planning, implementation and monitoring of another 4 CFCCs. The program has also taken initiatives for formation of District Forest Coordination Committee in order to institutionalize the forestry sector activities. Initial activities for formation of DFCC were started in Bardia, Kailali and Kanchanpur districts given the lack of elected representatives in the district development council. In addition, the program has been working on developing linkages of local CBOs with service providers as well as markets for ensuring effective service delivery and marketing income generating activities of the community.

We can now confirm that community forestry in TAL improved people's livelihoods by meeting the subsistence needs of the communities. The CFUGs institutionalized over the past three years have enhanced the natural and financial (revenues) resource endowment of the local communities, and provided future potential for the betterment of livelihoods of the poorer sections. Likewise, it has shown potential for enhancing grass-roots level governance through organization, participation, democratic decision making, equity in representation and benefit sharing. This is especially important given the absence of elected governing bodies at the local level where CFUGs are the only functional civil society entity in CARP sites, meeting community livelihood needs.

Result (Activity) 2: Habitat Restoration

Protected areas within TAL provide rich habitat for mega fauna species such as the one horned rhino, Asiatic elephant and the Royal Bengal tiger. However, rich grassland habitats within protected areas of TAL are vulnerable to change and degradation due to natural processes such as expansion of invasive species and change to forests through natural succession. Moreover, inadequate waterholes and decrease in water levels in the waterholes diminish the carrying capacity of both grassland and forest habitat. Thus, TAL Program supports protected areas in the management of fragile and vulnerable habitats for the survival of key and endangered species.

Result (Activity) 2.1: Habitat Management

As part of improving management of protected areas, TAL program supports the protected areas to manage the fragile grassland habitats. Grassland management activities in FY04 included the clearance of unwanted bushes, burning of grasses and uprooting of invasive trees species to the grassland and unpalatable shrubs. A total of 420 has of grasslands were managed in this manner in FY 04 in four protected areas in TAL as targeted. However, grassland management could not be accomplished entirely in Parsa Wildlife Reserve due to the unfavorable security situation within the reserve.

Use of improved grassland habitats by wildlife was monitored and assessed following the management interventions. In addition, grassland habitat improvement has not only increased the chances of survival of endangered species, but also decreased chances of crop depredation by herbivore species as more feeding ground becomes available inside the protected areas.

The natural water bodies and waterholes are degrading due to siltation and invasion by weeds. As a consequence, water is limited for species like rhinos, elephants and ungulates particularly during the dry season, which forces them to wander outside the park for water and wallowing, which in turn makes them vulnerable to poaching. TAL Program has invested in the construction of waterholes and renovation of the existing ponds and lakes for these reasons. As targeted, 11 waterholes were constructed and renovated in four protected areas in FY04. Specific activities included cleaning siltation, excavation of sedimentation, construction of embankments and clearing weeds including water hyacinth.

Result (Activity) 2.2: Restoration of Degraded Forests

Plantation, protection and natural regeneration are major activities for restoration of degraded forests along the corridors and bottlenecks. Thus, management support was provided to 13 forest nurseries in order to supply seedlings for plantation. This activity not only meets the target in this activity but also enhances income for local communities and improves their natural resource management capacity. The forest nurseries produced altogether 380,829 seedlings of various species, more than twice the number targeted. The large figure was created by the contribution of local community labor, which minimized the production cost and thus, seedling numbers. Seedling production and

plantation activities have also induced the operation of private forest nurseries in the project areas.

Plantation on degraded forest areas and fallow lands was very successful in turn. A total of 282,356 seedlings were planted on 201 ha of degraded forest land up to June 2004. It is to be noted that this figure will probably increase by the end of October with plans to continue plantation at the end of the monsoon. In support, District Forest Offices and their Range Posts provided extensive technical support while choosing tree species and carrying out plantation in community lands. They recorded that most CFUGs are highly protective of their productive plantations and strictly prohibit grazing in plantation sites. Along with the technical and financial support, plantations are now monitored by Range Posts and the Community Forest Coordination Committees.

A new growing trend in local communities are private plantations set up by local farmers along community forests, which has a high potential to reduce pressure on forests through supplementing fodder, fuel wood and other forest product needs from agro-forestry. At the same time, these plantations are profitable and sustain a local market. Along with degraded forest areas and fallow lands, plantation efforts were focused on encroached areas e.g. Balchaur and Ghodagodhi area of Kailali, from where 200 illegally settled households that had encroached 125 has of natural forest area were evacuated.

Along with plantation and forest management, natural regeneration of forest has a large impact in the restoration of critical areas in TAL. As compared to plantation, natural regeneration of forest is adaptive to environmental conditions and its growth is comparatively faster than plantation. In addition, from the conservation perspective, natural regeneration is an ecological process in which genetic diversity, species diversity and ecosystem diversity will be maintained through natural processes. Thus, the TAL Program is mobilizing local communities particularly CFUGs to promote natural regeneration of degraded forest areas through fencing off the targeted area, controlling overgrazing and illegal encroachments. Natural forest regeneration activities include construction of trenches, fencing, fire line construction and controlled grazing. In FY04, the local communities protected a total of 588 ha of degraded forest area by fencing and construction of trenches in the critical areas, surpassing the targeted number of 250 ha, contributing towards restoration of the area.

Result (Activity) 3: Strengthen Anti-poaching Operations

Poaching of endangered species has become a serious challenge for conservation efforts in protected areas within TAL. The current security situation has further contributed to the problem, inhibiting conservation efforts to control poaching and wildlife trade. Previously, anti-poaching operations were carried out by protection units of the Royal Nepal Army in the protected areas. But, with the Maoist insurgency in effect, the army units were either deployed for combat or were unable to patrol in the protected areas due to the threat of the Maoists. Consequently, TAL Program initiated new community-based anti-poaching operation support outside protected areas of Terai in 2003 and utilizes park rangers for patrolling and sweeping operations within protected areas. TAL Program has also strengthened preventive systems using community based informant networks, using CFUGs, and awareness building among stakeholders. In an exemplary incident,

the youth of Nawalparasi district in the Buffer zone of Chitwan National Park, have declared that they will make their area free from wildlife poaching. Large numbers of youth are united and working to make this happen. WWF Nepal program has identified their contribution awarding the group with the Abraham Conservation Award in 2004.

These adaptations have yielded encouraging results. For example, five rhino poachers are now in custody and 13 others were imprisoned during this reporting period. Similarly one tiger poacher is facing legal action and another was imprisoned. During this reporting period, the joint operation of Parsa Wildlife Reserve and the District Forest Office of Chitwan district succeeded in arresting a notorious rhino poacher in August of 2003 from Bara District, who admitted to killing 17 rhinos in the past seven years.

Result (Activity) 3.1: Provide Support for Anti-poaching Operations

Although poaching has increased in protected areas, the real threat to wildlife is occurring outside of protected areas where enforcement and anti-poaching operations have become virtually non-existent over the past few years. Thus, TAL program initiated community based anti-poaching operations outside the protected areas especially in conservation priority areas. Community-based anti-poaching operations (CBAPO) are carried out and mobilized by community based institutions such as CFUGs, youth clubs and mother groups and carried out in close coordination with support from local DFOs and their Range Posts, which provide the legal backup and enforcement. These are among the most successful activities for TAL Program in FY04.

CBAPO initiatives are now operative in 14 strategic locations within Basanta and Khata corridors, and Mahadevpuri, Chitwan and Parsa. A new APO team is now operational in the Dovan bottleneck. During this reporting period, an Anti-poaching Operation Coordination Committee was formed in Mahadevpuri, which coordinates and supports all activities in the area. CBAPO initiatives have been highly successful in FY04. The CBAPO in Basanta area confiscated 22 nets set by poachers to trap wild animals, removed encroachment from corridors, and also rescued a baby spotted deer from poachers. Similarly, the CBAPO in Khata corridor and Mahadevpuri bottleneck have halted incidences of illegal tree felling, fire wood collection and NTFP collection and supported the local DFO and Range Posts for enforcement. The CBAPO in Chitwan have prevented 9 cases in FY04 where they removed rhino traps and also, rescued a baby common leopard from killing. Linking with the community forests outside Chitwan, the CBAPO and the CFUGS have agreed to provide extended habitat to rhinos and spotted deer.

In addition, District Forest Offices were supported to conduct CBAPO orientation and interaction meetings in Dhangadhi, Mahadevpuri and Parsa. Altogether 6 training and orientations events were organized for CBAPOs. A total of 67 peoples participated in three orientation events in Dhangadhi and Mahadevpuri.

Along with supporting CBAPOs outside the protected areas, the program undertook capacity building of protected area staff and protection units (Royal Nepal Army) to ensure effective anti-poaching operations. Orientation workshops were organized for protection units of RCNP, PWR and RBNP in order to make them understand the importance of biodiversity and conservation

efforts being undertaken. As targeted, altogether 6 orientation events were organized in RCNP, RBNP and PWR where 354 participants from respective protection units participated. Domestic elephants are key for anti-poaching patrolling in the core areas, often the only transport that can feasibly make its way through grass that is 23 feet high. Thus, TAL Program also provided support for *Hattisar* management and orientation training in Chitwan and Bardia. Altogether 39 newly recruited staff members of *Hattisars* participated in the training. Moreover, in order to make anti-poaching patrolling more effective and to strengthen the APO teams, all 4 protected areas were provided with field gear and basic communication equipment. Similarly, protected areas were supported to construct and renovate 10 of the existing anti-poaching operation posts.

Result (Activity) 3.2: Strengthen Wildlife Trade Monitoring and CITES Implementation

While poaching is carried out in the protected areas and forests of the Terai, the demand that drives the poaching is much less obvious and requires at least a national and macro approach. Accordingly, the TAL program has been working on national level awareness campaigns and empowerment and enforcement of Convention on International Trade of Endangered Species of Fauna and Flora (CITES) within Nepal. As planned, a workshop was organized for judicial officials to sensitize them on CITES implications and enforcement. This workshop was initiated by the CITES Unit, housed within the DNPWC in coordination with TAL Program. The primary objective of this workshop was to set up effective coordination between CITES enforcement agencies and judicial bodies in Nepal. The workshop effectively disseminated information about CITES implementation efforts as well as sensitized the judicial officers about wildlife crimes, crime identification, and methods of effective implementation in Nepal.

The CITES unit also conducted two events of orientation training on CITES implementation at a national level for a total of 29 participants from MFSC, DNPWC, DoF, Department of Customs, Nepal Police, Royal Nepalese Army, and General Post Office. Similarly, 28 participants at the regional level were trained representing the Chitwan District Forest Offices, Buffer Zone Management Committee (BZMC) of Chitwan, KMTNC/BCC. The agenda included sensitization on CITES implementation issues, studying known trade chains, and controlling trade of wild flora and fauna and their derivatives. The trainings served as a venue to initiate inter-agency coordination for national and regional implementation of CITES.

Along with training and workshops, TAL Program has supported CITES unit for information gathering, documentation, and dissemination of wildlife trade patterns and networks as well as to coordinate between various agencies responsible for CITES implementation. In addition, the database on wildlife trade routes has been initiated as planned.

Result (Activity) 4: Promote Sustainable Livelihood

In the course of designing of the TAL program, it was realized that local livelihood issues are inextricably linked with conservation of forest and other natural resources. Daily subsistence and livelihood of the communities inhabiting in critical areas – corridors and bottlenecks draws heavily on forest products and other natural resources. Thus, the TAL program has focused on

providing alternative livelihood sources and patterns to these local communities since the onset of the program, aimed at reducing pressures on natural resources and mobilizing people's participation in conservation activities. Moreover, women and marginalized groups such as *Dalits* are given priority for income-generation activities, given that the poorest groups are most dependent on forests, particularly when landless, and also women are often the main collectors and harvesters of forest products.

Result (Activity) 4.1: Alternative Income Generation for Livelihoods

The TAL program has focused on targeted income generation activities that diversify income sources for communities close to core areas, lessen their dependence on forests as well as increase their participation in conservation activities. Thus, the program gave support to 5 private, community and Range Post nurseries to produce 50,849 NTFP seedlings. Likewise, an NTFP promotion workshop was organized where government policy, rules and regulation on NTFPs, and issues of marketing promotion and sustainable harvesting were discussed. Other income generating activities include vegetable farming, which is then marketed to nearby tourist venues or towns. Some of the households have started to earn NRs 15,000 (USD 205) per year from vegetable farming. Meanwhile, 4 CFUGs of Basanta corridor initiated the planting of 7,000 fruit saplings in private lands and community forests with the support of TAL Program to promote agro-forestry activities in nearby critical areas.

In order to create income generation activities that are sustainable over the long run, the TAL program has provided seed funding for a revolving fund to 8 CFUGs for sustainable financing of income generating activities. This type of sustainable financing can be replicated across TAL so as to create self-sustainability within the communities. These CFUGs have created Income Generation Groups targeting the poor and marginalized communities including women, *Dalits* and landless people, which manage the loan schemes for micro-credit enterprises. Altogether, 2,154 households of 54 targeted income generating groups and 7 CFUGs benefited from income generating activities during FY 04, again exceeding the targeted number of 880 households. Major income generating activities included vegetable shops, basketry, leaf plate weaving which is marketed in local shops, and sewing and cutting as occupations for women, as well as livestock enhancement. CFUGS have also initiated fishing in their natural ponds and rope making from harvested products for revenue generation. Thus, many CFUGs have become entrepreneurs and are institutionally setting up sustainable utilization of their resources for revenue generation.

In order to support these activities, TAL Program has provided skill enhancement and IGA management training including a 3-day workshop for 6 income generation groups. Altogether 31 participants (23 female and 8 male) including 12 participants from disadvantaged groups participated in the training.

Result (Activity) 4.2: Reduce Pressure on Forest Resource through Alternate Energy

Unsustainable extraction of fuel wood has put serious pressure on forests of critical areas of TAL, as the majority of population depends heavily on fuel wood for energy and cheap alternatives are not available to the majority. The TAL program has promoted alternative energy technologies, making biogas plants and Improved Cooking Stoves affordable and available to these communities.

In order to bring biogas plants within the reach of poor households, the TAL program provides a subsidy on material-borne cost, transportation, and technical supports for the construction of the toilet (inbuilt with biogas plant). In FY04, the TAL program emphasized toilet-biogas plant to increase gasification as well as improve sanitation in the target communities. It used partnerships as a means of promoting alternative energy and in this regard, WWF Nepal Program signed an MOU with the Alternate Energy Promotion Centre (AEPC) to promote alternate energy in its project area. A total of 290 biogas plants were installed during FY 04. As the project emphasized linking of toilets in biogas plants, a total of 317 toilets have been constructed together with biogas plants. Biogas plant installation has shown significant impact on reducing fuel wood consumption. For example, use of fuelwood has dropped sharply in over 75% of the Tharu households where biogas has been installed.

ICS is one of the low cost fuel wood saving technologies designed for poor households who are unable to afford biogas plants. A field study carried out by TAL shows 30 to 35 percent fuelwood can be saved per household if they use ICS. Monitoring results showed that above 95% of ICS installed so far by TAL Program are well maintained and in proper use. The TAL program provided subsidies on materials (Iron rod) and partial technical costs for the installation of ICS in FY04 to over 1149 households. In addition, in order to create self-sufficiency for the installation and maintenance of ICS, local resource persons (LRP) were identified and trained, who not only maintain installed ICS but also promote ICS as extension work.

In addition, a CFUG in the Dovan bottleneck proposed and was supported by TAL Program in the installation of a Micro Hydro Scheme with 2.5 kW power generations. Currently, 27 households benefit from this Micro Hydro Scheme for lighting purposes. Moreover, the community is planning to sell surplus power to the nearby village.

Result (Activity) 4.3: Minimize Grazing Pressure on the Forest

The Terai Arc landscape – Nepal hosts more than 4.5 million livestock as it is an integral part of traditional agriculture system in the Terai. The combination of less productive cattle and lack of enforcement of grazing in national forests have been very destructive to the ecology and habitat of these forests. In response, TAL Program has mobilized local community groups and CFUGs to undertake several protective measures to control grazing in community forests and in forest corridors such as fencing off core areas, biofences and trench construction, and plantation of seedlings for regeneration. Moreover, the program also has supported the local communities living in critical areas to manage their unproductive livestock in sustainable ways, to enforce restrictions to free grazing, and to promote productive livestock thereby making large unproductive livestock herds un-profitable.

Activities in livestock management include support for breed improvement, disease management through veterinary services and promotion of stall-feeding. In FY04, the program supported improved livestock breeds to CFUGs,. Furthermore, the program linked with the District Livestock Office for effective extension of veterinary services in the area. The CFCC of Dovan bottleneck area organized a livestock parasite control and treatment camp through the technical support of the District Livestock Office whereby more than 1,200 improved livestock were examined and provided with vaccination and other medical supports. In addition, livestock management training was organized which benefited a total of 26 users (11 female and 15 male), providing basic skills on diagnosis and treatment of common diseases, feeding, breed improvement and feed management. The TAL program also provided financial support to 17 households of the Lamahi bottleneck area for cemented troughs that would aid stall feeding practices.

Result (Activity) 4.3: Minimize Human Wildlife Conflict

Human wildlife conflict around protected areas is caused mainly by crop damage by herbivores and livestock depredation by tigers and leopards, which in turn causes the affected farmers to kill or trap the animals. Retaliatory killing is mostly reported in and around protected areas. As a response, the TAL program first initiated a depredation study to gather information and design effective strategies in FY04. This revealed that tigers, leopards and hyena are seen as the most problematic animals, preying on domestic livestock, particularly, goats, pigs and cattle. The predation occurs primarily in forests and a few settlement areas located near forests, and the local perception is that the increase of livestock predation over the last few years is caused by increasing number of predator species in the forests. The majority of the livestock that are killed are small ruminants such as goats and pigs (79%). Interestingly, the study showed the majority of crop depredation is caused by wild elephants, wild boar, and rhinos rather than smaller prey species. Elephants are known to enter crop fields particularly during harvest season. Between 2002 and 2003, a total of 15.4 ha of cultivated paddy was damaged by elephants.

In response to these issues, TAL program supported the construction of 12 watchtowers to protect fields during harvesting season. Moreover, communities in the buffer zones of Bardia and Suklaphanta were supported for the construction of a 1,020 meter elephant trench, and a 600 m game-proof fence, as well as a 1500 m barbed wire fence to prevent wild animals from entering crop fields and settlements. TAL Program also maintained a 15 km boundary of barbed wire, separating the reserve area from the buffer zone. Other preventive actions include the cultivation

of unpalatable and high value alternate crops such as Mentha, which also increases income for the local farmers. In order to make this strategy financially feasible, Mentha farmers and local stakeholders met in a workshop to discuss problems they faced in processing and marketing, and sustainable management and operation of Mentha distillation plants. At the same time, training was organized on Mentha harvesting, processing and sucker preservation. Altogether 41 farmers participated in the training. Following this workshop, communities of Bardia buffer zone restarted Mentha cultivation, which had been discontinued in the last two years due to the unavailability of a processing plant. The program supported the communities to manage the suckers, which is required for cultivation and helped them purchase and install a processing plant which will be operated and managed by a User Committee.

The TAL program has also been supporting the protected areas for problem animal management. An orphan male leopard cub was rescued and handed over by the local people around Bardia in September 2003, and the TAL program provided financial support for its cage and feeding costs before it is released in the core of the park.

Result (Activity) 5: Enhance Conservation Education, Communication and Coordination

Conservation education and communication provide the means to not only change people's attitudes towards conservation, but also serve as tools for empowerment, information dissemination, and training. TAL Program uses both formal and informal mediums to carry out such programs. Activities include television shows, radio programs, eco-club mobilization, publications, campaigns, street plays and celebrations.

The TAL program has supported local eco-clubs as a means to involve the youth in conservation activities, to promote conservation messages within households, and to carry out environmental public services including clean up campaigns and plantations. In this fiscal year, a total of 23 eco clubs were formed, 3 more than targeted, and were provided with stationary support. Eco-club networks took the initiative of forming new ones in places such as Ninglasaini, Kanchanpur, where 8 new eco-clubs were formed. A total of 1900 students were organized by these eco-clubs with 88 students (50 boys and 38 girls) now active in various executive committees. In addition, CFCCs have begun to promote eco-clubs as a means of raising awareness and improving knowledge on community forest management. Eco-clubs have taken on a variety of education and awareness raising activities such as quiz contests, public speech contests, drawing contests, folk song contests, folk dance contests, essay writing, exhibition and rubbish bin installations, all aimed to inform people about TAL conservation issues and to benefit their local communities. The program also supported eco-clubs to conduct study tours and orientation workshops for enhancing their knowledge, and facilitating interaction and experience sharing among eco-club members.

Public events were also held as a popular means of mass awareness campaigns, although these were at a smaller scale than preceding years. The events were held on the following occasions: Wildlife Week, Wetland Day, Biodiversity Day, and World Environment Day. Altogether, a total of 8500 local people directly participated in these celebrations, taking part in plantation, clean up campaigns, parades, and wetland cleaning campaigns. In addition, CFUGs and the CFCC of

Mahadevpuri bottleneck jointly organized a street play on environment degradation and conservation issues. Roughly 1500 local people and audiences observed the street play.

Communication and information dissemination programs for FY04 include a community radio program broadcasted from two radio stations – Surkhet radio station and Kalika FM at Bharatpur fortnightly with the aim of generating awareness among the audience on local environmental issues such as forest degradation, encroachment, and poaching and how the public can act to address them. The radio program has wide geographical coverage and is listened all the 14 districts that fall within TAL. The popularity of the program is justified by the overwhelming response rate from the audience. More than 61 audience clubs have been formed spontaneously in various districts in TAL, which organize regular meetings and discuss the various issues on the program. Similarly, a documentary on TAL and program activities was broadcast from Nepal Television. One successful promotion consists of a documentary on the TAL program prepared by the distinguished Nepal Forum of Environment Journalists (NEFEJ) and broadcasted from their popular weekly TV show “Ankhihyal”.

Coordination events were also carried out through various meetings and workshops attended by local stakeholders. The CFCC of Lamahi organized a planning workshop for 29 CFUGs of the Lamahi bottleneck, in order to prepare a detailed activity plan promoting community forestry, income generation, community development and awareness building. Following this event, the CFCC of Lamahi bottleneck organized a one-day coordination workshop of concerned stakeholders including INGOs, NGOs, line agencies, VDC and DDC of the area to discuss the various development initiatives, avoid duplications and complement each other’s objectives. Similar kinds of coordination meetings were organized in Mahadevpuri bottleneck.

Meanwhile, FECOFUN, which is the apex organization for all CFUGs, organized a 3-day interaction workshop of 11 VDCs within Basanta corridor, highlighting TAL issues. An interaction program and planning meeting was organized for users of Basanta corridor aiming at the formation of a main Co-ordination Committee of CFUGs of Basanta corridor and develop a framework for program implementation and identify necessary supports from the TAL program. Similarly,

DFO of Kanchanpur district organized a series of village level workshops in 7 villages of the project site. The workshops were organized to make the local communities aware of the community forestry, people participation in forest management, biodiversity in the region, legal provisions, rules and regulations and procedures related to forest management and biodiversity conservation. At the same time, the TAL program organized an orientation meeting in Mahadevpuri bottleneck.

The program also supported the planning meeting of Buffer Zone Management Council of RBNP. AS the government has released 50 percent of the total revenue of RBNP for buffer zone management, the meeting was organized for detail planning and budget allocation for buffer zone management activities. In addition, Project Executive Committee meetings (PEC) were organized regularly in order to make decisions and take actions on policy matters and discuss program implementation. The Committee also endorsed technical and financial progress, and approved plans and budgets. Likewise, meetings of the Project Coordination Committee (PCC) chaired by Deputy Director General of DNPWC were held on a weekly basis. The PCC meeting takes necessary actions regarding program management and coordination. Coordination between

national and international agencies such as MFSC, DoF, DNPWC, UNDP, DFID, SNV/N, IDE and others were also successfully organized. Likewise, the program has been undertaking functional coordination with partners and stakeholders at the project site level such as King Mahendra Trust for Nature Conservation, CARE Nepal, LFP and others.

Result (Activity) 6: Research, Monitoring and Database Management

Biodiversity conservation and sustainable livelihood development in TAL is associated with complex and interrelated issues. Several information gaps were identified during the process of Strategic Plan preparation. Scientific data is not only required for activity development but also for measuring the success of the program and evaluating its impact. The program initiated a research and monitoring component at the onset and has managed a scientific database, which includes socio-economic, spatial and biological data. Spatial data for the entire landscape and site level data for the immediate intervention sites – five critical areas were collected and stored using remote sensing and GIS technologies. A national NGO - Resources Himalaya was commissioned to carry out site level vegetation monitoring in TAL. Resources Himalaya conducted vegetation monitoring in close collaboration with DNPWC and WWF Nepal. In accordance to the implementation plan, a site level vegetation monitoring was conducted in five critical sites – two corridors (Basanta and Bardia-Katarniaghat) and three bottlenecks (Mahadevpuri, Lamahi and Dovan) to develop baseline information on vegetation at the site level and develop vegetation monitoring protocol for periodic monitoring of vegetation change over time using permanent plots. A total of 85 permanent plots were established for future vegetation monitoring in these critical areas in TAL. The protocol for vegetation monitoring at site level using permanent sampling plots is under development by the Resources Himalayas. This protocol will be used to monitor the vegetation at site level on periodic basis.

The GIS database with roads, rivers, land use system, contours, political boundary (district and Village Development Committee levels), community forests, population and geology were updated. A trend analysis in vegetation change was carried out based on the available data on land use in the Nepalese portion of TAL. The results show a clear trend of deforestation over the past few decades in the Terai. The spatial data can be used for landscape level planning and development of future activities and priorities. In addition, the database can be used as a monitoring tool in the field to assess the effectiveness of TAL strategies and programs on corridor restoration and forest cover in protected areas.

Regarding biological research and monitoring, the program carried out rhino monitoring in RBNP and RSWR. Similarly, study of status of the ungulates and Bengal Florican was carried out in RBNP. The program also conducted several research studies on livelihood aspects, looking particularly at the fuelwood trade and grazing management. Both these studies will be released by the end of October 2004 and findings will be incorporated into activities in December of 2004.

Result (Activity) 7: Strategic Planning and Program Coordination

His Majesty Government of Nepal (HMG/N), Ministry of Forests and Soil Conservation (MFSC) approved the Terai Arc Landscape (TAL) Strategic Plan on 10 February, 2004. The strategic plan had been prepared following a wide and in depth consultation with all concerned stakeholders working in TAL. A core team was formed with the objective of taking forward the strategic planning process of TAL under the leadership of MFSC. The team was lead by the Chief, Planning and Human Resource Development Division of MFSC, Dr. Mohan Prasad Wagley. Core team represents members from key international institutions including UNDP, SNV, USAID, DFID and WWF Nepal Program and representatives from MFSC, Department of Forests, Department of National Parks and Wildlife Conservation. The strategic planning process was participatory in nature and various field and central level consultation meetings were held which were participated by major stakeholders including local communities, district level line agencies, NGOs and local governments in TAL area. In addition, a review team comprising of high-level multi-sectoral representatives was formed to review the strategic plan. The plan prepared is based on conservation science, root cause analysis and important guiding documents including the 10th 5 year plan, Nepal Biodiversity Strategy, Millennium Development Goals and Sustainable Development Agenda for Nepal.

During the strategic plan development process, the strategies were developed to address the root causes of forest and environmental degradation in TAL using Root Cause Analysis (RCA) as a tool. The strategies formulated were then grouped and 7 program areas were identified for the purposes of future partnership building and implementation in the field. These strategies were further refined to address the direct and underlying causes and the policy and enforcement gaps therein. The 7 Program Areas identified are – 1) Policy and Advocacy, 2) Institutions and Co-ordination, 3) Sustainable Forest Management, 4) Sustainable Development, 5) Species and Ecosystems Conservation, 6) Churia Watershed Conservation and 7) Awareness and Education. Under these 7 Program areas, 51 strategies have been formulated to address identified threats and ensure biodiversity conservation, ecological integrity and sustainable livelihoods of the local people in TAL.

The TAL Strategic Plan is the guiding document for all partners and stakeholders working within the landscape, thus providing the exact same framework for all agencies. The plan has provided a strong policy base for partnership to organizations to undertake their activities in biodiversity conservation and sustainable livelihood development for achieving better results through generating a synergy. The second phase of Strategic Planning has been kicked off, and TAL Program is already gathering partner data in order to create a TAL wide financial plan. This plan will address the institutional, budgetary and operational framework of the implementation of the TAL Strategic Plan.

As stated above the TAL Strategic Plan has provided a strong policy base for partnership to organizations working in the area. As per thrust of the plan the TAL program has made significant achievements in partnership. The program has initiated partnership projects such as Business Development Services – Marketing, Production and Service (BDS-MaPS) project in partnership with different organizations including International Development Enterprises (IDE), Asia Network of Sustainable Agriculture and Bio-resources (ANSAB), Winrock International and Lotus Opportunities. BDS is a three years long project (2004-2006) with \$2.5 m financial support from USAID. The project will be implemented in six districts – Kailali, Bardia, Banke, Surkhet, Dolpa and Syangja among them three districts fall within the TAL.

In addition, Western Terai Landscape Complex Project (WTLCP) has been approved by Global Environmental Facility (GEF) and is in the process of being approved by the Ministry of Finance (MoF) to initiate conservation activities in the western part of Nepal's Terai Arc Landscape under the leadership of HMG of Nepal/Ministry of Forests and Soil Conservation (MFSC). In order to avoid further delay in field implementation, MFSC, SNV, UNDP and WWF took an initiative for the implementation of some of the activities on May 1, 2004 under the name of Western Terai Landscape Building (WTLB), focusing on the western part of Nepal's Terai Arc Landscape - namely Kanchanpur, Kailali and Bardia districts.

Table of Progress

Benchmark Number	Benchmark/Output	Status*
1. Community Forestry		
1.1 Establish and Institutionalize community forest user groups	<ol style="list-style-type: none"> 15 Community Forest User Groups institutionalized by end of FY 04 15 Community Forest Operational Plans prepared in critical areas 15 community forests handed over to local communities by July 04 Registration of three CFCCs and institutionalization of four CFCCs Formation and strengthening of the District Forest Coordination Committee in Bardia and Kailali Districts for district level land use planning 	<ol style="list-style-type: none"> Completed Completed Completed Completed On Track
3.2 Build capacity for community forest user groups	<ol style="list-style-type: none"> Empowerment and participation increased of CFUGs in the local communities Empowerment increased to women's participation in CFUGs 	<ol style="list-style-type: none"> Increased Increased
2. Habitat Restoration		
2.1 Improving protected area management	<ol style="list-style-type: none"> 440 ha of grasslands managed across the four Protected Areas 11 waterholes constructed and renovated 	<ol style="list-style-type: none"> Completed Completed
2.2 Restore degraded forests along corridors and bottlenecks	<ol style="list-style-type: none"> 200,000 forest tree seedlings produced and distributed for plantation 150 ha of degraded forests restored through plantations 250 ha of degraded forest restored through natural regeneration 	<ol style="list-style-type: none"> Completed Completed Completed
3. Strengthen Anti-poaching Operations		
3.1 Strengthening anti poaching operation in PA and CBAPO in corridors and bottlenecks	<ol style="list-style-type: none"> Community-based anti-poaching operations fully functioning in Basanta and Bardia-Katarniaghat corridors, Chitwan (outside the protected area) and Parsa (outside the protected area) Effective and efficient anti-poaching operations in four protected areas Capacity building of protected area staff and Royal Nepal Army personnel for anti-poaching purposes 	Completed
3.2 Strengthen CITES implementation	<ol style="list-style-type: none"> Strengthened CITES cell at DNPWC through capacity building, training for field level 	<ol style="list-style-type: none"> Completed

	<ol style="list-style-type: none"> 2. Well-maintained database on CITES and wildlife traders and trade routes 	2. On track
4. Promote Sustainable Livelihoods	3.	
4.1 Enhance alternative income generation of the local communities	<ol style="list-style-type: none"> 1. Agro-forestry promoted in 11 sites, non agro-based skill developed for 22 households 2. 880 households benefiting from IGA programs 3. NTFP marketing studies conducted 	<ol style="list-style-type: none"> 1. Completed 2. Completed 3. On track
4.2 Reduce pressure on forests through promotion of alternative energy	<ol style="list-style-type: none"> 1. 250 biogas and 1,000 improved cooking stoves installed in households in FY 04 2. Fuel wood demand study conducted 3. Strategy targeting small scale industries developed 	<ol style="list-style-type: none"> 1. Completed 2. Completed 3. On track
4.3 Minimize grazing pressure on the forests	<ol style="list-style-type: none"> 1. Improved breed of livestock distributed and stall feeding promotion through education and awareness, fodder seed concessions, and farmers' training in five sites 2. Veterinary support provided in five sites 	Completed as per annual target
4.4 Minimize human wildlife conflict	<ol style="list-style-type: none"> 1. Trenches and bio-fences constructed and maintained in RSWR and RBNP 2. Alternate crops such as mentha promoted in Bardia-Katarniaghat corridor in addition to RBNP buffer zone 3. Support for problem animal management in TAL 	As per annual target completed
5. Education, communication and coordination	4.	
5.1 Generate conservation awareness	<ol style="list-style-type: none"> 1. 13 awareness generation events organized for local communities 2. Existing 90 eco clubs strengthened and an additional 20 new eco clubs formed 3. Local women benefited from informal education classes 	1. Completed as per annual target
5.2 Facilitate international dialogue and cooperation between Nepal and India	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Enhanced 2. Enhanced
5.3 Systematic coordination mechanism	<ol style="list-style-type: none"> 1. Strengthened systematic coordination mechanism—Steering Committee, Project Executive Committee (PEC), Program Coordination Committee (PCC) and field level coordination with other stakeholders in the field 2. Five field-level stakeholder consultation meetings organized 	<ol style="list-style-type: none"> 1. Enhanced 2. Completed
6. Research and Monitoring		
6.1 Obtain GIS Mapping and ground truthing results	<ol style="list-style-type: none"> 1. GIS-based biological and socioeconomic database updated 2. Vegetation at site level monitored and vegetation monitoring protocol for TAL developed 	<ol style="list-style-type: none"> 1. On track 2. Completed
6.2 Wildlife monitoring through collection of baseline data	<ol style="list-style-type: none"> 1. Flagship species of wildlife such as the Bengal tiger and the one-horned rhinoceros in TAL monitored 	1. On track
6.3 Establish baseline in socio-economic	<ol style="list-style-type: none"> 1. Research on data and knowledge gap on migration and forest encroachment completed 	1. On track

condition		
6.4 Monitor TAL activities	<ol style="list-style-type: none"> 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 3. Midterm evaluation of Critical Area Restoration Project conducted 	<ol style="list-style-type: none"> 1. Regularly 2. Regularly 3. On track
7. Strategy Planning and Program Coordination	<ol style="list-style-type: none"> 4. 	
7.1 Strengthen partnership and coordination	<ol style="list-style-type: none"> 1. Finalization of the TAL Strategic Plan 2. Development of TAL Partnership Plan and Business Plan 3. Strengthen and broaden partnership for TAL. 	<ol style="list-style-type: none"> 1. Completed 2. On track 3. On track

- Status may include activities that are completed, on-track, delayed, mixed performance, or cancelled.

Next Steps

Based on achievements up to the date and lessons learnt the program will undertake following steps in the coming fiscal.

- As per the thrust of the TAL Strategic Plan 2004 – 20014 the TAL program will strengthen the partnership for generating synergy and ensuring effective service delivery to make the conservation efforts more effective as well as improve livelihood of the communities of the landscape. The program will bring together all partners' effort to make the vision of TAL a reality.
- Increase in numbers and movement of wildlife, particularly, tigers, rhinos and elephants in the corridors are leading to increasing risks for communities in those areas. TAL Program will carry out increased preventive mitigation measures as well as assessment of current human wildlife mitigation strategies and adapt lessons learned regarding compensation schemes from other areas.
- In order to reach the target communities within this wide landscape, the program will undertake many of its activities through the local NGOs. In addition, the program will further strengthen its capacity building activities aiming at developing the local CBOs as the local level service providers. The program will also emphasize the improvement of CBO governance in order to ensure transparency of the program's financial support, effective targeting to poor and marginalized groups, and equity in benefit sharing.
- Since the program has mobilized leveraged funds in the part of the TAL through strong partnerships, the program will mobilize its resources in the eastern part of the landscape. The program's focus will be targeted on Mahadevpuri, Lamahi and Dovan bottlenecks, RCNP and PWR including the resettled area of new Padampur of Chitwan district.
- The program will focus on strengthening monitoring and evaluation of the project operation, outcomes and impacts. The program will adopt a rigorous monitoring framework and feedbacks of the monitoring and evaluations will be incorporated in the designing and planning of the program and activities.

Success Stories

- Recent studies and monitoring reveals that movement of mega fauna species such as elephants and tigers in restored corridors of Khata, Bardia and Basanta, Kailali have increased, indicating success of the corridor approach towards wildlife conservation.
- Incidences of rhino poaching have declined in FY 04 despite the same conditions as FY03. This can be attributed to the community-based anti-poaching strategy as well as strengthening of the local information network, and mobilization and support to protected areas.
- Terai Arc Landscape – Nepal Strategic Plan was endorsed by His Majesty’s Government of Nepal on February 2004. The TAL Strategic Plan now becomes the main guiding document of His Majesty’s Government of Nepal for planning and implementing natural resource management projects/programs in the TAL region. In future, the document will be an umbrella for all the major donors and development partners working in natural resource management in the landscape.
- Within a short period of time, the TAL 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 successful in implementing the majority of its planned activities in the field. This is only possible due to the commitment shown by community and grass root level organizations, especially CBOs, CFUGs, women’s groups and CFCCs. Community participation in most of the TAL activities provides over 40 percent of the total labor. This is a strong indication of the community’s buy in and participation in the TAL vision.

Lessons Learned

Despite significant achievements made by the program, several lessons have also been learned over the years. Major lessons learnt by the program are as follows.

- The program realizes the need for improved governance of local CBOs in order to maintain transparency of the project’s financial support and also to promote equity in benefit sharing, ensure effective participation of minorities in decision-making etc. Initially, the program’s supports were directed towards CBO formation, capacity building and community development support. However, TAL Program is now focusing its efforts on improved CBO governance.
- The program emphasizes the involvement of local communities in identification of needs, planning and implementation. However, involvement of the CBO partners in participatory monitoring is highly effective and would have been beneficial from the onset. TAL Program will take on participatory monitoring and public auditing, making the program and its partners more accountable to the community needs as well as to maintain quality of the activities being implemented.
- The program support to CBOs primarily focused on carrying out specific activities whether it was plantation or income generation without necessarily providing financial capacity enhancement of the local CBOs, which would better ensure sustainability. The program will promote institutional entrepreneurship of CBOs, making it an instrument to enhance resource endowment of the local communities, giving CFUGs more prospects to capitalize on their natural resources for fund raising.
- The program could focus more effectively on developing marketing linkages for the income generating activities being promoted at the site level together with other services.

Challenges

- The present security situation often makes it precarious for staff and visiting donors to visit the field. However, the field activities have continued to be implemented, largely due to the community buy in. However, monitoring of these activities are not adequate and new field research has been very difficult to initiate.
- Partnerships are both an opportunity and challenge for the program. The program has taken remarkable initiatives and made achievements for bringing partnership within the broad strategic and programmatic framework of the TAL such as BDS-Maps and WTLCP. However, there are several other stakeholders working in the landscape with what are sometimes conflicting purposes and programs. TAL Program is faced with an enormous task for bringing all these agencies together to work within the strategic framework of the TAL Strategic Plan. This requires that TAL effectively gather and disseminate information to stakeholders about goal, vision, objectives and programmatic areas of the TAL Strategic Plan and convince them of the need for collaboration.
- The TAL program is vast and complex undertaking. Huge amounts of resources are required to implement diverse activities for biodiversity conservation and livelihood improvement in the landscape level. It is imperative that a sustainable funding mechanism be established and set up in the future. However, with the Maoist insurgency in effect and the lack of an effective and active government, Nepal is faced with donor skepticism, which doesn't bode well for large scale fundraising.