

USAID Global Conservation Program (GCP)

Mid Term Evaluation Report

Of

Enterprise-Based Biodiversity Conservation – Nepal Project

**Implemented by Enterprise Works Worldwide (EWW) and
Asia Network for Sustainable Agriculture and Bioresources (ANSAB)**

May 2003

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EXECUTIVE SUMMARY

The Enterprise Based Biodiversity Conservation Project – Nepal (1999-2004), funded under the Global Conservation Program (GCP) and implemented by EnterpriseWorks Worldwide (EWW, Washington) and Asia Network for Sustainable Agriculture and Bioresources (ANSAB, Kathmandu) conducted an external evaluation in May/June 2003. The goal of the project is to conserve globally significant mountain biodiversity of Western Nepal through community forest management linked to enterprise development. The project uses a threats based approach. Central to the project is “the concept of community economic incentives for biodiversity conservation, derived from the development of profitable community owned enterprises based upon limited natural resources extraction”. The goal of the evaluation was to assess progress towards ecological, social and economic sustainability of the project goal of biodiversity protection.

The evaluation team included Professor William R. Burch, Jr., Yale School of Forestry and Environmental Studies; Professor S. P. Singh, Head, Department of Botany, Kumaon University; and Dr. Keshav Raj Kanel, Resource Economist, Kathmandu, Nepal. The team made field visits to three of the five project districts (Jumla, Dolpa, and Bajhang); sampled 15.5% of the Community Forest User Groups (CFUGs) covering 32% of the hectares included in the project; and observed four of the five major project assisted enterprises. In addition to the field visits, one-on-one interviews and focus groups with project stakeholders, and ocular inspections of forest condition, the team also reviewed the project’s reports and publications.

The evaluation team found that the project has identified the major threats to biodiversity in the target area; the stakeholders have a good understanding of the threats and it was EWW and ANSAB that introduced the connection between biodiversity conservation and enterprise development to the communities. Progress in threats abatement (e.g. decrease in outside encroachment, restriction on uncontrolled grazing, fire reduction, and managed nontimber forest products harvesting) is being made by the project, but it is too early in the project cycle to measure long-term impact on biodiversity.

The project has made good progress and performance in terms of CFUG formation and areas brought under improved management exceed the targets set. It has excelled in seeking cooperation and developing partnerships and collaborative interactions with numerous concerned organizations and stakeholders. Emphasis on training, education and awareness programs is another strong point. In all three districts that the team visited it was outstandingly clear that there is a high degree of capability and commitment by ANSAB field personnel. ANSAB has achieved a notable success in developing and maintaining partnerships and networking with other NGOs, government agencies, local government units, FECOFUN, and NTFP traders. In “politically disturbed” areas, ANSAB was often the only connection between the government and the community.

The community based forest enterprises were strategically selected to give a good chance of sustainability. The team cannot comment on all aspects of economic sustainability but production and operational sides seem to have the components that may lead them to sustainability. The components of market and competition factors which are beyond the scope of the GCP project are being addressed in other projects not reviewed by the evaluation team. There is an auditing system in place in most of the CFUGs and community based forest enterprises (CBFEs). All the CFUGs and CBFEs visited have social audit-internal control

system in place. Moreover, the enterprises have formal external audits from registered auditors.

With the exception of Dhateo oil, all products included in the project were commercially harvested and traded by the communities prior to the project. Before the project's intervention, enterprise based NTFPs were collected without any effective control. ANSAB and EWW helped the communities to harvest products in a regulated way for enterprise development and develop forest operational plans that address the full range of threats to biodiversity. For example, the Lokta enterprise in Bajhang had an inventory prepared for plant population structure and amount of growing stock. Instructions were given to harvesters with regard to the stem diameter size for Lokta harvesting based on studies undertaken elsewhere. CFUGs now maintain harvest records and have enforcement mechanisms in place. However, ANSAB needs to focus on appropriate but systematic research based on valid, replicable and reliable techniques and study designs.

The evaluation team therefore recommends that the project allocate budget for more rigorous research on the biology of the species harvested and its interaction with overall biodiversity; add dedicated biodiversity field staff (current field staff have split duties and often feel overwhelmed); improve methods and indicators for measuring impact on biodiversity; and simplify the biodiversity monitoring data collection to better match the field staff and village volunteers' capacity. The team also encourages the project to investigate ecosystem services to bring greater policy attention, (and potential payments as this market develops), to the vital role these ecosystems play in carbon sequestration, soil formation, hydrological regulation, and climate control. On the socio-economic side, the team observed strong inclusion and participation of women and other traditionally disadvantaged segments of the communities, but recommends the project track the flow of economic benefits among subsets of the community (i.e. beyond gender).

In the long run unless the general populace buys into the value and need to conserve biodiversity there are not enough soldiers, environmentalists and nature lovers to fully police and to ensure the integrity of any of the world's protected areas. Finding the means of creating conservation behavior in the human community is the only and last best hope for sustained protection. Experiments such as this project give us one substantial hope that we can find the means to make our species truly stewards of their natural world. The evaluation team's concern is that though many exciting and positive accomplishments have been achieved in the first half of the project, the learning is just nearing a critical point which will require at least another four years to consolidate the success of the many efforts. This continuity of systematic learning about the biophysical, social organization, equity and marketing issues needs sustaining if they are going to be fully incorporated in the CFUG enterprise and biodiversity conservation efforts as well as the larger group of stakeholders that impact Nepal's biodiversity.

Table of Contents

Executive Summary	3
I. Introduction	6
II. Evaluation Methodology	7
III. Project Targets	7
IV. Enterprise and Program Activities	8
V. Summary Assessment of Overall Project Progress	10
VI. Team Assessment Specifics	11
a. Progress Toward Social Sustainability	11
b. Progress Toward Ecological Sustainability	14
c. Progress Toward Economic Sustainability	17
d. Policy Advancement and Implications	18
VII. Conclusion and Recommendations	19
VIII. Strategies for Conserving Globally Significant Biodiversity – Some Thoughts on the Project’s Contribution to Broader Learning and Strategies	21
IX. Bibliography and References	25
 Annexes	
Annex 1 Bhajhang Site Report	i
Annex 2 Dolpa Site Report	vii
Annex 3 Jumla Site Report	xii
Annex 4 Evaluation Investigation Questions from EEW/ANSAB Evaluation TOR	xix

Acronyms

ANSAB:	Asia Network for Sustainable Agriculture and Bioresources
CBFE	Community Based Forest Enterprise
CF:	Community Forest/ry
CFUG	Community Forest User Group
DFO:	District Forest Office/r
DDC:	District Development Committee
EEW:	Enterprise Works Worldwide
FECOFUN:	Federation of Community Forest Users, Nepal

GCP:	Global Conservation Program
HJSS:	Himali Jaributi Sarokar Samuha
NTFP:	Non Timber Forest Product

**USAID Global Conservation Program
 EWW/ANSAB
 Enterprise-Based Biodiversity Conservation
 Mid Term Evaluation Report - May 2003**

I. Introduction

This mid term evaluation report pertains to the Enterprise Based Biodiversity Conservation Project (1999-2004), being carried out by EnterpriseWorks Worldwide (EWW, Washington) and Asia Network for Sustainable Agriculture and Bioresources (ANSAB, Kathmandu) with the overall goal of conserving globally significant mountain biodiversity of Western Nepal through community forest management linked to enterprise development. The key objectives of the project are as following:

- i) Expand and institutionalize participatory natural resources management and conservation practices within the framework of community forestry in Nepal.
- ii) Improve knowledge and ability of forest user groups (CFUGs) in the area of sustainable use and conservation of biodiversity.
- iii) Enable CFUGs to make effective commercial use of NTFPs in a sustainable and socially equitable manner, and
- iv) Generate scientific information required for the sustainable management of the biological resources.

The evaluation refers to the progress made during the first two to three years of the project (1999-2002). It is a large project dealing with five project sites, located in the remotest districts of Nepal, namely Humla, Jumla, Dolpa, Bajhang and Mugu. All of them have access only by air, as roads are difficult to construct in high mountains with immature and fragile topography and steep slopes. One to two weeks journey from the last road to these places is common. People in these areas are among the poorest in Nepal, underlining the fact that in developing countries poverty, remoteness and biodiversity richness go together. Agriculture generally accounts for less than 5% of the geographical area of these districts, and most of it is rain-fed. In some districts, rocky surface and snow cover combine to account for about 60% of the area, severely restricting opportunity to bring about development. Alpine and sub-alpine meadows and forests are generally important land covers as well as centers of biodiversity. Humla alone has about 1500 species of higher plants. Human populations are sparse but growing rapidly at the rate of about 2.29% per year. Literacy is about 40%. Burning of forests/meadows, uncontrolled harvesting of NTFPs, unmanaged grazing (with high number of unproductive animals) and slash and burn farming are indicated to be the main proximate threats to biodiversity, but the underlying cause is acute poverty.

Central to the project is “the concept of community economic incentives for biodiversity conservation, derived from the development of profitable community owned enterprises based upon limited natural resources extraction”.

II. Evaluation Methodology

The goal of the evaluation is to assess progress towards ecological, social and economic sustainability of the project goal of biodiversity protection. The evaluation was proposed by Enterprise Works (i.e. in contrast to being required or requested by the USAID). Given the security situation in the project area, monitoring and evaluation by persons not directly implementing the project (i.e. ANSAB and EWW staff) were not possible prior to 2003. While project activities are on track and target outputs are being accomplished as reported to USAID, EnterpriseWorks and ANSAB wanted an independent project evaluation. Given the stage of the project, it was not expected that evaluators could assess actual impact on biodiversity or deem an economic activity sustainable, but rather evaluators were expected to provide an objective assessment on progress toward biodiversity conservation and community economic and social development with suggestions and advice on what the project should modify to make interventions more effective. The specific objectives of the evaluation are:

- Assess the progress of CFUG formation, operational plan preparation, organizational development and management capabilities;
- Examine the initiatives taken for biodiversity conservation and monitoring process being used in the project;
- Assess economic sustainability of CFUGs and Community Based Forest Enterprises (CBFEs); and
- Analyze the policy outcomes and implications at wider scale with respect to conservation and sustainable use of biodiversity.

Our approach to assessing the project progress involved both field visits and studying various reports and publications (there were about 20 made by ANSAB and EWW). The field visits included Jumla, Dolpa and Bajhang. For each site the visiting team had one of the three members of evaluation team. The evaluation team included: Professor William R. Buch, Jr., Yale School of Forestry and Environmental Studies, Professor S. P. Singh, Head, Department of Botany, Kumaon University, and Dr. Keshav Raj Kanel, Resource Economist, Kathmandu, Nepal. The others included one or two ANSAB staff members from its Kathmandu office. At each site the ANSAB field staff coordinated our activities, particularly meetings and discussion with CFUG members, local NGOs, local partners, government agencies and public representatives. We also participated in a meeting of District Development Committee (DDC) at Dolpa coordinated by the Dolpa field staff of ANSAB. Our approach was first to allow people to express their view points, impressions and perceptions on their own. This followed by requesting them to address relevant questions that occurred to us. The field visits enabled us to have a feel of the terrain and atmosphere where work was going on. Analysis of various reports and publications gave an insight into how the concept and model of conserving biodiversity by developing community based enterprises has evolved over the years. We discussed all issues thoroughly, directly or indirectly related to the project, with ANSAB staff. *Reports on the sites visited: Bajhang by W Burch, Dolpa by SP Singh, Jumla by KR Kanel are found in the annexes one to three.*

III. Project Targets

The discrete targets set for the first three years included: i) formation and reformation of 40

CFUGs; and ii) bringing about 23,355 ha of forest/meadow under an improved management plan that specifically focuses on biological resource conservation and economic development. Some of the other areas in which progress was to be made, though discrete targets were difficult to set, were: iii) to gain appropriate changes at the policy level, and in the community members' attitudes and perceptions, iv) to increase the community's capacity to handle various issues, v) to build sustaining institutions, vi) to increase the ability of community members' bargaining power for NTFPs prices, vii) and increase the marketing knowledge and techniques.

IV. Enterprises and Programs/Activities

As given in Table 1 the enterprise activities carried out in study areas could be divided into three types: collection and marketing of NTFPs (e.g. morel, yarsagumba); collection, processing and marketing of NTFPs (e.g. Jatamansi oil), and collection, processing and local use of NTFPs (e.g. oil from dhatelo seeds). Jatamansi (*Nardostachys grandiflora*) is an herb of meadows, lokta (*Daphne spp*), a shrub growing as undergrowth of oak and other trees, and dhatelo (*Prinsepia utilis*), a shrub growing on degraded sites up to 2-3 m in height.

During the site visits the evaluation team visited CFUGs directly assisted by the project, government officials, and other stakeholders that influence forest conservation. The evaluation team also interacted with CFUGs and stakeholders that are not directly assisted by the project, but in some cases received indirect benefits (e.g. dissemination of NTFP market information in Jumla that resulted in higher prices for community collectors). In each district that the project operates, ANSAB is currently working with a subset of the CFUGs. In each district a range of NTFPs were harvested and traded prior to the project. ANSAB and EWW started direct enterprise work with a subset of the products, and with the exception of dhatelo oil in Jumla, all project supported enterprise activities are working with NTFPs that were already being commercially traded and in the case of Karnali Jaributi Processing Pvt. Ltd. in Jumla, the Jatamansi oil processing facility started prior to the project in 1995. ANSAB also undertook "enterprise support and NTFP policy activities" that are intended to provide a more supportive climate for CFUG NTFP enterprises. The table below summarizes the project's direct enterprise activities, a sampling of other "enterprise support and NTFP policy activities" observed by the evaluation team, and other enterprise activities not in this project but observed by the evaluation team.

Table 1: Enterprises Undertaken During Project and Other Enterprise Support and Activities Observed by the Evaluation Team.

Direct Enterprise Activities of Project	Selected Enterprise Support and NTFP Policy Activities of Project	Other Enterprise Activities, Not Part of Project
Jatamansi Oil, Processing and Marketing (Jumla)*	Testing of domestication potential for morels (Jumla)	Dabur (a private sector company) nursery and ex-situ cultivation of select NTFPs (Jumla)
Jatamansi Collection and Marketing (Dolpa)*	Policy work on Yarsagumba (impacts Dolpa and other districts)	
Lokta Paper (Bajhang)*		

Dhatelo Oil processing, primarily consumed locally (Jumla)*	Dissemination of NTFP market information in Jumla and other districts that resulted in higher prices for community collectors	Jatamansi Oil, Processing and Marketing: Morel mushroom collecting and marketing (Humla)
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*Denotes enterprises visited by the evaluation team

The numerous activities and programs undertaken to achieve enterprise development through community forest user groups (CFUGs) and linking to biodiversity conservation are listed in Table 2.

Table 2: Kinds of programs and activities undertaken in the project districts

Programs /Activities	Areas /Contents
Biodiversity Conservation and Enterprise Management	<ul style="list-style-type: none"> ○ Site level prioritization of practices ○ Site level planning ○ District level review and planning ○ Site/District level community forestry orientation ○ NTFPs policy discussion and interactions ○ Biodiversity monitoring ○ Threat based biodiversity conservation workshops ○ Biodiversity registration ○ Enterprise identification and feasibility ○ Enterprises operational skills development ○ Entrepreneurship development ○ NTFPs collection, storage and packaging
Organizing training programs	<ul style="list-style-type: none"> ○ Legal awareness to forest users groups ○ Organizational management to FECOFUN, HJSS ○ NTFPs management training to CFUGs ○ Accounts and fund mobilization ○ NTFPs nursery establishment ○ Gender training ○ Enterprises development
Undertaking extension work	<ul style="list-style-type: none"> ○ Distribution of NTFPs related literature ○ Publication and distribution of <i>Lahara</i> bulletin (in Nepali) ○ Distribution of <i>Ukali</i> bulletin (in Nepali) ○ Arranging video shows ○ Arranging visits and study tours of various stakeholders ○ Educational activities on conservation ○ Observe ceremonial day for environment and biodiversity ○ Contributing to teacher's networking for conservation activities
Community forests' formation, reformation and functioning	<ul style="list-style-type: none"> ○ Preparation and revision of operational plans ○ Resources assessment and detail inventory ○ Conflict management skills ○ Promoting equity both societal and gender ○ Technical support for implementation of CF operational plans ○ Inclusion of management provisions for NTFPs in CF operational plan ○ Providing support for implementing community based monitoring system, both biological and socio-economic ○ Logistics support
Providing assistance in marketing	<ul style="list-style-type: none"> ○ Creation of NTFPs based market cell within ANSAB ○ Providing NTFPs market information system at ANSAB ○ Support trader's networking
Enterprises Development	<ul style="list-style-type: none"> ○ Provision of seed money to establish enterprises ○ Business plan development ○ Promotion of enterprise products

Making provisions for action research	<ul style="list-style-type: none"> ○ NTFPs Nursery ○ Cultivation and domestication of NTFPs ○ <i>In-situ</i> conservation and biodiversity ○ Community forests management
Other key supports	<ul style="list-style-type: none"> ○ Support to establish district FECOFUN ○ Promoted Himalayan Jadibuti Sarokar Samuuh (HJSS)

V. Summary Assessment of Overall Project Progress

The project goal is to conserve the globally significant mountain biodiversity of western Nepal through community forest management linked to enterprise development. The project uses a threats based approach and assumes that to conserve biodiversity human behavior has to change. A variety of project activities (see Table 2 above) have been carried out over the past three years that seek to abate the threats and change human behavior with respect to forest management. The evaluation team reviewed project documents and visited a sampling of project sites in three districts, from this review the team observed the following with respect to threats identified, project activities, and “preliminary” indicators of potential impact on biodiversity. Greater detail is found in the evaluation field reports for Jumla, Dolpa, and Bajhang (see annexes). It is noted that the project is still too early in its work to make any scientific conclusions on the change of condition of biodiversity. Changes in patterns of human behavior that impact biodiversity are also based on limited observations and the team could not draw definitive conclusions on causal effects of project activities and outcomes observed. The table below provides the evaluation team’s summary impressions of the threats-action-impact chain of the project. Project progress on specific parameters follows.

Table 3: Threats-Action-Impact Impressions of Evaluation Team

Major Threats Identified	Understanding of Threats by Stakeholders	Appropriateness of Project Activities to Address Threats	Experience in Carrying out Activities	Impact on Biodiversity
Based on field observations and discussion with stakeholders by evaluators, project has identified the major threats to biodiversity.	Interviews and focus groups in three districts convinced evaluators that stakeholders have good understanding of threats and at varying levels are taking actions to counter threats.	High level of appropriateness. E.G: Community organizing for CFUG tenure; introduction of biodiversity conservation; NTFPs and threats approach in forest operational plans; linkage of subsistence, commercial and resource management issues. But, need for more scientific research on NTFPs and additional activities to counter select subsistence threats.	ANSAB has generated respect and enthusiasm among stakeholders for carrying out activities. Broad-based involvement in activities by CFUGs and government; counterpart contributions from communities for enterprises.	Anecdotal reports and the opportunity for somewhat limited observation of forest conditions by evaluators did indicate that positive trends in human influence upon biodiversity were happening, (i.e., restricted grazing, and more controlled NTFP harvesting). Evaluators recommend project adopt more

specific
biodiversity
impact indicators.

VI. Team Assessment Specifics

The team assessed the project by looking at progress in four major areas:

- a) Progress towards social sustainability. This looked at progress in formation of forest user groups (CFUGs) and preparation of operational plans; the strategies the project used (e.g. partnering with local NGOs and partnership and training components); and equity issues.
- b) Progress towards ecological sustainability. This looked at biodiversity conservation initiative and monitoring and the threats being addressed in the project.
- c) Progress towards economic sustainability. This looked at the economic sustainability of the CFUGs and CBFEs and economic gains the communities have experienced as a result of the project.
- d) Policy outcomes and implications.

a. Progress ~~Toward~~Towards Social Sustainability

The evaluation team visited 7 CFUGs (15.5% of the CFUGs assisted by the project that cover 32% of the project hectares). ANSAB is currently working with 45 CFUGs in five districts that comprise roughly 9% of the CFUGs but 41% of the forests under CFUG management in the districts.

Table 4: CFUG and Hectares of Forest in Project Districts

District	CFUGs visited by evaluation	CFUGs in Project/Ha of Forest	Total CFUGs in District/Ha of Forest*
Bajhang	3CFUGs 3FUGs s/2,231 ha	8 CFUGs/2,732 ha	236 CFUGs/6,393 ha
Dolpa	3CFUGs 3FUGs s/5,225 ha	5/CFUGs/5,007 ha	61 CFUGs/10,397 ha
Jumla	1CFUG 1FUG / 89.5 ha	12CFUGs 12FUGs /9, 870 ha	95 CFUGs/17,003 ha
Humla	None	11CFUGs 11FUGs /5, 333 ha	49 CFUGs/18,499 ha
Mugu	None	9CFUGs 9FUGs /413 ha	59 CFUGs/4,750 ha
Total	7CFUGs/7,545 ha	45 CFUGs/23,355 ha	500 C -FUGs57,042 ha

*Taken from government records

As for the number of CFUGs formed (and assisted with reformation) and forests area put under improved management, the targets achieved are more than proposed in the project plan. In fact, 75-80% of the total targets set for 5 years period have already been achieved in these

areas by year 3. The actual figures achieved by year 3 are: 45 CFUGs formed compared to 40 CFUGs planned; 23,355 hectares forest/meadows area brought under improved management compared to 20,000 hectares planned. To bring community forests (CFs) under the improved management, a seven-step program was designed and is being implemented. The program was quite elaborate and involved the following steps: change in legal status favoring conservation; local site assessment; actions designed with participation of CFUG members; human and institutional capacity building; implementation of actions; and biodiversity monitoring and adaptive management. These were indicators provided by USAID, but the project adapted these to correspond to the CFUG process in Nepal.

During the visit to three of the five sites we came to know that at least active members of CFUGs were familiar with these steps and their relevance. The reports provided to us give details of the progress made in regard to completion of 7-step program in each of CFUGs adopter.

In order to promote social sustainability of project activities, EWW and ANSAB have used several strategies. First, EWW and ANSAB have given considerable importance to developing partnerships and collaboration with local NGOs (Table 5), and that have been quite productive.

Table 5 ANSAB’s Direct Local Partner in Five Project Districts

S.N.	District	Direct Local Partner
1	Bajhang	Social Development Centre (SDC)
2	Dolpa	Dolpa Sarbangin Bikash Samaj (DSBS)
3	Humla	Humla Conservation and Development Association (HCDA)
4	Jumla	Rural Development Group Program (RDGP)
5	Mugu	Rural Community Development Centre (RCDC)

Note: ANSAB also collaborates with other governmental and non- governmental organizations at national, district and grassroots level.

Second, ANSAB has expanded it’s communication network to involve a new range of audiences that has worked well in the five remote districts of Nepal. Partnerships, collaboration and networking, all seem to have significantly contributed to strengthening participatory management. Needless to say, the government has also been responsive to the approaches of project managers, much more than in many other developing countries.

Third, during the project period a great variety of orientation training programs and exchange visits were undertaken. This helped improve the understanding of not only staff members, but also various stakeholders, partners and collaborators. These activities have contributed significantly to the considerable progress the project has made so far.

Fourth, the project managers have achieved considerable success in the field through their field staff. From reports and discussion we were able to know that they have been exposed to a series of training and awareness programs. The field staffs appear to be familiar with the processes involved. But they seem to be overwhelmed with the heavy work schedule, and

because of that the demand of conservation and enterprise efforts may be difficult to meet. For each district there should be a provision of two field staff, one primarily for enterprise development and marketing, and other for community forestry, biodiversity monitoring and related activities. The field staffs, however, need more training in the areas of ecology and biodiversity conservation. Unfortunately, expertise available in these areas is rather weak in Nepal.

The performance of the project ought to be evaluated keeping in view the fact that they worked in areas where insurgency was highest during the project period. They had to manage the project activities despite the on-going social restlessness.

With this background, the evaluation team during each of the three district visits evaluated factors associated with the formation of CFUGs and the preparation of operational plans. The evaluation team then compiled their collective assessment (district specific observations are found in the field reports – annexes 1 – 3). The guide questions the team used to assess formation of forest user groups and preparation of operational plans are found in annex 4.

With respect to how thorough the process of CFUG formation has been accomplished by the project, the evaluation team found that ANSAB has assisted the local rangers and community members in making community forest user group formation inclusive of all community interests. The team found the project was adapting CFUG constitutions to local conditions. The Forest Act and regulations provide a general framework for a CFUG constitution. However, there is a provision for maintaining flexibility keeping in view the local traditions and incorporating secondary users. In some CFUGs of Dolpa and Bajhang as an example, provisions were made to take care of traditional practices of including uses by non-CFUG farmers.

The evaluation team looked at how participatory the CFUGs are with respect to representation of weaker sections of the population and women. In general, progress has been made in this direction. For example in CFUG committees in Jumla, the average women representation is 30%. Also, some CFUGs are composed entirely of women such as Kailash Kachaharikot Mahila CFUG.

Traditionally women were kept away from decision making processes. During the project period, however some improvements have taken place, for example in some communities in Dolpa women organized separate meetings and the decisions taken by them were acceptable to men. Representation of women and other disadvantaged people has been ensured in CFUG executive committee. In the project CFUGs the listing of members includes both male and female at household level. Thus, from the policy point of view males are no more the sole representative of the households. It is hoped that these changes will go a long way in improving gender equity.

The team talked with community members to assess scope, inclusiveness, and understanding of the community forest operational plan (OP) and found that in the making of an OP, all the CFUGs observed by the team made a complete inventory of all the resources including NTFPs and biodiversity characteristics of the site. The community members or at least the management committee members we interviewed seemed to understand the operational plans and were enthusiastic about the plans. The process has been made participatory by considering needs and claims of various stakeholder groups, such as blacksmith, women, and socially deprived groups. In Dolpa, as an example, men suggested that there should be an equal proportion of men and women in all training programs. Several instances of regulation

enforcement by committee members were observed such as control of lokta diameter size. The CFUG committee members have taken several measures clearly indicating their adaptability, such as setting nurseries at Dolpa and Bajhang. Women have begun to take interest in CFUG activities. In places like Dolpa, they hold separate meetings and their role in decision-making is taken seriously by the men..

In all three districts that we visited it was outstandingly clear that there is a high degree of capability and commitment by ANSAB field personnel. ANSAB has achieved a notable success in developing and maintaining partnerships and networking with other NGOs, government agencies, FECOFUN, DDC, VDC, NTFP traders. In Dolpa, we attended a DDC meeting involving various district level stakeholders and coordinated by the ANSAB field staff. The meeting clearly showed how effective ANSAB has become in performing its programs with several other organizations. In fact in the disturbed areas often ANSAB was the only connection between the government and the community groups. The other examples include several well attended, highly effective training programs, workshops, conservation education programs in Nepalgunj, Chainpur, Kailash and other places. It could be seen on the ground that these efforts have enhanced the capacity of community groups in protecting biodiversity and enhancing community economic development. The knowledge, skills and the systems of record keeping and decision making have greatly contributed to the community governance skills. The above activities have been supported by ANSAB publications in local language (Lahara, Samrakshan Shiksha), video shows, and distributing other relevant materials (Ukali). Market information has been disseminated to the community groups and that has enhanced the bargaining power of weaker sections of the society, NTFP collectors and local traders.

b. Progress Towards Ecological Sustainability

The project uses a threats based approach and after reviewing project documents and conducting field interviews and observations, the team had the following summary observations vis-à-vis the threats the project seeks to abate.

Table 6: Progress on Threats Abatement (Threats Project Documents Claim to be Addressing)

Threat	Team Summary Observations
Destructive Collection of NTFPs (due to outsider intrusion, absence of local ownership, unscientific collection)	Progress on countering threats from outside intrusion; more local people have tenure and can restrict outsiders. But, more work is needed on inclusion of scientific methods to augment community biological monitoring efforts.
Encroachment and slash and burn (by locals as well as transhumance for cultivating food crops for household consumption)	Expansion of CFUG areas is reducing open access areas available to transhumance slash and burn farmers. Team was told OPs restrict slash and burn, but team could not verify compliance during brief visit.
Overgrazing (by outsiders and locals)	Restriction on uncontrolled grazing (due to CFUG provisions that can restrict outsiders) and improvement in livelihood security are likely to lead to decrease in number of sheep and goats.
Fire from natural and intentional causes (clearing grasses, pasture burning etc.)	As community members earned more from NTFPs they reduced the destructive burning of alpine meadows containing them.

Removal of fuel wood and timber (for local use)	CFUGs have begun to arrange for forest watchmen to check unapproved cutting and impose punishments on culprits. But, the number of trees used in house construction in Dolpa is high and the project should investigate how and at what cost this threat could be mitigated.
Lopping and removal of leaf litter (excessive and unsystematic collection of fodder and bedding material)	CFUGs have begun to arrange for forest watchmen to check unapproved cutting and impose punishments on culprits. Observations on fodder collection were not made by the evaluation team.

ANSAB has assisted CFUGs in identifying threats and mitigation measures by organizing workshops and meetings at various levels. In the field we observed that there was a clear cut attitudinal change and the people were ready to take measures which might contribute to conservation. For example, in our walkabout with Malika CFUG members they were universally concerned about grazing and fires in the forest as they saw them as a threat to their "new" economy. However, they noted the need to move carefully to bring offenders to their side. Some fragmented data that is available indicates that the frequency of burning declined over time because of the ANSAB community forestry program. However, EWW and ANSAB should develop and adopt methods to identify improvement in practices relating to conservation and behavioral change brought about by its programs.

The team assessed the biodiversity conservation initiatives and monitoring of the CFUGs and found that the concept of seeking union between biodiversity conservation and enterprise development through CFUGs was introduced for the first time by ANSAB. This approach gave the villagers clearly perceived incentives and values for protecting biodiversity on CFUG and nearby forestland.

Before the project's intervention, enterprise based NTFPs were collected without any regulations. ANSAB helped the communities to harvest products in a regulated way for enterprise development. For example, in case of lokta enterprise in Bajhang, an inventory was prepared for plant population structure and amount of growing stock. Instructions with regard to the stem diameter size (3cm and above) for lokta harvesting were given based on studies undertaken elsewhere. CFUGs now maintain harvest records and have enforcement mechanisms in place. However, research will be required on the biology of lokta, impact of harvest on it, the characteristics of the biological community, and the ecosystem to achieve sustainability and biodiversity conservation in a long term basis. There is a need to allocate money to undertake research (not simply monitoring). While the project has conducted some activities in terms of "research" with community involvement, these efforts require more rigorous scientific methods. Monitoring can be performed by the communities but to identify the proper way of doing that researchers are required to help guide and train some members of CFUGs in order to ensure validity, reliability and replicability of findings. The enterprise activities and scientific research activities should go in parallel with information feedback and testing of trends and tendencies between these mutually supporting activities. That is, the biological research may find opportunities and constraints in the ecosystem that will influence enterprise, organization, and response to markets. In turn enterprise activities may suggest new opportunities or market saturation that will influence protection and management strategies for the biodiversity system.

The evaluation team found the biological monitoring plan extensive but in need of some streamlining to make it more feasible. Related to the conservation of biodiversity, it is also

important to assess the impact of biomass removal on species composition, regeneration of important species and the optional point and the critical stage of the life cycle of constituent species for sustainable harvest. But these measures cannot be taken without adequate research support. There is a need to know the ecology of the species being exploited for NTFPs in their habitat in order to develop an effective strategy for their conservation, and monitoring the changes occurring as a consequence of an intervention. Some financial resources need to be allocated to research even in enterprise based projects when it pertains to natural ecosystem. Simply making people more conservation-oriented than before may prove to be inadequate to conserve biodiversity. History is replete with failures of sustainable harvest of resources from natural ecosystems. We get the impression from the field areas that resources are generally in plenty, and amounts harvested account for only small fractions of the stocks. Villagers also suggested that populations of species harvested increased in the following year. These anecdotal findings may have meaning, but are difficult to rely upon. Also, human pressure on meadows and forests may increase steeply as prices of NTFPs increase. Such is the case with Yarsagumba and Morels, which are not under CFUG management. In the case of former, trampling by several thousands of collectors in meadows and firewood consumption for cooking can be very destructive. Again, these activities were well outside the control of ANSAB and affiliated CFUGs. Indeed these activities provide a strong case for the need to extend the ANSAB/CFUG management strategies.

With regard to monitoring bodies within CFUGs and enforcement of harvest regulations outlined in operational and monitoring plans, enterprise oriented CFUGs management committees have separate monitoring bodies which have authority to enforce harvest regulations and sanction rule breakers. For example, in the Malika Handmade Paper CFUG the committee had created (with ANSAB guidance) a regulatory system for controlling inappropriate harvesting with schedule of graduated fines and punishments. With regard to how the project is progressing in implementation of biological monitoring plans with CFUGs, the evaluation team found that out of eight enterprise-oriented CFUGs, four had biological monitoring plans in place; one is almost completed; and three were under preparation.

The following observations of the evaluation team suggest that the people have become more conservation-oriented than before and the project are making progress towards ecological sustainability.

1. As community members earned more from NTFPs like *Jatamansi* in Dolpa, Humla and other areas, they reduced the destructive burning of alpine meadows containing them.
2. As communities secured tenure on forest resources after the formation of CFUGs, they began to restrict outsiders from collecting NTFPs from their forests and meadows, and they instituted more sustainable rotational harvesting strategies. The legal backing of CFUGs also promoted the idea of restricting grazing of migratory herds. In case of *Yarsagumba (Cordyceps sinensis)* (YG), CFUGs earned more money than they ever expected. In the future, they hope that they will be able to use a part of the money earned for undertaking conservation activities.
3. Restriction on uncontrolled grazing and improvement in livelihood security are likely to lead to decreases in the number of sheep and goats. A beginning of this trend could be seen in some areas.

4. The innovation of expelling oil from the seeds of *Prinsepia utilis* in Jumla has made this shrub important and even the individuals growing along road sides, bridle paths and other degraded sites are being protected. This innovation has enabled people to get oil (of a better quality than the market oils) from a native species of no known use in the past. The unusually high price of YG and general increase in earning from all other NTFPs have two major consequences. First, people now think that any species could be good for developing NTFPs based enterprises. Second, they need to be protected from destruction. There is a need to continue building upon the emerging awareness with programs that use these events for their great demonstrative value.
5. CFUGs have begun to arrange for forest watchmen to check unapproved cutting and encroachment, and impose punishments on culprits, and link the timing and amount of thinning of trees to the timing of people's need.
6. A fuelwood-efficient technology for hand-made paper enterprise in Bajhang was identified and provided.
7. Attempts were made to assist micro-hydroelectric plant installation and improvement at Jumla.
8. One of the outcomes of enterprise orientation is that the community has become interested in larger forest and meadows areas than before both for having control and management. This entails taking more responsibility and capacity building for management and conservation. Earlier when the communities' relationship with forests and meadows was limited to subsistence living, the local communities had neither interest nor capacity in managing large areas. Needless to say, empowerment has also played its role in this regard.

c. Progress Toward Economic Sustainability

The community based forest enterprises were strategically selected to give a good chance of sustainability (see Table 1 for list of enterprises). Some elements such as institution building, appropriate enterprise and technology, are in place which suggest that the enterprises are likely to be sustainable. The team cannot comment on all aspects of economic sustainability but production and operational sides seem to have the components that may lead them to sustainability. There is an auditing system in place in most of the CFUGs and CBFEs. All the CFUGs and CBFEs visited have social audit-internal control system in place. Moreover, they have formal external audits from registered auditors. The components of market and competition factors which are beyond the scope the GCP project are being addressed in other projects not reviewed by the evaluation team.

Training and technical know-how, and marketing linkages and information provided by ANSAB have played a crucial role in improving the economic sustainability of CFUGs and CBFEs. The broad-based involvement of community members, community contributions, the distribution of enterprise revenues and profits and their allocation to enterprise maintenance and CFUG operations indicates progress toward long-term economic sustainability of the CFUGs and the CBFEs.

For example, Community members have invested at least 50% in the establishment of the enterprises. This investment has given them shares in enterprises. In Bajhang, the lokta enterprise generated incomes of about Rs. 1.05 million for the local suppliers and the collectors of lokta and fuelwood, and an additional Rs. 0.45 million for the direct employees in the enterprise. Rs. 50,000 as dividends that were distributed among the shareholder CFUG members according to the number of shares held by each member.

- In Jumla, 30% of the operational revenues of the oil milling enterprise go to the operations and maintenance of the enterprise and 70% to CFUG fund. CFUG has purchased a wheat crushing mill out of the money deposited thus in the CFUG fund. The equity fund provided to the enterprises by ANSAB is being returned.

Other economic gains observed by the evaluation team include:

- i) As the enterprises enter into markets with batches of production, CFUG members have started receiving income generated from biodiversity.
- ii) Many people now have permanent or seasonal employment from the enterprises.
- iii) The CFUG members are charged with the idea that any species of their area can yield economic benefits. The use of *dhatelo* oil has enabled them to substitute the market oil. A success of this kind in which the native product is found superior to the market product has made profound attitudinal change and belief in use of technology in NTFPs promotion.
- iv) In all three types of enterprises (refer Table 1), the products are fetching more value than in the past due to various services provided by the project. Since it is the poor who are more likely to collect the NTFPs and since ANSAB provides strategic market information to them, we can anticipate that the poor NTFP collectors and workers at the factory are getting more benefits from ANSAB interventions. Also, the shareholding system balances burdens and benefits in a way that is understandable to all persons.

At all three sites that we visited people appeared to be in a phase of hope, self assurance and are affected by a direct improvement in their livelihoods. In summary, through community forestry and enterprise development people now have access to the enriched capitals such as physical, social, financial, natural and human. They are excited about what they have achieved.

The CFUG feeling of ownership over the resources encourages them to have their own rules to regulate harvesting, distribution of benefits in a mutually agreed manner and they have more freedom in management of their resources. The CFUG system has provided a democratic forum to undertake community development activities as well. They can earn income by collecting forest products from the community forest and selling these to the nearby communities and markets. From enterprises, they get dividends and also, income from employment in the enterprise. The collective fund they utilize in developing community infrastructure like drinking water, school building and agricultural processing. The assistance provided by ANSAB has played a pivotal role in all these.

d. Policy Advancement and Implications

ANSAB has been quite successful in approaching government, civil society, forest user groups and in promoting policy changes through making presentations in meetings,

seminars, workshops, interaction with government officials around the policy agenda, supporting forums and networks, writing reports, policy recommendations, presentations on the idea and video and television shows that reach large and broad audiences. At the country level, knowledge about NTFPs based enterprise has increased due to project activities. ANSAB staffs have received recognition at various levels for their expertise in areas of enterprise development, innovative community forestry practices and market information. ANSAB now finds it easier to get partners and collaborators at regional, national and international levels.

Through networking, coordination, sharing of specific policy implication from the grassroots, ANSAB was able to influence the government, donors, non-profits and business organizations to put NTFPs high on their agenda that links poverty reduction and conservation, e.g., 10th five year plan of the government of Nepal.

ANSAB is not only recognized for providing input on specific policy improvements (such as royalty rates and regulations), but also influenced the policy formation process to involve a wide range of stakeholders including the collectors and stewards of the resources, e.g., the evolution of Nepal NTFP Network (NNN) to national “Herbs and NTFP Coordination Committee” headed by the Minister for Forest and Soil Conservation and represented by both government and non-governmental organizations.

ANSAB's clearly significant accomplishments and sharing ways have given support to FECOFUN, DDCs, VDCs, CSIDBs, DFOs and CFUGs in their policy efforts. It has made policy makers aware that biodiversity conservation is not just an externally imposed abstract concept but it has real implications for on ground poverty alleviation, economic development, and “green” democracy. This is because by protecting natural capital it helps to break this cycle of poverty and subsistence agriculture and leads to transforming economic activities to a higher level. And this has been done in the regions where it would not be possible to have these activities before the intervention of ANSAB.

The CBFE, CFUG approach has encouraged women and marginalized groups to express themselves and participate in decision making, and benefit sharing. These are the people now who are empowered through the participation, expressing themselves and through training. In a way it is contributing to preparing communities to better handle crisis management situations in remote, isolated and most vulnerable areas of the country because the emergent social capital provides reciprocal trust and support among community members. We noticed that ANSAB has become a rallying point in Dolpa, Bajhang, Jumla and other areas. It has created awareness among policy makers that the community forestry, biodiversity conservation and enterprises can go together.

The NTFPs-based enterprise was incorporated into CFUGs for the first time in Humla, and since then it has been extended to 45 CFUGs there and in other districts. In this the emphasis is on going beyond subsistence living and linking commerce to sustainability initiatives. This may be regarded as a significant policy advance in Nepal's forest resources management, as over-harvesting of NTFPs and subsistence activities associated with traditional community forestry often lead to habitat destruction. It is good to know that the District Forest Offices have adopted the incorporation of NTFPs into CFUG management plans.

Establishing NTFPs based enterprises within CFUGs is a significant policy advancement. The enterprise development has enabled CFUGs to have interest in and responsibility of

managing much larger areas than before when people were living at subsistence level. It has given sound incentives for biodiversity protection.

VII. Conclusion and Recommendations

As described above the project has made good progress and performance in terms of CFUG formation and areas brought under improved management exceed the targets set. It has excelled in the seeking cooperation and developing partnerships and collaborative interactions with numerous concerned organizations and stakeholders. Emphasis on training, education and awareness programs is another strong point. However, ANSAB needs to focus on appropriate but systematic research based on valid, replicable and reliable techniques and study designs. Specific recommendations follow.

1. Secure funding for longer term project support.

The present project is one of the major exercises on developing participatory management of natural biological resources involving interaction among local communities; NTFPs based enterprises development, and improvement in the use of resources. The coverage of 45 CFUGs of some of the poorest people living in an extremely inhospitable terrain, and development of enterprises ranging from collection of Yarsagumba and morel mushrooms to processing of aromatic oil and paper are quite impressive. This exercise needs to be continued for another 4-5 years to achieve a critical level from which the ideas would spread on their own. EnterpriseWorks Worldwide and ANSAB have gone far deeper in this area than any other organization. Such projects need to be of a longer duration than five years to achieve a lasting union between biodiversity conservation and enterprise development.

2. Add field staff and provide more biodiversity training.

Field staff seem to be overwhelmed with the heavy work schedule, and because of that the demand of conservation and enterprise efforts may be difficult to meet. To improve the implementation of project activities there is a need for two field staff members for each site (at present the number is 1), one primarily for enterprise development and marketing, and other for community forestry, biodiversity monitoring and related activities. The field staff, however, needs more training in the areas of ecology and biodiversity conservation. Expertise available in these areas is rather weak in Nepal.

3. Simplify biodiversity monitoring data collection.

The biodiversity monitoring data collection formats and guideline have been prepared and data collection has just started. These activities are well structured and thought out. However, they are likely to exceed the capacity of ANSAB staff and village volunteers. The proposed system can require a lot of work, and is difficult to manage given the inadequate size of the available labor force. Therefore, detailed monitoring could be limited to 2-3 major sites (enterprise-oriented CFUGs), and others could have a more simple format to follow.

4. Conduct research and allocate budget.

The concept of seeking union between biodiversity conservation and NTFPs enterprises was introduced for the first time by ANSAB in Nepal. ANSAB has helped the communities to harvest NTFPs in a regulated way for enterprise development. The monitoring in practice focuses on preparing an inventory of resources, harvesting them following norms based on studies undertaken elsewhere, and enforcement mechanism. However, research is required on estimating the harvestable rate, biology of the species being used, timing of harvest, impact

of harvest on the species and the vulnerability of the ecosystem to invasive species, its overall productivity and changes in species composition.

Biology of species may include phenology, reproductive biology and propagation techniques. There needs to be researchers for maintaining scientific rigorousness in experiment. Needless to say, research and enterprise activities should go hand in hand. There is a need to allocate a fraction of project money to develop relevant information through research.

5. Improve methods and indicators for measuring impact on biodiversity.

Some fragmented data that is available indicates that the frequency of burning declined over time because of the ANSAB community forestry program. However, ANSAB should develop and adopt methods to identify improvement in practices relating to conservation and behavioral change brought about by its programs. Comparison between ANSAB and non-ANSAB CFUGs may be required to indicate the influence of ANSAB's strategies.

6. Investigate ecosystem services.

The sustainable use of NTFPs from the natural ecosystem may not be enough to generate money to take people out of the subsistence trap. There is a need to value ecosystem services flowing from the forest and meadows, which communities are conserving. The Kyoto-protocol has included carbon sequestration for developing a payment mechanism. In this reforestation and afforestation are being encouraged. Though young and growing plantations are good carbon sequesters, they may take more than a hundred years to accumulate carbon stock of a mature forest. Therefore, prevention of deforestation should also be included in the carbon trade. The enterprise development in the project areas is assisting people to prevent deforestation, therefore these kinds of activities eventually might be included in carbon trade.

Furthermore, other vital ecosystem services such as soil formation, hydrological regulation and local climatic control should be explored for opportunities for valuation of services and payment for them which could be worked out at various spatial scales, local, regional and international. The Himalayan region along with the adjacent Gangetic plains makes one of the most suitable units for considering economic aspects of goods derived from the sustainable use of biodiversity, ecosystem services that flow from natural ecosystems and mechanism of payment to enable people to conserve ecosystems of global significance. In summary, by combining goods derived from ecosystems and services they generate, the relationship between conservation and economic growth could be made more positive.

7. Do additional tracking on economic benefits flow among subsets of the Community.

The assessment on economic sustainability illustrates that the economic gains made by the local communities through better forest management, enterprise development and enhanced bargaining power (through better market information) of NTFP collectors is significant. However, the distribution of this aggregate gain among subsets of economic and social groups has yet to be fully assessed. We recommend that ANSAB develop a simple tracking system of benefit flow (at a dis-aggregated level beyond gender) to different socio-economic group members due to ANSAB intervention. This will be useful not only to further assess the impact of the project to local people but will also be of wider relevance and importance to policy makers in Nepal since Nepal's main policy agenda is to reduce poverty.

VIII. Strategies for Conserving Globally Significant Biodiversity – Some Thoughts on

the Project's Contribution to Broader Learning and Strategies.

Development strategies of the early days in Nepal had a certain heroic engineering fix–spray DDT and eliminate malaria, build suspension bridges and trails in the high hills, construct a road along the terai. There was a certain clarity in the beginning, middle and end of the project. When the project was done there was a sense that it was done. People were healthier and they and their commerce could move about more efficiently.

Contemporary issues of reducing poverty, providing gender equity, rehabilitating ecosystems, transforming higher educational programs and protecting remaining systems of biodiversity are more complex and have less clearly defined and understood problem interactions where causality, stress points, system resiliency, boundaries and ending points are seldom neat and tidy. The most salient factor in sustained success for development interventions in complex systems is continuity over different time and spatial scales of natural and human domains. In learning process activities there is the need to find the teachable moment and there is also the fact that learning erodes and needs to be replenished and refreshed if it is to 'take' with the learner. That is donors and NGO's need a commitment to staying the course to full realization of the goals that stimulated the original intervention actions if returns on the original investment are to be realized and the project actions are to achieve a level of self sustainability. Many projects that address these more complex issues are on too short a funding schedule and often abandon the effort before the tipping point has been achieved.

Several years ago the US National Science Foundation realized that the study of complex ecosystems could not be approached in the way of other science problems. At that time the agency started the Long Term Ecosystem Studies (LTERS) to match the necessary temporal scale of the scientific problems at hand. Today there are some 25 such LTERS in the US looking at a wide range of biomes from bogs to alpine bioness, to lakes and watersheds. Two of the most recent ones are urban ecosystems–Baltimore and Phoenix are the representative sites. Burch is a Co-PI on the Baltimore\Chesapeake LTER and is certain that the temporal and spatial scales of such systems do not resolve themselves in the usual three year grant cycle. LTERS are funded in six year cycles with the expectation of renewal. Some such as the Hubbard Brook studies have gone on for over 25 years (BioScience, 2003).

This background preamble is the context of our evaluation team's concern that though we see many exciting and positive accomplishments in the first half of the ANSAB project the learning is just nearing a critical point which will require at least another four years to consolidate the success of the many efforts. As noted in the field section reports there is the need to get the research efforts and techniques consolidated and fully feeding into the enterprise efforts. This continuity of systematic learning about the biophysical, social organization, equity and marketing issues needs sustaining if they are going to be fully incorporated in the CFUG enterprise efforts.

Further, there is the need to ensure continuity and the full institutionalizing of the leadership, management and governance elements established in the several CFUGs but that are still on trial for the members, government groups, traders and partner NGO's and others. There is need for continuity in the diffusion of the enterprise approach to other as yet unreached CFUG's and the consolidation of that effort.

Target numbers of 45 CFUG's have now been recruited yet many only recently joined and termination of the ANSAB project at the planned time will leave these groups without time to consolidate their activities. On each point of observation the time required to create

functioning human ecosystems is significant. The need to identify and recruit appropriate candidate groups, the sheer demand of the isolated and rugged landscape, the need to carefully build trust amongst all the possible authorities and stakeholders, the adjustment to the innovative ideas of enterprise and biodiversity protection, book keeping, conflict management and marketing all require tremendous investments of time. For example the Malika handmade paper enterprise had its business plan completed in 2000 and made its first stock return in 2002. This is a milestone but the learning curve is just now starting to occur and the true awareness of the value in conserving biodiversity is just beginning to be perceived by leaders and is still trickling down to members. The first enterprise workshop of CFUGs in Bajhang District was held in October, 2001. This is a start, a seed of possibility it must grow and be nurtured, given a sufficient trial, tested and trusted. It will be a few years before the notions and connections between enterprise and biodiversity conservation are fully embedded in the actions and thoughts of local people. And it should be noted that these ANSAB accomplishments have been made under conditions of armed insurrection which is a condition not unlike that found in most other developing country biodiversity hot spots.

Indeed, even in the hot spots of the United States such as Idaho or New Mexico wilderness areas armed threats to protectors of biodiversity are relatively common.

The leadership of the existing CFUGs is trained but they are still learning the path to sustained biodiversity protection and management of community development. Further as in all human organizations there is the need to have institutionalized continuity for leadership as present leaders can grow tired, retire, move away or die. Nearly all community forestry efforts throughout the developing and developed world are poorly prepared to sustain leadership in CFUGs. Few have institutionalized mechanisms for meeting likely future patterns of change and hardly any have systematic plans for recruiting and preparing the next generation of leadership.

Finally there is the very apparent fact that our knowledge of biodiversity ecosystem resiliency of economic plant material is at a very primitive stage. The field experiments and nursery cultivation experiments are just being put in place and started on the path towards systematic science approaches that will ensure validity, reliability and legitimacy in the findings. That is, the very essential botanical base for the goals of sustaining these hot spots of biodiversity is in start up phases. It is essential to note that this is research that involves the local people so that the learning effort and feed back into the enterprise is the one true and only possible means for ensuring the survival of the ecosystems that provide the base for the several goals and objectives that stimulated this project to be started in the first place.

We believe that strong support for the continuity of effort in the ANSAB project comes from substantial scientific authority. For example, Peterson, Allen and Holling (1998:16) argue that "The history of resource exploitation and development reveals that ecological crisis and surprises often emerge from unexpected cross scale interactions. ...Management of natural resources often produces high short-term yields and, either purposefully or unintentionally, creates ecosystems that are less variable and diverse over space and time. Management channels ecological productivity into a reduced number of ecological functions and eliminates ecological functions at many scales. This simplification reduced cross-scale resilience, leaving systems increasingly vulnerable to biophysical, economic, or social events that could have been absorbed—disease, weather anomalies, or market fluctuations. ...To avoid repeating the ecological management disasters of the past, it is necessary that ecologists understand how the scale-dependent organization of ecosystems and functional reinforcement across scales combine to produce ecological resilience."

As we have tried to indicate in this report, we in the scientific and biodiversity protection community are only at the start of understanding these interactions. And in the long run much of the needed learning will come from the target villages such as ANSAB has aided. Here it is most clear that a short term approach in project support is likely to cut off a most promising strategy for sustaining these few remaining diverse systems in Nepal and the lessons they can offer to others in the coming decades. The aborting of this research in an untimely way will be truly a global tragedy.

Many in the conservation community have had high hopes that North American style national park protection strategies could be exported to other societies that have equally grand and important ecosystems. Though that desire for a certain line on the landscape which seems neat and finished and fully protective is understandable it ignores the reality of such establishment. In the United States large numbers of native peoples were forcibly removed from their homes in the present protected areas and the ranchers, farmers and politicians in the Western States generally resisted the establishment of these areas. Industrial and post-industrial economies reduced the dependence upon primary production activities and freed land for protected status. Further in North America a relatively long history of stable civic society gives a general legitimacy and acceptance to the laws regarding property and government regulation which is often not the case in the developing world. Finally, in the long run unless the general populace buys into the value and need to conserve biodiversity there are not enough soldiers, environmentalists and nature lovers to fully police and to ensure the integrity of any of the world's protected areas. In short, finding the means to creating conservation behavior in the human community is the only and last best hope for sustained protection. Experiments such as ANSAB give us one substantial hope that we can find the means to make our species truly stewards of their natural world. We hope this necessary experiment will be sustained.

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Annex 1. Bajhang Site Report

Bajhang Field Observations 24-31 May, 2003

USAID Global Conservation Program EWW/ANSAB Enterprise-Based Biodiversity Conservation

Mid Term Evaluation

General Background

Bajhang is more vertical than level. In the Seti Lowland there are a few wide flood plains. In this area around 1300 meters elevation there are trees along pathways and around houses with a few clumps of woodlands and several pine plantations on the nearby steep east facing hills. The rest of the landscape is steep terraced paddy and the true natural forests of mixed conifer (Pinus, Abies and Taxus) and broad leaf (Quercus, Betula) have been pushed to the 3300 or 3500 meter elevation. These remaining natural forests are well stocked and seem healthy. The DFO, Gyanendra K. Mishra, believes that the percent of the District that is forested (27%) is very low and that most of this is poorly stocked.

The area of the District is 3,422 sq. km. In 2001 its population was 167, 026 with 28,588 households with an average number of persons being 5.84. There is a pattern for the male members of the households to annually migrate to India during the slack season. This regular flux of a substantial proportion of the male population most likely places constraints upon maintenance of resources and domestic property and strains the domestic division of labor. Hence micro enterprises that could be carried out in the winter months likely would have a wide range of economic and social benefits. Of course, the wives may look forward to such holidays from their spouses?

The District's estimated area in primary food crops has been going up from, 10, 150 ha in paddy in 1997 to 11, 526 in 2001; wheat from 14,670 to 17,064 and maize from 8130 to 10, 538. One suspects that these increases come from the conversion of forest land to crop land. Other obvious challenges to forest lands and the landscape ecology come from the extensive some modest amounts of shifting cultivation and firewood collecting in most inappropriate settings. The impact of all of these activities were highly visible during our visit in the



Sustainable Firewood Collection is an essential NTFP for many CFUG forests

Chainpur area and on the trek to Kailash and Malika. Though at the small scale any of these activities might be compatible with retention of the valuable biodiversity resources. However, incrementally and at ever increasing scale the rate of change will likely surpass the threshold of recovery and resilience for many of the ecosystems upon which the people's renewed hope depends.

Clearly the cycle of poverty and resource conversion and degradation is not likely to be resolved by simply more of the same subsistence level of existence. This is particularly so as

the men who journey to India for short term work return with a vision of higher levels of material existence in the world outside of their mountain villages. Hence the constrained base of survival is compounded by rising expectations. So in many ways the micro enterprise–community forestry strategy being explored by ANSAB may be the last best hope for Nepal to retain some level of its rich biodiversity that potentially is a super market of sustainable high value NTFPs and a way out of total dependence upon subsistence agricultural activities. Of particular interest are the lessons for many other developing regions and newly emergent community forest activities in the industrial and post-industrial countries.

Methods

Our team was composed of Bhishma P. Subedi, Executive Director of ANSAB, Surya B. Binayee, ANSAB Programs\Administrative Manager, Dyutiman Choudhary, Associate Expert–Enterprise Development, International Centre for Integrated Mountain Development (ICIMOD) and William R. Burch, Jr. Hixon Professor of Natural Resource Management, Yale School of Forestry and Environmental Studies. Our travels together became a moving seminar on the equity and biodiversity issues that brought us together and on the matters of sustainability and motivation (incentives) that confront the peoples of this region and ultimately those of the entire world.

We had interviews with the following persons and groups: Chief District Officer, Trilok P. Shrestha; District Forest Officer, Gyanendra K. Mishra; Chair of the FECOFUN-Bajhang and the Shree Binayak Pimi Danda CFUG, Gagan B. Singh; Ex-Chair of the District Development Committee and Vice Chair of HJSS-National, Man P. Khatri; Chair of the Social Development Center, Surat B. Singh; ANSAB Community Forestry Facilitator in Bajhang, Chandika Amagai. Many of the members of the Malika Handmade Paper Company; all nine of the women members of the Kailash Kachaharikot Mahila CFUG and the Chair and Vice Chair of the Hemantawada CFUG. Also, CARE of Nepal persons, and professionals in the District Development committee and the Social Development Center, the local partner NGO of ANSAB in the district, some of whom traveled up in the hills with us. These were rich and complex exchanges and only a fraction of our learning can appear in this report. However, the suggestions and guidelines will clearly reflect the wisdom of our respondents.

We were able to systematically observe a number of activities and to see the social and biological impact of these activities. We had interviews with key informants, informal chats and the chance to compare observations amongst the team members. We examined records and looked at the working blocks that were established for the working circle efforts. We had the substantial documentation of the efforts by ANSAB and its highly professional monitoring efforts. Clearly our work was inductive rather than deductive in approach and there is no pretense that we followed a systematic sampling scheme. Still there was a range of opportunity and a chance to triangulate formal interviews, observations, key informant responses and informal discussions to gain some clarity and objectivity in our understanding.

Findings

In our travel to the villages we had the opportunity to observe the biosocial landscape and the general patterns and processes evident in the human ecology. We had a fairly substantial walkabout in the forest of the Malika group. We observed the manufacturing operations from collection to processing to end product. We could see the interaction and interest of the

members of the working groups. We could feel the changes that were happening. For example in my several years of travel to rural Nepal villages I have experienced the fact that village women were almost an unseen presence and of those few willing to participate they remained very shy. Yet, here we were in an even more remote village and each of the women stood and introduced themselves and talked about their project. In the discussion with we outsiders they were confident, engaged and rather surprised at themselves and their boldness. And when one of the husbands began to berate the women, they did not shrink but rather simply ignored him. That is a major accomplishment.

Further, it was evident that community forestry is and will continue to increase as the dominant system of forest management in this region. The conditions for travel by foot are demanding and very far. No matter how many rules and regulations may come down from Kathmandu regarding forest and wildlife management there will never be even a tiny possibility of having a sufficient number of rangers or forest guards to control human behavior that diminishes natural ecosystems for private gain. The only mechanism for possible control is the normative influence of local people upon the behavior of their fellow villagers. And we were given sufficient indicators that the local CFUG members saw that responsibility and were working within the traditional value context to secure reductions in grazing, wiser collection of fuelwood and generally more socially responsible actions in regard to the common natural capital. It is also clear that without the promise of the incentives suggested by ANSAB technical and field people the local people's enthusiasm for managing the behavior of their neighbors and themselves would be much less.

There is a complex organizational infrastructure to recruit and to sustain these community efforts. The DFO may not have sufficient persons to extend its full legal power reach over the behavior of others, however theirs' is a power of resistance and delay and permitting. This is the check by the national government upon the innovation and enthusiasm of the NGO's. Yet, it is a symbiotic yin and yang effort. The NGO's can run after their own passions and government agencies can mire in their own despair. The two groups need the check and stimulus of one another to ensure better decisions. It seemed that in the Bajhang case the good will and intelligence of the 'partnering' parties was the critical factor. An arrogant NGO officer can ensure failure of the best and most innovative ideas and a frustrated government official in a career slump can violate the public trust assigned to the position. In Bajhang, the personalities of the various players seemed to have found the right rhythm and were better serving the biosocial ecology. However, one had the sense that a shift in the present DFO who strongly accepted the community forestry idea by one who saw it as a threat would greatly impede the advances clearly being made by the ANSAB, Social Development Center, CARE and others. At present this organizational infrastructure is working well to alter national policies, to support passing management to local groups and generally working to see that community efforts work for the common good of people and nature.

This organizational infrastructure works to support training, technical skills, equity and gender improvement efforts in a coordinated fashion. An interesting side issue emerged in our discussions of the role of memorial trees and sacred forests. This is interesting to me as I have a former student who I had visited prior to coming to Nepal who has the first ever such position with the US Forest Service which is to coordinate and encourage memorial tree, woodland and forest activities. This was a result of the 9/11 events in New York City but the need is universal and illustrates that humans have larger motives than pure greed. And the search for appropriate bereavement activities could be a most valuable non-timber forest

service. The point here is that there are many forms of incentives that encourage wise and sustained use of natural ecologies.

ANSAB seems to keep clear focus on its central goal of sustained biodiversity and community development with its means being the exploration and the deployment of an array of incentive structures. An indicator of this entrepreneurial search for incentives are in-natural products and ecosystem services as income opportunities which gives a hard edge to the usual moral pleading approach regarding conservation—there is a reinforcement between what is right and what is gainful. Other incentives come from 1. balancing the limited existence of a subsistence economy with an emergent set of manufacturing opportunities that fit the isolated locale and the traditions of the local people as in the Lokta conversion to handmade paper; 2. from ensuring there is equity in burdens and benefits through a community form of share holding system that by-passes the ‘tragedy of the commons’ problem; 3. the empowerment of women to bring in the other half of the labor force and systematize the unique folk knowledge of women; 4. the use of participatory techniques to give legitimacy to decisions; 5. marketing strategies to give producers opportunities but, also as a playback that their work is worthwhile; 6. training and ‘show me’ exchanges with other CFUGs; 7. video and television attention to the activities of the CFUG serves to disseminate pride and new ideas.

Snapshots of Community Forest User Groups

The Malika Handmade Paper Pvt. Ltd. was started in 2000 and grew out of the Shree Binayak Pimi Danda Community Forest User Group. It had 25ha of forest land before the enterprise was established and now has 912ha. There are 235 households in the group. Feasibility completed in 1999, revision of CFUG constitution and management plan completed in late 1999. The enterprise and business plan were completed in 2000. Members of the CFUG contributed their labor, the CFUG invested for the construction of the factory. Various management committees were created with the help of ANSAB technical persons. None of this complex organizational structure was forced upon the community. Rather as problems and questions emerged the ANSAB technical people helped with suggestions and ideas. So there is the governing body of 235 households, who elect a management committee of 15 persons (12 men and 3 women). These persons guide the work of the enterprise management committee (7), resource management committee (15) and enterprise audit committee (3). The enterprise management committee appoints an executive committee of 5 who develop



Handmade Paper Drying

company policies, systems, and strategies and oversee a manager who manages company business operations with two technicians, 1 watchman and 6 workers. The point of these details is that any well functioning enterprise must have a certain order or bureaucratic structure if the benefits and operation are to persist. This structure was a natural evolution with help and guidance available from ANSAB.

In contrast is the Kailash Kachharikot Mahila (women) Community Forest User Group. It

has a total of 165 households. All of the households are represented by women. The CFUG committee is nine women. While subordinate to them are three sub--committees--advisory (five men); audit (five men) and forest management (five men). They manage an area of 35 ha and are considering some other possible holdings. Their interests are in timber and firewood management. They are considering fodder management and the development of milk products as well. The organizational structure is not elaborate but it provides a structured base from which new entrepreneurial opportunities may be explored. It is the launching platform.

The Chadihit Latomanda CFUG and the Hemantawada CFUG are more traditional community groups. Chadihit represents one ward while Hemantawada has 1-9 wards in the area and 1293.53ha of forest land. The Chair, Hari L. Joshi, reported there were 595 primary user households and 300 secondary households. Primary users are traditional users near the forest land and who work on it. Secondary users have another forest in a different place. The interest of these two CFUGs is to develop rules and directives to ensure a more sustained use of traditional products. They have 9 block management units with some NTFPs, shrubs and Lokta as well as wood products. There are two women on the 15 member community governing group. They are interested in exploring the micro enterprise route and have a certain concern about controlling the overgrazing in the forest lands--through higher bred and valued stock and stall feeding. So this group represents one in the early recruitment stages giving most attention to regulating and ensuring equity of access to the resource.

Some Lessons Learned

1. Those outsiders and donors who wish to encourage community approaches to sustained ecosystem management need to be patient and to have a willingness for the long term rather than the quick fix solution. There is a 'teachable' moment when the issues and awareness come clear to the community folk and they request advice from outsiders. If that moment is forced too early and too much imposed from top down or outside of the village it will not take as it has not been a natural emergence from the experience of the community group that must build its own perceptions and awareness of how to act. There are cycles, stages and gaps in the learning process and that is very much what the enterprise, community based effort is for all the parties--an exercise in learning together and as individuals.
2. The micro-enterprise approach is one that must be conceived as a linked ecosystem--partners to partners, humans to nature, markets to marketing, governance to equity, rights to responsibilities, equity and participation to risk and structure. The biophysical organizational structure must be matched with a human organizational structure that can sustain the two systems and can adapt to changing learning opportunities. Responsibilities and rights are two sides of the development coin. Some persons will be more entrepreneurial and others more curious about the horticultural possibilities. No one person is likely to fit all the roles necessary to fulfill the task. The handmade paper company has given a good indication that a jack of all trades is less valuable than a manager who is efficient, effective and equitable in management with a responsible division of labor in the workforce.
3. Once a program is operating there is an impulse to want to know. That is the curiosity of research emerges. In the Malika group they have laid out some plots to see some of the conditions that most encourage Lokta growth and to test thresholds of exploitation. However, the need is to help them follow a realistic approach that is scientifically legitimate. At the present they have more good hopes but need to develop controls, exclosures, careful and consistent measures. The real test is whether the donors are truly interested in sharing

the costs of protecting hot spots of biodiversity so that they stay the course and make the necessary investment in this research endeavor that fully involves the members of the CFUG in doing their own research. ANSAB has an important, indeed, crucial role to play in this effort. However, research and development is seldom a free gift. Further, we have no real knowledge as to cultivation opportunities in the wild, nor what are the limits to use of the many plant materials that have potential or existing economic value. This knowledge can be aided by local people but ultimately will need considerable skilled scientific guidance.



4. In doing the walkabout in the Malika group's forest there was a great curiosity and excitement about possible uses of certain plants, their names, their habitat requirements and so forth. This readiness to learn was temporarily aided by the presence of Choudhary who is a good taxonomist and has the innate ability to talk science to local people in a way that shares rather than talks down to them. His ability makes the questing a truly shared one and it was evident in the response of the local folk. He and I felt the real need to draw upon this interest and to have a local groups create their own "barefoot botanists" The idea was to develop a simple herbarium

approach that gatherers and others could contribute to and share and help each other learn about the ecology of specific plants. There is much folk knowledge awaiting the translation into the scientific terms and thereby can gain legitimacy and continuity for future generations.

Daphne whose bark serves as pulp for paper.

There were several people on the walkabout who already were there at that turning point. The critical need will be to help people see that it is the ecosystem and not just the plant of most excitement and economic value. To pull apart the system to get at the 'gold' will be to kill the very source of wealth.

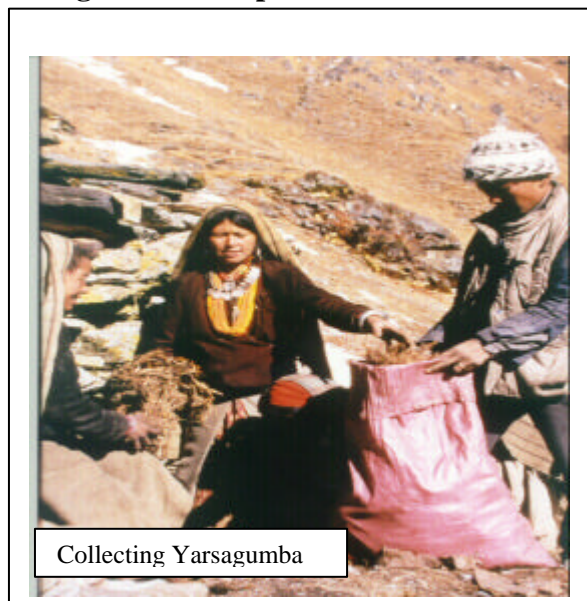
Annex 2. Dolpa Site Report

DOLPA EXPERIENCES

USAID Global Conservation Program
EWW/ANSAB
Enterprise-Based Biodiversity Conservation

Mid Term Evaluation

Background and Specific Context



Collecting Yarsagumba

Dolpa is a mountainous region largely consisting of bared slopes, snow and meadows. The climate is so arid (precipitation reported as 50cm or less annually) that most of south-facing slopes remain permanently treeless. Rocks and snow account for almost 60% of the land, alpine meadows about 30% and forest 8%. Located in the north-west part of Nepal, this is the largest district (978.89 square km) with the very sparse population (36,000), and little urbanization. Altitude ranges from 1,525m to 7,754m. Silver fir, blue pine, kharsu oak, deodar, walnut, and *Taxus* are the main tree species. The important NTFPs, largely from meadows are Yarsagumba (*Cordyceps sinensis*), Morels

(*Morchella spp*, locally called Guchi), Jatamansi (*Nardostachys gradiflora*), Sugandhwai (*Valeriana jatamansi*), Kutki (*Picrorhiza spp*), and Atis (*Aconitum spp*). Dolpa is different from much of the remaining country in having predominantly alpine meadow, forest being only a small component of natural vegetation. The total agricultural area is 8,376ha, only 10% of which is irrigated. Dolpa remains unconnected with road because of the difficult terrain, and accessibility is only by plane. This severely restricts infrastructural development.

Almost all houses are constructed out of the local resources, mostly timber and stones. Since there is no arrangement for sawing, timber consumption for house construction is very high. On an average, 3 to 5 new houses are constructed annually in each village, each requiring more than 100 young trees. The population consists of both Hindus and Buddhists and people are physically tough and hardworking. Familiarity with the medicinal and aromatic plants growing in meadows and their trade are the part of their tradition and a source of cash. These marginal people are amongst the poorest in the country. In recent years access through air flights has led to some tourist activities which has some impact on the economy. Air service has also enabled Dolpa to have good connection with Nepalgunj, a major township of the Terai (moist plains) belt.

Dolpa has been one of the strongholds of the Maoist movement for last 4-5 years. The process of empowering people through forest user groups has just started and control over natural resources by people is one of the current issues. The alpine meadows are main source of medicinal and aromatic plants and centers of sheep and cattle grazing. Migratory grazing,

once a part of tradition, is getting weakened with the development of forest user groups and their control over the resources.

Steps Taken for Evaluation

Before undertaking the trip to Dolpa, the members developed familiarity with the project through detailed discussion with most of the members of ANSAB at its Kathmandu office and by going through the concerned reports and publications. The team which undertook a trip to Dolpa (from 17th to 21st May) for evaluation consisted of following: Dr. S.P. Singh (a member of the evaluation committee), Surya Binayee (ANSAB), Tika R. Pantha (ANSAB), and Francisco Tolentino (NTFP enterprise advisor from one of the ANSAB's partner organizations). However, at Dolpa our focus was on discussion with local partners of ANSAB such as Sarbangin Bikas Samaj, HJSS-Dolpa, FUGs representatives, government officials such as District Forest Officer, District Development Committee (DDC) members, representatives of related NGOs, and government line departments, and ANSAB field staff in Dolpa (See Annex 1 for important individuals with whom we interacted). We took advantage of attending the district level stakeholders program sharing and coordination meeting coordinated by ANSAB field staff, Mr. Nawa R. Pantha. We collected information about land use, medicinal and aromatic plants, FUG formation, and others from concerned stakeholders. Visiting the area and making observation was very important for the understanding of constraints in which people work, processes involved in development activities, and likely future trends. This is one of the few areas on the earth where geo-ecological features dominate, and humans make only an insignificant component of the landscape.

Formation of User Groups and Operational Plan

ANSAB has been in Dolpa for only the last two years, yet it has contributed directly to the formation and restructuring of 7 CFUGs. Though the basic structure of CFUGs Constitution was the same for all CFUGs, provisions were made to have flexibility to take care of specialities of individual FUGs. For examples, certain CFUGs also included secondary users as their members in addition to primary users. Secondary users belonged to far off places, but had some traditional linkage to the given resource area. This kind of adjustment was required to take care of traditional uses. The response of people to CFUGs formation and people's empowerment was so positive that ANSAB has already established a consortium of three CFUGs at Majhaphal. The consortium has enabled the people to be more effective in managing resources, creation of marketing, bargaining capacity of collectors and local traders, and generating support for policy change at the regional scale.

The CFUG formation was highly participatory taking care of weaker and marginalized people. While making the constitution of CFUGs, an attempt was made to identify all interest groups including weaker sections and to give them adequate representation. The interest groups were also related to professional attributes such as blacksmiths and traditional collectors of certain NTFPs.

ANSAB has taken a keen interest in the issues of gender equity. Though the society is still male-dominated, the women participation in decision making is being gradually accepted. Sometimes, women have separate meetings and men value the decisions taken there in. In fact, the men appeared quite progressive with respect to women involvement in planning of natural resources. Some CFUG representatives suggested that while providing training proportion of men and women should be equal.

Compared to most of the areas in Nepal, the amount of vegetation available per person is still high in Dolpa. An estimate based on 6 CFUGs that ANSAB has undertaken indicates that about 17 ha of forest-meadows are available per household which is far greater than the national average. Given a relatively high amount of plant-based resource availability and acute poverty, conservation of forest and meadows is not an attractive issue. ANSAB took initiatives, however, to see that conservation remains an important component while making plans for resource utilization. For example, ANSAB provided training in silvicultural practices, and emphasize a need for linking the timing of thinning of trees with that of people's need. The introduction of rotational use of forest-meadow and the arrangement for forest watchmen to keep certain forest areas away from any disturbance to ensure ecosystem services such as retention of water and stream maintenance, and creation of regeneration plots were some of the major initiatives incorporated into the operation plans.

The people enthusiastically acknowledged the contribution of ANSAB in terms of providing their services in the areas of people's empowerment, institutional and capacity building, promoting cooperation, information generation, resource planning and implementation. A two-year period is too short to evaluate the impact of operational plans, but the fact that people have a lot of enthusiasm in the planning part, clearly indicates the usefulness of this exercise.

Biodiversity Conservation Initiatives and Monitoring

The idea of seeking union between conservation of biodiversity and its sustainable use for enterprise development was introduced to the area for the first time by ANSAB. The exercise of biodiversity monitoring has just been initiated and people have begun to guess and estimate the amount of resources available around their villages and how much of that is being harvested. We did not expect them to know more than this in two years time. People have become aware of the fact that harvest of natural resources cannot continue for long without regulation and without allowing the natural systems to recover subsequent to harvest. The active workers of CFUGs appear to be familiar with the damage that might be caused by uncontrolled burning. Earlier they used to burn grassland for getting succulent growth of some species but now there is restriction on it because they have begun to understand that burning damages jatamansi and other medicinal and aromatic plants.

Economic Sustainability

CFUGs have generated money by imposing membership fee, entry fee for collection, royalty including from their own members and have initiated using the money raised from activities such as raising nursery of medicinal plants, employing forest watchmen, undertaking training program with the help of ANSAB and other institutions. They use money also for record keeping and maintaining a register of biodiversity use and accounting and auditing of money. ANSAB has played a role in generating legal support with the help of various government agencies, access to information, marketing, and technological know how. To the local people shortage of these facilities in their remote area is the biggest limiting factor for making any progress, and ANSAB has filled this gap. It will take a longer period in this remote area than other areas to develop self sufficiency, especially in the areas of marketing, technological inputs and training. The price of NTFPs due to the increased bargaining capacity has raised the collectors hope. The group looked confident and assured.



Oil.

An NFTP

Product

Policy Outcome and Implications

Formation of FUG and concomitant hand over of government forest (including meadows) to the people is one of the major policy changes in the history of Nepal forestry level. The District forest department has already set a high target for transfer of forests and meadows to local people. ANSAB has been very successful in seeking cooperation from the state forest department and establishing partnership with the local NGOs to achieve its objectives. In this respect, the attitude of forest department has also been positive, far more than of its counterpart in India. The process of handing over forest land to communities has become rapid since the intervention of ANSAB and it has led to the inclusion of NTFPs as a major money generating activities at the people's level. People have now confidence in their ability to develop enterprises based on NTFPs. During our stay, many active workers came with several ideas and possibilities of establishing enterprises based on one or other aromatic and medicinal plants. It has potential to lead to major social change.

The internal training program of ANSAB for its staff seems to be quite effective. Nawa R. Pantha, the field staff in Dolpa, has been very successful in dealing with the social constraints and stresses, despite the ongoing insurgency.

Issues Which May Warrant More Actions

- Concept and importance of biological monitoring need more explaining
- Discussing the link between conservation and enterprise development at the FUG level is probably too early or pre-mature at this point but this has to be introduced gradually.
- While the operation plan was developed in a participatory manner and efforts were done to explain it to members, there maybe a need to share it in the community through a village-level training program.
- Grazing is a major issue and this needs to be looked into in more detail to develop

- appropriate policies.
- Women's participation in the project has been active but this may require more efforts to sustain.
- ANSAB has been quite successful in developing a partnership with local NGOs. There is a need to strengthen this kind of partnership to have a more effective role.

Concluding Remarks

The achievements of ANSAB are extraordinary given the several constraints of the region, both physical and social. It is possible that in part the high level of its success was due to their experiences with NTFPs based enterprises development in other similar areas. At present, the people of Dolpa seem to be charged with the idea of NTFPs based enterprises and are confident about their ability to generate money through cooperation and institution building. The hopes have been aroused largely because of ANSAB intervention. However, the Yarsagumba collection and the amount of money one can generate through it has disproportionately magnified the possibilities of economic growth through NTFPs. While we were there some 20,000 collectors had already gathered for collecting Yarsagumba which at present fetches NC 20,000 to 100,000 per collector. There was a concern that people did not know what to do with the money generated through this miniature 'gold rush'. Fortunately, this is not a round the year activity, and ANSAB should continue to follow its course unaffected by Yarsagumba collection and its consequences. It has already established itself in Dolpa and has made a remarkable beginning.

List of Important Persons with whom we had long and separate discussions

1. Mr. Nava Raj Panta, Field Staff, ANSAB
2. Mr. Om Bahadur Budha, Chairman, Dolpa Sarbangin Bikas Samaj
3. Mr. Chandra Bahadur Rokaya, Member, FECOFUN-Dolpa
4. Mr. Hansha B. Shahi, Chairman, FECOFUN-Dolpa
5. Mr. Kanna Bahadur Karki, Chairman, Meli CFUG, Majhaphal
6. Mr. Chanda Bahadur Budha, Member, Meli CFUG, Majhaphal
7. Mr. Laxmi Chandra Karki, Chairman, Lolaghat CFUG, Majhaphal
8. Mr. Rajendra Rokaya, Member, Lolaghat CFUG, Majhaphal
9. Mr. Harichandra Rokaya, Member, Lolaghat CFUG, Majhaphal
10. Mr. Khum Bahadur Karki, Member, Lolaghat CFUG, Ex Chairman, Majhaphal
11. Mr. Nar Bahadur Budha, Member, Himali Jadibuti Sarokar Samug-Dolpa and Pokepani FUG, Ex Vice-Chairman, Majhaphal
12. Mr. Karan Prasad Neupane, Member Manma CFUG Committee
13. Mr. Yogendra Shahi, Chairman, Himali Jadibuti Sarokar Samug-Dolpa
14. Mr. Shiva Sharma, District Forest Officer, District Forest Office-Dolpa

Annex 3. Jumla Site Report

USAID Global Conservation Program EWW/ANSAB

Enterprise-Based Biodiversity Conservation Jumla (12-19 May, 2003)

General Background

Jumla is one of the districts of the Karnali zone. It is accessible only through air plane. The total area of the district is a quarter of a million hectares, out of which about 10 percent is under agriculture. About 23 percent of the land area is under rocks and snow. The remaining two third of the area is under forests and meadows. So far, 17,003 hectares of forests have been handed over to 95 CFUGs. Five more forests are in the process of being handed over. ANSAB has assisted the local communities and District Forest Office to prepare and update 12 operational plans covering 9,870 hectares. ANSAB is working in six out of thirty Village Development Committees, based on the abundance of NTFPs in the forests and meadows.

The population of Jumla is about 70,000 organized into 12,147 households. This indicates that about two thirds of the households have become members of CFUGs, but they are managing about ten percent of forests and meadows since major parts of the forests and meadows are further away from settlements. Jumla ranks 69th across 75 districts in terms of human development index in Nepal (NESAC, 1998).

It was roughly found that about Rs. 70 millions worth of NTFPs is annually transacted at collectors' level. *Jatamansi* is the dominant NTFP species traded in Jumla as it generates more than 50% of the total value. *Yarsagumba* and *Guchi chyau (Morel)* are the two other important NTFP species followed by *silajeet*, *sugandhawal*, *atish* and others. ANSAB's community based enterprise approach and dissemination of NTFPs market information have played a crucial role to retain that big amount at collector's level. In recognizing NTFPs substantial role in income generation, Jumla District Development Committee (DDC) has also placed NTFPs as one of the most important programs and resources in its recently developed periodic plan.

Except *Yarsagumba*, other NTFPs are ultimately exported to India. *Yarsagumba* is highly valuable (about Rs. 100 thousands per kilogram at Nepal-Tibet border) but is illegally



Yarsagumba ready to be sold

exported mainly to Tibet because traders consider its royalty rate to be too high (Rs.20 thousands per kilogram). Moreover, the forest regulations stipulate that only the processed *yarsagumba* can be exported. However, the term “processing” in this regard is not clear at all.

Highlights of the Field Visit

The field visit was undertaken from May 12 to 19, 2003. This report describes the past and ongoing efforts made by ANSAB in Jumla district. It consists of five sections. The first three sections deal with the direct activity pursued by ANSAB, and the fourth section describes some of the characteristics of a CFUG and its forests without intervention by ANSAB. The last section suggests some recommendation.

Meeting with Rural Development Group Program (RDGP)/ANSAB Field Staff

A meeting was organized on May 13, the first day of Jumla visit, with the Rural Development Group Program (RDGP) and ANSAB field staff. Present at the meeting were Dr. Keshav Kanel (Forest Economist), Mr. Mohan Dhungel (RD-Mid-Western Region), Mahendra Chaudhary (DFO-Jumla), Indu Bikal Sapkota (ANSAB), Mr. Sushil Gyawali (ANSAB), RDGP personnel and ANSAB field staff. The objective of this meeting was to be aware of on-going project related activities in the district. The following points were noted from the meeting:

- Most of the project activities are on track, and are implemented with effective participation of relevant stakeholders and beneficiaries.
- Initiation has already begun to carry out detailed inventory and resources assessment for enterprise oriented community forest management. Detailed forest inventory of two community forests has been completed, and inventory assessment is going on in the remaining nineteen community forests.
- A number of trainings and workshops were carried out in relation to community forestry, NTFPs management and enterprises development with the involvement of appropriate resource persons at district and CFUG level. However, enterprise related training and workshops were suffered, to some extent, with the unavailability of appropriate resource persons at local level. This implies that ANSAB Headquarters should provide the relevant resource persons in the field.
- Biological monitoring of enterprise oriented community forests is being initiated at CFUG level. Relevant data has already been collected from one CFUG complying with the designed formats and methods. Data collection for the remaining ten CFUGs is going on in the field. The format is too detailed and needs simplification.
- Regular posting of NTFP market information at strategic locations both at the district and CFUGs level has substantially improved the bargaining capacity of local collectors and traders. This has also helped in improving the wellbeing of local people.

Dhatelo Oil Enterprise at Urthu

On the (14th) afternoon of the second day, the team visited Dhatelo oil enterprise at Urthu, and also interacted with the community members operating the enterprise.

- The enterprise was initiated in the fiscal year 1999/2000 by a group of 18 households of a community comprising of 78 households. The group of 18 members encountered difficulties running the enterprise. Thus, the operational approach was later modified to include all the community members with the initiation of and support from ANSAB in the fiscal year 2001/2002. Since then, the Urthu CFUG comprising of these 78 households runs it.
- The community has recently developed a business plan of operating the enterprise in collaboration with and technical support from ANSAB.
- According to the Urthu CFUG members, the enterprise has provided benefits not only to them, but also to other significant number of adjoining households of the adjoining villages.
- According to their last year record, the enterprise expelled about 1440 liters of *dhatelo* seeds to produce 324 liters of oil.
- The management charges Rs. 25 per liter of oil expelled, out of which 30% is taken by enterprise management and the remaining 70% is deposited in CFUG fund. The CFUG fund is used to commission various community development activities like drinking water, school and so on. They also recently purchased a crushing mill from the fund.
- Since *dhatelo* used to be considered as a weed before the enterprise, it has now become a very popular species among the people in those areas. It gets high priority among local people in conservation; no matter whether it is on farm, marginal land or in the forests. Since the species is commonly found in the degraded sites and marginal areas, conservation of this species acts as a buffer in minimizing further degradation of core areas of both farm and forest land. This has demonstrated that enterprise linked biodiversity conservation approach is viable and sustainable in terms of socio-economic and ecological perspectives.
- The community forest has an area of 362 hectare. ANSAB recently helped in undertaking a detailed inventory of the forest. The *dhatelo* was also reported to be found profusely in the community forest. The CFUG has a 17-member executive committee and the CFUG also has 5 members monitoring sub committee. This sub-committee is supposed to supervise and monitor the overall forest management and enterprise operation activities and also to impose penalties to the offenders. According to the sub-committee members, they have successfully minimized forest encroachment. They have also helped to increase compliance of management rules by CFUG members.
- Moreover, ANSAB in coordination with RDGP has been launching an adult literacy program entitled “conservation education” at Urthu. According to the CFUG members, it has already raised conservation awareness among rural women and poor. A resource person is locally hired to carry out this program. So far, about 25 men and women are involved in this program.

Morel Experiment

On the third day (15th of May 2003), the team visited a morel experiment carried out by an innovative farmer Mr. Ram Krishna Budathapa in collaboration with RDGP/ANSAB. This is a local initiative, and a preliminary test of domestication potentiality of morel.

- Although this is not a scientific mode of experimentation, it may produce some tentative results in coming years, which will eventually be rigorously tested further.
- Basically, two practices are being tested regarding morel cultivation: *ex-situ* type and *in-situ* type.
- 3 plots were established in each type.
- The team felt that such type of action research on NTFPs cultivation should be carried out for other species as well in a more scientific fashion.

Morel mushrooms are a valuable forest product.



Karnali Jaributi Processing Pvt. Ltd.

The team also visited the above processing unit owned by Mr. Mani Shankar Devkota. It was established in 1995. Because of scarcity of operating capital, it has not been running for 2 years.

- Jatamansi is processed to produce essential oil.
- ANSAB assisted in obtaining Rs. 5 lakh as seed money from Humla Oil Pvt. Ltd to establish the processing (distillation) plant. The seed money was paid back in terms of oil after one year of operation.
- According to the owner, the plant can process 400 quintal of *jatamansi* a year. However, the plant processed a maximum of 200 quintal of *jatamansi* in a year. He is now thinking of running it again from September 2003.
- According to him, availability of raw materials is not a problem. The problem lies in selling the product in the market. Because of price fluctuation of the oil in the past, he had to wait up to 2 years to sell his oil. ANSAB has a role to play in assisting him to find out the market.
- He also raised the issues of multiple taxation on trading of oil and its by-product *mark*. The District Development Committee (DDC) taxes Rs. 500 per liter of oil sold. Similarly, a variety of other unofficial taxes have to be paid en route before the product is exported to India.
- The transportation cost is a significant component of the total marketing cost. For example, the airfare from Jumla to Nepalgunj is Rs. 15 per liter of oil, which is very high.

Interaction with District Level Stakeholders

On the last day of the program, an interaction meeting was arranged with each of the major stakeholders at the district such as traders of NTFPs, FECOFUN, DDC, ADB, Cottage and Small Industries Development Committee (CSIDC), DFO, DSCO and ADO personnel. The key points identified in relation to community forest management, NTFPs marketing and enterprise development during the interaction and discussion are given below.

- Most of the stakeholders appreciated RDGP/ANSAB working in Jumla with innovative approach of resources management. They said that they are associated with GCP activities in different ways and they are taking advantage of the services provided by ANSAB and RDGP staff.
- Agriculture Development Bank (ADB) has also annually allocated about Rs. 5 million to offer loans to NTFPs collectors and traders at subsidized interest rate. The dissemination of NTFPs market information helps ADB to determine the size of loan on NTFPs trade and its “pay-back period”.
- Networking among traders has begun and it is helping the traders to voice against constraints and challenges related to NTFPs trade policy. For example, there is a strong and consistent voice and suggestion to have the royalty collection system be based on market factors. Similarly, they are collectively asking to remove multiple taxation in NTFPs trade.
- As there is no provision of registration of a community-based forest enterprise at district level (CSIDC), a CFUG intending to operate or currently operating an enterprise lacks legal recognition. The lack of this provision discourages community mobilization of natural resources and their value addition. The provision of registration of community based forest enterprise at district level will substantially help in the development and expansion of such enterprises at the local level. This will help in generating income, providing employment opportunities and conserving biodiversity.
- The majority of stakeholders expressed that the ANSAB’s approach of local partnership has promoted local capacity building, long-term sustainability, local level coordination, and smooth implementation of project activities particularly in the recent security sensitive situation in the project area.

Interaction with Chimara Community Forest User Group members

On the second day (May 14, 2003), the team interacted with Chimara community on the way to Dhatelo Enterprise located in Urthu. The salient features of the interaction are the following:

- The forest with an area of 113.46 hectare was handed over to the Chimara community in the fiscal year 1998/99. The CFUG consists of 225 households. A committee of 15 members of which eight are women represents the group. Among them, 7 members are from the occupational caste. It indicates that poor and disadvantaged group members have a significant representation in the decision making process of community forest management. However, the importance of their voice in the decision making process is not known.
- The group has established good institutional practices in managing community forests as verified from their records and minutes. They are managing and mobilizing CFUG

funds in various community development activities like drinking water, schools and so on.

- They have accorded high priority to the management of various NTFPs in the community forest. Although the operational plan does not include the details of NTFP management, the CFUG has its own NTFP nursery for plantation in both private and community forests. They have collected and sold NTFPs mainly from this community forest. This has helped them to supplement their income. They seem very interested to scale up and cultivate cash generating NTFPs in their community forest and on their farm. However, they need technical support in carrying out these activities.

Recommendation

The assessment on economic sustainability illustrates that the economic gains made by the local communities through better forest management, enterprise development and enhanced bargaining power (through better market information) of NTFP collectors is significant. However, the distribution of this aggregate gain among subsets of economic and social groups has yet to be assessed. We recommend that ANSAB develop a simple tracking system of benefit flow (at a dis-aggregated level) to different socio-economic group members due to ANSAB intervention. This will be useful not only to further assess the impact of the project to local people but will also be of wider relevance and importance to policy makers in Nepal since Nepal's main policy agenda is to reduce poverty.

Individuals met and interacted with:

1. Mr. Mahendra Chaudhary, District Forest Officer, Jumla
2. Mr. Dev Prasad Chaulagai, Agriculture Development Officer, Jumla
3. Mr. Damodar Upadhaya, Manager-Agriculture Development Bank, Jumla
4. Mr. Bisoo Prem Dhakal, Chief, Cottage and Small Industries Development Committee, Jumla
5. Mr. Hari Prasad Kafle, NTFPs Trader, Jumla
6. Mr. Padam Bahadur Rokaya, NTFPs Trader, Jumla
7. Mr. Dan Bahadur Pasai, NTFPs Trader, Jumla
8. Mr. Nirbu Lama, NTFPs Trader, Jumla
9. Mr. Gorakha Bahadur Pachhai, NTFPs Trader, Jumla
10. Mrs. Kamal Kumari dangi, NTFPs Trader, Jumla
11. Mr. Mani Shankar Devkota, Owner- Karnali Jaributi Processing Pvt.Ltd. Jumla
12. Mr. Ram Krishna Budthapa, Innovative Farmer, Jumla
13. Community Forest User Group members, Urthu
14. Community Forest User Group members, Chimara
15. FECOFUN-district branch Jumla
16. Mr. Mohan Dhungel, Regional Director, Surkhet (met at Jumla)
17. Chief District Officer, Jumla

18. Local Development Officer, DDC Jumla
19. Planning Officer, DDC Jumla
20. District Development Advisor, DDC (LGSTP) Jumla
21. Rural Development Group Program (all staff members), Jumla

Annex 4. Evaluation Investigation Questions from Evaluation TOR

Indicative Checklist for Each Objective

Questions which could be raised or parameters that can be considered in the evaluation are indicated within parentheses. The evaluators may find them of some use.

Formation of Forest User Groups and Preparation of Operational Plans

- How thorough is the process of CFUG formation (see standard steps and processes for FUG formation.)
- Completeness and relevance of CFUG constitution; scope for flexibility within it to take care of variation across CFUGs. (In other words, how adaptive these constitutions are.)
- How participatory a CFUG is with respect to representation of weaker sections and women? (Are they adequately represented in various CFUG committees? Do they really participate in decision making?)
- Completeness of community forest operational plan (OP) developed and its relevance to community (How clearly the OPs are defined? To what extent ecological, social and economic components are considered and integrated? What measures are taken to make OP relevant to community? This may include questions related to identification of interest groups, their needs, concerns and capacity.)
- Understanding of the community about OP and their participation in its development (Do the community members participate in various stages of OP preparation? If yes, who are the main participants? How many users understand the provisions included in OP?)
- Inclusion of marginalized people's interests and concerns in OP (The entire community of the project area belongs to marginalized category, here the term refers to women, "dalits", and other socially deprived people.)
- Utility of the CFUG process as perceived by communities (Could be investigated by raising general questions relating to empowerment, cooperation, information generation and other perceived benefits.)
- Community's capability and performance in implementing OP provisions and regulations (Could be measured in terms of improvement in capacity and participation, regulation enforcement mechanism for ensuring sustainable use of resources.)
- Need felt by community to adjust and adapt OP (May indicate the interest and ability of community in management and could be informal as well.)
- Trust being cultivated between government and FUGs through the project (Indicators could be the change in role of DoF staff as reflected in their programs and inputs such as providing seedlings, information, training, ...)
- Initiation in collaboration between CFUGs and District Forest Office as well as other related stakeholders including FECOFUN, District Cottage and Small Industry Development Board, other projects, DDC, VDC. (Collaboration between the partners is still in the beginning stage; it could be indicated by meetings or workshops organized by DoF and efforts to promote participation of CFUGs.)

- Contribution to more effective forest and community governance (Could be assessed by raising questions relating to progress in institution building, decision making process, democratic practices.)
- Changes in the participation of marginalized section in decision making and benefits sharing (For example, whether the people of weaker sections are represented at organizational level and are able to contribute in decision making)

Biodiversity conservation initiative and monitoring

- Was the concept of conservation of biodiversity and its sustainable use for an enterprise development introduced for the first time through the present intervention?
- What are the actual strategies and steps, activities, tools used to explain monitoring? (How are people made capable of understanding and implementing monitoring?)
- Is there a monitoring body within a CFUG responsible for enforcing harvest regulation?
- In how many of the enterprise-oriented CFUGs biological monitoring is taken up? (Biological monitoring could be introduced only to enterprise-oriented CFUGs.)
- Recognition, inclusion and application of biological monitoring by CFUGs. (Full biological monitoring package was targeted to only enterprise-oriented CFUGs.)
- At what stage of the CFUG process was training in biological monitoring initiated – at the time of OP preparation or a later stage?
- To what extent is biological monitoring integrated in the overall project plan – Do the CFUGs and those directly involved in enterprise management understand that the main goal of the enterprise is conservation of biodiversity?
- Do communities understand the need and utility of biological monitoring to achieve sustainable use of resources?
- Do community members actively participate in biological monitoring activities? (Do they have systems and practices of recording, maintaining and using biological monitoring data? The indicators may include maintaining biodiversity records, discussing biodiversity related issues in meetings, taking actions, recording the presence and loss of species, if any, are able to use information in forest management; records of major disturbances such as fire, encroachment, over harvesting.)
- Steps taken to identify and address threats to biodiversity and impact on resource base (Do people recognize that frequent burning, over-harvesting, and consequent damage to regeneration of species are detrimental to the resource base? If yes, have they taken any steps in this direction?)

Economic Sustainability of FUGs and CBFEs

- Have CFUG members made any investments and, if yes, in what form, where, and how much?
- What are the perceived benefits at community level of FUG and CBF E activities in terms of: institutional development and empowerment; access to and control over resources; and income.
- How the above benefits vary in relation to gender and socially deprived groups.
- Document the range of revenue streams and costs/investments made by FUG

members and group

- Present condition of CBFEs and projected long-term prospects (Performance could be measured in terms of economic viability, market potential, sustainable resource base, technology, social acceptability ...)
- Is there any auditing system in place?
- What outside linkages/factors are key to CBFE success? (Such as legal support, access to technology and its improvement, access to information, market ...)
- Changes in livelihood security of marginal sections of the communities (Could be measured in terms of employment, migration, income assurance ...)

Policy Outcomes and Implications

- Are there any efforts to influence the policy making process, policy provisions and implementation? (Could include making presentations in meetings, seminars, workshops, interaction with government officials around the policy agenda, supporting forums and networks, writing reports, policy recommendations, presenting and advocating the idea ...)
- What role the project has played in promoting NTFPs and common property resources as a base for providing livelihood security on a sustainable basis? (Could be indicated by the recognition of NTFPs through the organization in sustainable community development.)
- What are the potential policy implications of the project? (Could be assessed by analyzing the efforts of expanding the roles and rights of FUGs and integrating it with enterprise development and biodiversity conservation.)
- Long term implications of project with respect of sustainable use of biodiversity and conservation. (Do concerned stakeholders including government begin to realize that biodiversity conservation and enterprise development can go together? Has the government taken some initiatives to extend this idea as a potent strategy of conservation?)
- What are policy outcomes at various levels?