MAINSTREAMING COMMUNITY BASED NATURAL RESOURCE MANAGEMENT PROJECT

(IDRC GRANT: 102569)








FINAL TECHNICAL REPORT

30 JUNE, 2008

RNR Research Centre, Bajothang
Council for RNR Research of Bhutan
Ministry of Agriculture
ROYAL Government of Bhutan
Bhutan

Project Name:

Mainstreaming Community Based Natural Resource management

IDRC Grant Number: 102569

Country: Bhutan

Research Institution:

Council for Renewable Natural Resource Research of Bhutan (CORRB)

Research Team:

Project Director: Dr. Tashi Samdup (Director of CoRRB)
Project Coordinator: Sangay Duba (Program Director, RNR RC Bajo)

Report submission: 30th of June 2008

Table of Contents

List of Acronyms

AR	Action Research
ANSAB	Asia Network for Sustainable Agriculture and Bio-resources
AMEPP	Agriculture Market Enterprise Promotion Program
ADzFO	Assistant Dzongkhag Forest Officer
CBNRM	Community Based Natural Resource Management
CNR	College of Natural Resource
CFMG	Community Forest Management Group
CF	Community Forest
CPR	Common Pool Resources
DoA	Department of Agriculture
DoF	Department of Forest
DoL	Department of Livestock
DZ	Dzongkhag (District)
DzFO	Dzongkhag Forest Officer
DYT	Dzongkhag Yargey Tshogdu (District Development Committee)
FRDD	Forest Resources Development Division
FYM	Farm Yard Manure
PFMP	Participatory Forest Management Project
SFD	Social Forestry Division
NWFP	Non Wood Forest Products
NRM	Natural Resources Management
SHGS	Self Help Groups
WUAs	Water User's Association
RNR	Renewable Natural Resources
FNCR	Forest and Nature Conservation Rules
LG	Lemon grass
PM &E	Participatory Monitoring and Evaluation
PAR	Participatory Action Research
GYT	Geog Yargey Tshogdey (Local Development Committee)
NIP	National Irrigation Policy
NFFDP	National Feed and Fodder Development Program
IDRC	International Development Research Centre
SNV	Netherlands Development Organizations
BWS	Bumdeling Wildlife Sanctuary
NR	Natural Resources
MEA	Ministry of Economic Affairs
RECOFTC	Regional Community Forestry Training Centre

SYNTHESIS

The current phase of the CBNRM Project (2005-2008) is coming to an end at a time of rapidly changing political events in Bhutan. Democratization and on-going decentralization and devolution are themes that will positively impact on many aspects of natural resource management in the years ahead. The results achieved through this Project, have contributed to appropriate policy changes on one hand and created tools (guidelines) to enable policy implementation on the other hand.

As stated in the Project document, at the time when the project was formulated, the Action Plan for CBNRM, included in the *CBNRM Framework*, placed emphasis on 5 inter-related elements:

- Clarifying the co-ordination of CBNRM within the MoA, including institutional support, operational planning, and finance for CBNRM mobilisation.
- Identifying, planning, and initiating a series of CBNRM pilot sites, to develop and test methodologies for community mobilization and resource management.
- Establishing a network among practitioners, professionals, and other stakeholders involved in CBNRM, especially those involved in the pilot sites.
- Strengthening policy and programme integration.
- Building capacity for CBNRM through training and education.

These issues were clearly reflected in the 4 main components and objectives of the project, namely Action Research, Networking/sharing, Policy/Institutions and Human Resource Development, covering four sectors: People Trees & Forests, Watershed, Non Wood Forest Products, and Pasture management.

Within the **Action Research** component, the project has managed to establish 10 pilot sites in remote and poorest areas of the country, where the approaches and methodologies for community based management of different commodities (covering the four sectors) have been developed and tested. Besides watershed management and pasture development plans (which require different legal procedure) all other management plans and bylaws have been approved by the Department of Forest and the management rights and responsibilities have been handed over to the communities. All activities are properly documented in annual reports, specific case studies, guidelines, posters and the management plans themselves.

In terms of **Networking and Sharing**, the project has managed to achieve close and very successful collaboration with several national (SFD/PFMP, FRDD, AMEPP, RNR Research Centers, CNR, Line Departments and Dzongkhag Offices, etc.) and regional (RECOFTC, SNV, ANSAB) organizations. Extensive cross visits between communities and extension workers of all pilot sites and review/planning workshops to share experiences were regularly conducted every year. One of the most significant achievements is the series of case studies publishes and widely distributed, and currently included in the curriculum of the Ugyen Wangchuk Environment and Forestry Institute. Experiences from each pilot site have also been summarised and published in guidelines and on large posters, distributed to the Research Centres, the College of Natural Resources and displayed at national workshops (e.g. RNR Conferences). All documentation generated by the project has been uploaded on the website www.moa.gov.bt (see publication section, downloads of CBNRM).

As mentioned above, the project also attained significant contribution for **Policy development**. The approach defined for participatory watershed management planning, is going to be integrated in the national watershed strategy for implementation at the local level (District and Geog level). Experiences for the community based pasture management, have been incorporated in the new Land Act 2007, which now provides for the leasing of reverted *tsamdro* to communities owning livestock (Article 240). Within the forestry sector, Community Forestry is currently in full swing, with more than 70 groups formed. In this regard, the guidelines for NWFP inventory and management plan preparation developed by the project have been adopted and published by FRDD to support extension workers for the

group formation process and ensure the sustainable management of the resources. The published guidelines are uploaded on the website www.moa.gov.bt (see publication section, downloads of Forestry).

Within the component of **Human Resource Development**, profound impact has been achieved at all levels, from the communities, the extension officers up to the head of the departments. This has been accomplished through targeted study tours (in-country and abroad) and several training (also in-country and abroad). One of the efficient and effective ways to improve the capacity and confidence of communities and extension workers, became "learning by doing".

Overall the project has been very successful in "demystifying" CBNRM and proving its potential for poverty reduction and sustainable management of natural resources. Besides all these achievements, new challenges lie ahead, as highlighted by both the evaluation that took place towards the end of this phase and a wide consultation process conducted with all relevant stakeholders. Since the current phase was largely focused on the forestry sector, the need has been brought up to further explore CBNRM issues within other sectors like agriculture and livestock. Following all the recommendations gathered, a proposal for a new phase of the project is currently under development with the expectation that the very fruitful collaboration between CoRRB (MoA)/IDRC/SNV will carry on.

RESEARCH PROBLEM

The people of Bhutan have been sustained throughout their history by livelihood systems based on using natural resources. Today, the large majority of Bhutanese continue to live in rural communities, relying on access to natural resources. Despite private agriculture land (7.8% of the country area) and very few private tree plantations, Bhutan's natural resources are recognised as a common natural heritage legally maintained as public domain.

Limited state capacity to effectively monitor and manage these natural resources, combined with inappropriate local management regimes, created an open-access for many resources whereby "*everybody's property is nobody's concern*". This resulted in excessive resource use, declining resource productivity, increasing competition and conflicts among users, and environmental degradation.

Subsequently, it became clear that local participation in natural resource management is essential to ensure its sustainability. However, efforts to engage and empower local communities in natural resources management have remained small-scale, sector specific rather than holistic, and constrained by limitations of knowledge and practical methods, limited institutional support and policy implementation. At the time when this project was designed, the Royal Government of Bhutan (RGoB) was striving towards a new approach to natural resource management that is based on the principles of decentralization and devolution of power to the communities.

For that purpose, the MoA engaged in a progressive set of activities and defined a new **CBNRM Framework and Action Plan**, emphasising on 5 inter-related elements:

- Clarifying the co-ordination of CBNRM within the MoA, including institutional support, operational planning, and finance for CBNRM mobilisation.
- Identifying, planning, and initiating a series of CBNRM pilot sites, to develop and test methodologies for community mobilization and resource management.

- Establishing a network among practitioners, professionals, and other stakeholders involved in CBNRM, especially those involved in the pilot sites.
- Strengthening policy and programme integration.
- Building capacity for CBNRM through training and education.

The current project was designed to develop approaches and methodologies that would help addressed these issues and further mainstream CBNRM. The challenges in community based natural resource management were identified in four broader sectors, namely "Forest, Trees and People", "Non Wood Forest Products", "Watershed" and "Pasture". Each of these sectors had its own hurdles, formulated in specific research questions stated in the project document as follows:

1. People, Trees and Forests

Priority Issues

1. The formalities for getting approval for community forests are lengthy.
2. There are about 90% of the forests that do not fall under any of the official "gazetted" categories. Although there are no management plans in place, they are used quite intensively by local people.

Research Questions

1. How can communities, DoF and other stakeholders improve management practices for these forest areas?
2. What institutional mechanisms can facilitate co-management of forests in the context of decentralization?

2. Non Wood Forests Products

Priority Issues

1. Lack of adequate information on ecology, habitat and management aspects of high priority NTFPs.
2. Weak participation in management by communities, lack of ownership and rights unclear
3. Harvesting techniques and post harvest care at the community level is inadequate
4. Lack of legal back up for traditional boundaries.

Research Questions

1. How can communities and other stakeholders use traditional and scientific knowledge to manage NTFPs sustainably *in situ*. What participatory monitoring and evaluation mechanisms will support this?
2. What rights and ownership and benefit sharing arrangements are needed to engage communities actively in the management of NTFP's?
3. How can proper harvesting techniques and post harvest care be used? What is hindering this at the currently and how can community groups or individuals work together to overcome these problems?
4. What legal back up can be provided to the community boundaries to make the community manage the NR in their communal territory?

3. Integrated Watershed Management

Priority Issues

1. Degradation of resources like grazing land, forest, land and water are happening at much faster rate than in the past. Each year Bhutan is experiencing increasing number of floods and land slips damaging infrastructures, cultivable land, crops and even lives of the people. Most of the watersheds in the east are at the critical stage.
2. Inequity and conflicts over natural resources happens due the physical access, traditional rights, undefined boundaries, increasing demand on the resources and lack of institutional setup to share the resources based on equity.
3. Conflicting relationship between upstream and down stream resource users occurs due to the varying degree of access to the resources..
4. Lack of watershed management plans for major river basins
5. Poor linkages among different agencies working in the watershed management.

Research questions

1. What is the status and causes of resource degradation grazing land, forest, land & water and its impacts on the livelihood?
2. What are the strategies to overcome these problems?
3. What are the effective mechanisms to address the inequity and conflicts over resources?
4. How to strengthen community participation in WS management at all stages?

4. Livestock and Grazing Areas Management

Priority Issues

1. Lack of management rights in Tsamdro
2. Serious overgrazing in communal tsamdro due to an unequal distribution of tsamdro and other factors
3. Excessive grazing pressure in upper temperate tsamdro

Research Questions

1. What are the existing management practices of tsamdro and how do we improve and enhance the productivity of tsamdro in a sustainable manner?
2. How access and equity can be improved with changes result in an improved and more sustainable and equitable system?
3. What herd and tsamdro management system, including both yak and cattle herders, will help reduce or solve this grazing pressure problem in upper temperate tsamdro without transferring it to other grasslands or areas.

RESEARCH FINDINGS

1. People, Trees and Forests

The activities in this sector were implemented in only one pilot site, namely Udzurong. The expectation at the beginning of the project was that other modalities than community forestry could be tested for the integrated forest management. However, through the implementation of activities, it became clear that there was no need for a different approach and the legal framework for CF is the most appropriate. Nevertheless, the project contributed in developing methodologies for resource assessment, not only focused on timber, as commonly practiced, but also including all other resources as prioritized by community, such as fire wood, fencing poles, flag posts, fodder, etc.

In terms of co-management of forests beyond the boundaries of CF, it is felt that the best way would be to establish a geog level natural resource management committee, with both government and community representatives (members of the CFMG committees of all groups formed in the geog). This NRM committee would become the main decision making body for forest related issues in the geog.

Specifically related to the pilot site in Udzurong, one of the main commodities for income generation for the community is lemon grass (*Cymbopogon Flexous*). The challenge for the production of lemon grass oil doesn't rest so much in the availability of grass itself, but much more in the supply of fire wood and scarcity of water, both required for the distillation process. Fire wood scarcity has been addressed in the forest management plan, through provisions for pruning of pine trees and the identification of areas for the plantation of fire wood species. Water shortage has been addressed through the construction of 3 water reservoirs that should help to store water in the vicinity of the distillation units. Since the reservoirs have recently been completed, it's difficult at this stage to predict how far these can contribute to solve the problem. This will have to be assessed at a later stage to determine whether the investment for the construction of tanks is justifiable.

Additional challenge confronting the lemon grass growing areas, not limited only to Udzurong, is the incidence of forest fire on an annual basis which has concerned the government. Apparently there is a conflict between the local communities and the forest Department which has the responsibility to protect forest resources from fire hazards. It is blamed that lemon grass harvesters deliberately set fire to have better grass regeneration which is denied by farmers. But fire occurs every year destroying hectares of natural Chirpine forest. The issue is nationally important and therefore there is a need to find solutions that will rest the existing conflict between the institutions responsible for protection of resources and the communities.

2. Non Wood Forests Products

Issues related to the management of NWFP have been addressed in 7 pilot sites, each one related to a specific product (bamboo, yula, cane, lemon grass, chirata, pipla, mashutake). Similarly to "Forest, Trees and People" the conclusion made is, that there is no need for a separate legal framework for the management of NWFP. These grow in the forest, therefore the rights and responsibilities for their management can be handed over to the community, following the Community Forestry procedures and requirements.

Nevertheless, limitations were given by the lack of methodologies for the inventory of the resources (one of the requisites of CF) and the knowledge on how to manage them in a sustainable way. For this purpose the project helped to define and test very simple and participatory methodologies for resource assessment. These methodologies and the management prescriptions have been adopted by the Forest Resource Development Division (FRDD) within the Department of Forests and translated into guidelines separately for each product, widely distributed to extension staff in the field.

The management prescriptions are mostly based on the traditional knowledge of the farmers, who have been managing the resources often over several generations. One might argue, why the resources were declining if farmers claim to have the knowledge for their sustainable management. This can be explained by the fact that before forming the group, there were no mechanisms to reinforce the management restrictions. Therefore, farmers had no incentive in applying the rules and the strong competition for limited resources rather forced them to break these rules. During the group formation process, the community not only agrees on management prescriptions, but also defines a series of penalties they will apply to anyone not respecting each of these prescriptions. Once the management plan has been legally approved by the Department of Forests, they strongly monitor each other and make sure that the management prescriptions are properly followed. In addition, many groups have even agreed that the collection can only be done jointly in small groups, so that there will be less risk of someone not respecting the rules. Some groups have even agreed on own labour contribution (free of charge) in order to plant selected species in forest areas where they have disappeared due to overharvesting.

In relation to the management of NWFP, one of the limitations the project has highlighted is that the management prescriptions included in the plans are confined to a specific product, disregarding the influence that other surrounding resources also have on its growth and regeneration. NWFP often cover large areas, therefore the Department has made the special provision not to apply the rule of handing over a maximum of 2.5 Ha forest per household member of the group (only in case of NWFPs). However, this implies that when larger areas are handed over for the management of these products, communities can't get the management rights over trees and other resources that affect their growth. This issue is currently discussed within the department and it is likely that the CF rules will be changed accordingly, by increasing the area that can be handed over as community forestry to 10 Ha per household.

Another recommendation made based on the learning from the pilot sites, is that resource inventory for NWFP should not be considered as the ultimate requirement to ensure the sustainable management of the resource. Several products (e.g. chirata, pipla, mashutake, lemon grass, etc.) are seasonal products with an abundance that can have huge variation from year to year, due to climatic changes (particularly rainfall) every year. By making an estimation of the growing stock in one year, by no means it can be predicted how much the amount will be the following years. In order to ensure the sustainability of the resource, it's much more important and even crucial to have proper management prescriptions in place (when to harvest, how to ensure seed dispersal, how to harvest in order not to damage the resource, etc.). Given that the resource inventory requires considerable time and budget (Daily Allowances) and the work itself being very harsh, the recommendation made to the Department of Forest is to reconsider the compulsory requirement of the resource inventory. This recommendation has been integrated in the latest NWFP strategy of FRDD.

In regards to participatory monitoring and evaluation, the project has developed a simple but innovative framework that helps the community to define what to monitor (indicators), how to monitor, when to monitor and who should be responsible for it. The innovative element of the framework, is that the monitoring should not only be focused on the natural resource itself (based on the management objectives) but also include other important factors that determine the success of the group performance.

These are (i) good governance of the group (decision making process, gender, equity, performance of the management committee, fund mobilization, etc.), (ii) services provided by supporting agencies (are they receiving the adequate support they require) and (iii) rural livelihood and poverty reduction (are they really obtaining the benefits they were expecting? What is the impact this is having particularly on the poorest members of the community?).

Equity is another important issue addressed by the project. While dealing with the communities it emerged not only that farmers are very much aware of who are poorest members of the community and the problems faced by them, but also that they are willing to include provisions in the bylaws on how the group can support to alleviate their situation. This provision is currently not recommended in the CF manual, therefore the opportunity is missed due to lack of awareness of the extension workers while facilitating the group formation. If reminded, the group easily agrees to include provisions such as the use of their fund to support schooling (books and uniforms) for children of disadvantaged families, to support them when they have to travel to main towns for hospitalization, to give some aid in case a member of the family passes away, to give them some sort of employment as custodian of the forest, or by just giving them specific privileges for the collection of the resources.

One of the challenges for the implementation of Community Forestry, is also related on how to remind the farmers about the content of the management plan they have agreed upon. Until now, the Social Forestry Division, was hiring a specialist to translate the entire management plan and bylaws in Dzongkha language and provides a copy of the translation to the community. However, these plans are very lengthy (30-40 pages) and most probably they will just end into the hands of the chairperson of the group, giving other members very limited access to it. Therefore, the community is likely to soon forget the management prescription and the content of their bylaws. For that purpose, the project has developed a simple format of a poster (in Dzongkha) that can be displayed in several key locations in the villages, reminding the most relevant information included in the management plans that everyone should be aware of.

3. Integrated Watershed Management

To address the issues related to participatory watershed management 2 pilot sites have been established, namely Radhi and Lingmutey Chu. Not surprisingly it has been observed that the causes of land degradation are multiple and cover several sectors as shown in table 1 and 2. In the end all relate to the open access to natural resources with no accountability and inadequate sharing mechanisms (particularly for irrigation water).

Table 1: Issues affecting watershed management in Radhi (as identified by farmers)

Components	Issues
Livestock Management	Increasing number of scrub cattle Excess local breed Inappropriate backyard farming Lack of incentives for stall feeding and reducing cattle
Capacity Development	Low literacy levels and exposure Low capacity of field staff
Policy, Dialogue & Advocacy	Clash between national policy and local priorities Excess land conversion Need for the Radhi Mgt. plan to reach high decision levels.
Water management	No proper irrigation structures Inappropriate Irrigation practices/mgt where structures are available. No water users' association. No alternate irrigation for dry seasons Poor maintenance of roadside drainage
Forest and common NRM	Conflict over the use of pasture (tsamdro) Scarcity of firewood, timber and fodder Landslides Damage by wild animals Negligence towards plantation (damaged by grazing cattle)
Local Knowledge	Negligence of local knowledge and religious beliefs
Agriculture Development	Limited inputs in terms of technical know how Mono-cropping Economic constraints Off-farm works (reduced manpower for agriculture) Damage by stray cattle and wild animals Poor water management (maintenance of irrigation channels) Low crop production
Institutional Development	Need for watershed management committee Limited knowledge due to low literacy Lack of associations
Catchment and Soil Protection	Natural calamities Over grazing Weak monitoring by line agencies Erosion due to deforestation Indiscriminate use of resources Steep slopes

Table 2: Issues affecting watershed management in Lingmutey Chhu

(as identified by farmers)

Components	Issues
Livestock Management	Low livestock productivity Large number of Inferior breeds
Capacity Development	Institutional development (community group management)
Water management	Water shortage Inefficient irrigation channels Inequitable traditional water sharing mechanisms Intra-village conflicts (up-stream vs. down-stream)
Forest and common NRM	Forest resources depleted near settlements Inadequate forest resource management Pressure on forest resources due to increase in population and construction Soil erosion due to deforestation
Agriculture Development	Low crop yield Crop damage by wild animals Limited access to markets (lack of joint marketing strategy) Farm Labour shortage
Environment	Uncontrolled waste management

In order to address all these issues, the project decided that first priority should be given to the development of an integrated watershed management plan. This is because farmers and extension workers regularly requested support for numerous small initiatives (mostly plantation and fencing), which were not reflected in a clear strategy on how to solve the overall watershed management problems. The complexity of the issues as shown in tables 1 and 2 can't be addressed through isolated "*ad-hoc*" activities.

Therefore, the main contribution of the project in this sector is the development of an approach for participatory and multi-stakeholder watershed management planning. As shown in Box 1 the resulting plans have been structured in components that specifically reflect and address the issues raised by the farmers.

Box 1: Components of the watershed management plan Lingmutey Chhu

1. Livestock Production Management
2. Forests Protection
3. Water Management
4. Agriculture Development
5. Environment management
6. Capacity Building

Box 2: Components of the watershed management plan in Radhi

1. Catchments protection
2. Livestock Development
3. Water Management
4. Conflict resolution
5. Road drainage maintenance
6. Exploration of local knowledge
7. Capacity Building

Once the plans had been developed in both watersheds, the main challenge was to integrate them in the geogs 10th Five Year Plans. Since the current phase of the project is coming to an end, this task has to be taken up at a later date, in consultation with the GYT (Geog Yargey Tshogdey) and the Dzongkhag administration (representatives from all concerned sectors). Given the multi-sector content of the plan, it is expected (recommended) that the Geog administration will take the lead in coordinating the implementation of the plan.

At national level, there is still some confusion about who should take the lead in coordinating watershed management programs. Currently FRDD, within the Department of Forests, is expected to become the leading institution for watershed management activities. However, looking at the diversity of sectors concerned at field level, this doesn't seem to be the ideal institutional set up.

Although watershed has been given high priority at policy level, some argue whether the commitment for its implementation really exists, particularly because of the limited staff with little experience that has been assigned for the sector.

Based on the experiences from Radhi and Lingmutey Chhu, future efforts are needed to support the formation of a multi-sector working group to develop a national watershed management strategy. Similar groups should also be formed at Dzongkhag and Geog level. Within that strategy, the participatory planning approach developed by the project will surely contribute to define the local level implementation.

In critical watershed with cross-boundary problems (between geogs or even between districts) it is recommended to conduct the participatory planning process at watershed level, so that all concerned geog can jointly agree on specific measures to be taken and include them in their Five Years Plans. The outcome of that planning process should be described in the watershed management plan, which will be used as reference for the geog planning or even to seek donor support for implementation in the most critical watersheds.

4. Livestock and Grazing Areas Management

Issues related to community based pasture management have been addressed in 1 pilot site (Dur, Bumthang). Over-grazing is common in community *Tsamdro* and it is the main cause of a decline in grassland production and emerging conflicts amongst communities. Conflicts also arise from (i) the encroachment of community grazing areas by herders from other communities, (ii) the difference in the duration spent by herds on community grazing areas and (iii) the unequal herd size resulting in unequal utilization of grazing land.

Once more the project has managed to mobilize the community and find solutions to the problems, by forming a pasture management group and developing the management plan according to the problems defined by the herders. Although the content of such plan is technically different from a forest management plan, for the group formation process and management planning, the same approach as for community forestry can be followed.

However, an interesting learning from the pilot site was to realize the heterogeneity of a pasture management group and the implications this has for the planning process. Within a community forestry management group, almost all members have the same stake and interest (although some might be more dependent on the resource than others). This is not so much the case in a herders group, because their concerns depend much on the type of livestock they are rearing.

Through a social analysis exercise, in Dur 5 different sub-groups of herders have been identified, namely:

- Yak herders (*Bjop*);
- Farmers owning grazing land and cattle (*Threb* I);
- Farmers owning cattle and without grazing land (*Threb* II);
- Farmers owning horses; and
- Farmers without livestock and grazing land (*Zurpa*).

Although the herders cover an extremely large grazing area (particularly yak herders), the main conflicting area is the one cattle are using for summer grazing which is the same yak herders are using when they come to lower altitude for winter grazing. Additional grazing by horses for the tourism industry further aggravates the situation (one horse is known to have an impact equal to 10 cattle). This area has therefore become the main focus in the planning process and resulting management plan. For details about the content of the management plan, please refer to the case study "Crushing the Bone, Minimizing Conflicts in Community Tsamdro" (K. Wangchuk, , U. Lhendup, K. Dorji, 2006).

Another interesting learning came from the "Trend Analysis" of different aspects conducted separately by each of the 5 sub-groups (see Tables 3-6). This shows that in future herders expect an increased income from other sectors (tourism, Cordyceps collection, potato cultivation) which might reduce their dependency on livestock and hopefully decrease the grazing pressure.

Table 3: Trend analysis by Bjop (Yak herders)

Characteristics	**10 years ago**	**Present**	**10 years later**
Number of households	10	22	25
Livestock per household	7	30	40
Income from Livestock (Nu/yr)	3,000	20,000	50,000
Income from *Cordyceps*	Nil	15-20,000	10,000
Income from tourism	Nil	20,000	30,000
Condition of winter pasture	Excellent	Good	Poor
Condition of summer pasture	Good	Excellent	Very good
Government services	Fair	Excellent	Excellent
Livestock disease	High	Low	Low
Quality of livestock breed	Excellent	Good	Bad

Table 4: Trend analysis by Threb I (owning livestock and grassland):

Characteristics	10 years ago	Present	10 years later
Number of households	16	16	16
Livestock per households	15-16	6-7	4-5
Income from livestock	nil	10,000	15-20,000
Income from *Cordyceps*	nil	20-50,000	2-3000
Income from potato	nil	15-20,000	50-60,000
Income from contract work	2,000	6,000	12,000
Condition of winter pasture	Excellent	Fair	Poor
Condition of summer pasture	Excellent	Good	Good
Government services/support	Excellent	Good	Fair
Livestock disease prevalence	More	Less	Less
Acreage of Tsamdro holding	More	Less	Lesser
Quality of livestock breed	Excellent	Good	Bad

Table 5: Trend analysis by Threb II (Owning only livestock):

Characteristics	10 years ago	Present	10 years later
Households	6	22	49
Livestock per household	14	7-8	3
Income from livestock	nil	19,000	20,000
Income from *Cordyceps*	nil	15,000	10,000
Income from tourism	nil	20,000	30,000
Income from weaving	nil	1000	8000
Condition of winter pasture	Excellent	Good	Poor
Condition of summer pasture	Excellent	Good	Poor
Government services	Good	Very good	Excellent
Livestock disease prevalence	More	Less	Lesser
Acreage of Tsamdro holding	More	Less	Less
Quality of livestock breed	Very good	Good	Bad

Table 6: Trend analysis by Zurpa (Without livestock nor grassland):

Characteristics	10 years ago	Present	10 years later
Number of households	5	20	25
Income from tourism	3,000	10,000	20,000
Income from construction	50,000	10,000	5,000
Income from logging	10,000	20,000	5,000

One of the main challenges faced for the legal approval of the management plan, was the lack of the required legal framework. In this regard, the project has been very successful in ensuring that the experiences from Dur were taken into consideration within the revision of the Land Act 1979. Consequently, the new Land Act of Bhutan 2007 in its Article 204 provides for the leasing of reverted *tsamdro* to individuals or communities owning livestock. Article 247 requires that grazing and pasture development on *tsamdro* be permitted based on a management plan to be jointly developed by the Department of Forests, the Department of Livestock and the concerned communities. The approach implemented in Dur will surely serve this purpose.

FULFILLMENT OF OBJECTIVES

OBJECTIVE 1 (Field Learning)

To support and implement field based participatory action research and learning initiatives with relevant partners in order to help achieve the goals above, gain a better understanding of CBNRM, and develop conceptual, analytical and research skills.

As mentioned in previous chapters, the project has been very successful in establishing 10 pilot sites and conducting all activities as planned. All pilot sites related to the forestry sector have a management plan and group bylaws legally approved by the Department of Forests, with the management rights and responsibilities handed over to the community. The project has also ensured further support to the groups by other concerned organizations (AMEPP, MEA, SNV, AMS, UNDP, RDTC, etc.). With this support, the communities are not only harvesting the resources but also successfully venturing in product development and marketing. Most of these pilot sites are in very remote areas in several districts all over the country and address the concerns of the poorest communities in the country.

An attempt was made to also establish a pilot site for *Cordyceps* management. Although several introductory visits took place to the remote areas, given the complexity of the socio-economic situation (illegal collection by Tibetan and Bhutanese from lower altitudes) it was felt premature to venture into the formation of a community forestry management group (CFMG). Nevertheless, the project was actively involved in several national workshops, during which the concerns of the collectors have been shared and considered while defining the collection procedures.

There is no doubt, that the experiences from all these pilot sites have significantly contributed to achieve this first objective, both in gaining a much better understanding of CBNRM as well as in enhancing action research skills of extension workers and communities.

OBJECTIVE 2 (Policy and Institutions)

To actively involve and communicate field findings with relevant stakeholders, line Departments/Agencies and Ministries, and with local and higher levels government in order to understand and evaluate CBNRM practices, to help mainstream peoples' participation in NRM, and to ensure policy and institutional support.

The project has given valuable contributions for policy development and implementation in the three sectors (forestry, pasture and watershed).

Within the forestry sector, Community Forestry is the best example of community based natural resource management. Since the appropriate policy and legal framework were already in place, the project mainly contributed in providing implementation guidelines for participatory resource assessment and management plan preparation for NWFPs. The lack of such guidelines was felt as one of the main constraints for extension workers in the field.

Similarly, experiences from the project have also proven to be essential for the development of the national NWFP strategy currently in the final stages of preparation and approval.

The National Forest Policy 1974 did not make specific mention of NWFP nor the Forest and Nature Conservation Rules of Bhutan, 2000 (FNC Rules). In the absence of policy support there was no initiatives or support for NWFP management. The CBNRM Project in 2005 piloted in developing rights and responsibilities for six different NWFPS. During the course of the project, the FNC Rules 2000 was amended as Forest and Nature Conservation Rules 2006 in which several revisions of the community forestry rules took place, for which the experiences from the pilot sites have been taken into consideration. Some of the significant findings incorporated into the CF rules were the inclusion of management of NWFP resources found within the CF area and the inappropriateness of the 2.5 ha area limit per household for the NWFP management. Now, the rule allows management of NWFP not limiting to 2.5 ha area. Since there was not much work done on NWFP before the Project, the Projet's experiences on NWFP management were instrumental in revising the CF rules and the FNC Rules. The revision of National Forest Policy of 1974 is also long overdue and discussion is ongoing within the Department of Forest for its revision.

In terms of pasture management, as mentioned above, the project was very successful to ensure that the lessons learned in Dur were taken into consideration in the revision of the Land Act 1979. In the Land Act 1979, farmers had use rights over *tsamdro* or grazing land either as individual households or communal land. Under this system there was no requirement for a management plan which often led to overgrazing of tsamdro resulting to decline of productivity. And monitoring was absent. Based on the experiences of Dur, the new Land Act 2007 provides tsamdro on lease arrangement which requires mandatory development of management plan for all leased out tsamdros. The new Land Act of Bhutan 2007 is now fully supportive to community based pasture management and provides the appropriate legal framework for it.

Regarding watershed management, the impact on policy development is likely to happen in near future, during the development of the national watershed management strategy. This strategy is likely to address different levels (national, dzongkhag and geog) and the participatory planning process developed by the project will definitely help to define the strategy for both dzongkhag and geog levels. The same approach has also the potential to improve the current Five Year Plan development process at geog level, making it much more participatory and oriented towards the real concerns of the farmers.

On other important aspect within this second objective, is the institutional development. In this regard one of the main achievements is the improvement of the link and collaboration between the Research Council and the line agencies, particularly the Department of Forests. The project has worked in close collaboration with the Forest Resource Development Division for the development of the NWFP guidelines as well as in defining the national NWFP Strategy. Similarly, successful collaboration with the Social Forestry Division has been achieved through joint implementation of trainings such as "Analytical Skills and Case Study Writing" (with the joint publication of 17 case studies) and "Community Based Enterprise Development". The close collaboration also happened at field level, between the research Centres and the dzongkhag administration (RNR Extension Centres). This close collaboration has ensured that research findings and recommendations could easily be incorporated in policy development. The success of collaboration with the department of

Forests couldn't be achieved with the two other Departments, mainly because most of the pilot sites were focused on forestry related issues and less on agriculture and livestock. The future efforts should target diversification of CBNRM initiatives towards these two other sectors.

On the other hand, one of the main channels for policy dialogue was expected to be the annual meeting with focal persons from the 3 departments of agriculture, livestock and forestry. These meetings took place but didn't give the expected outputs, mainly because the participants were only representatives of the key decisions makers of the departments and therefore they were not in the position to properly contribute to the discussion and agreements to be made.

However, in the recent past there has been reshuffle in the leadership of the Departments within the Ministry of Agriculture. Closer links and working relationship is being observed amongst agencies and therefore future institutional linkage and support looks encouraging. The policy environment may not change so much but it is likely that under the new political system the policy uptake process may get impetus in that the new parliamentarians may question on the relevance of some of the existing policies and put pressure for change while field learnings feeding into policy formulation will continue.

Overall it can be concluded that the project also fulfilled the expectations related to this second objective.

OBJECTIVE 3 (Networking and Sharing)

To build and strengthen linkages amongst institutions, organizations, researchers, practitioners and others who are supporting CBNRM in order to share and learn more effectively in terms of concepts, methods, lessons from the field and other aspects of the work.

Close linkages have been achieved both nationally as well as at regional level (South and SE Asia). As already mentioned, at national level, the project has been working in close collaboration with several institutions, like SFD/PFMP, FRDD, MEA, AMS, AMEPP, CNR, the Dzongkhag Offices and all RNR Research Centres. By adding the communities at the pilot sites, it can be said the project worked in close collaboration with all stakeholders of the CBNRM sector.

Regular annual review and planning workshops also ensured that representatives from all pilot sites were given the opportunity to share the progress and lessons learned from their field work and learn from each other's experiences. Similar achievement happened at community level through cross-visits between farmers from the different pilot sites.

At regional level, close collaboration has been achieved in capacity building with the Regional Community Forestry Training Centre (RECOFTC) in Bangkok, the Asian Network for Sustainable Agriculture and Bio-Resources (ANSAB) in Nepal and the regional CFM Network of SNV.

The main channel to share experiences from the field is the series of 17 case studies published and widely distributed to all RNR extension offices and even at regional level through RECOFTC and SNV. These case studies are also going to be integrated in the curricula of the Ugyen Wangchuk Environment and Forestry Institute. Similarly, all annual reports as well as the final evaluation report have been distributed to all concerned partners. A series of posters summarising the activities and lessons learned in each pilot site has also been published and shared with each RNR Research Centre, the College for Natural Resources and SNV.

Representatives of the project also attended the annual RNR conference and presented the latest progress and findings from the field. At regional level, experiences were shared through poster presentation at the RECOFTC conference on "Poverty Reduction and Forests: Tenure, Market and Policy Reforms".

All project documentation and publications have been made available on the CBNRM website of the Ministry of Agriculture www.moa.gov.bt (see publication section, downloads of CBNRM).

Once more it can be stated that the project has successfully fulfilled the expectations within this 3rd objective as well.

OBJECTIVE 4 (Human Resource Development)

To provide specialized human resource training and learning opportunities to all partners involved, including community members and local line departmental officials.

This objective has been addressed through a variety of learning opportunities for communities, extension workers, researchers and policy makers.

Communities from all pilot sites have participated in study tours, both in-country and abroad (Nepal and India). The study tours had significant impact particularly because they were tailored to specifically address the interests and needs of the concerned farmers. Additionally representatives from the management committee of the CFMGs also attended specific training on group management and leadership as well as book keeping, banking and accounting.

Researchers and Extension workers attended several trainings both in-country ("Analytical Skills and Case Study Writing", "Community Based Enterprise Development" and Facilitation Skills) and abroad ("Participatory Action Research" and "Introduction to Community Forestry" and "Process documentation"). Three candidates were given scholarship for Post Graduate Studies on Gender and Forestry.

The Project Accountant attended the course on Government Accounting and Budgeting in Bangkok while two other support staffs attended an in-country training on the Office Management and Essential Computer Skills and Basic Networking.

Senior officers and policy makers participated in study tours to Nepal and Philippines.

On top of all these capacity building events, one of the major means for human resource development was "learning by doing", which has considerably enhanced the capacity and confidence of field workers to mobilize communities for common natural resource management. Their feed-back fully endorses this statement.

The issue now is how to scale out this capacity building process to create a critical mass to facilitate and support the momentum gained in this Project.

PROJECT DESIGN AND IMPLEMENTATION

Despite being a research project, activities were not designed following a strict scientific research approach, but rather following the principles of participatory action research, by which lessons are jointly learned by the community and the extension worker/researcher while implementing activities based on farmer's priorities and agreement.

The main tools applied to mobilize the communities and help them to take the appropriate management decisions, were all sort of Participatory Rural Appraisal (PRA) tools. PRAs assist in collecting, sharing, and analyzing information and help to make decisions in a participatory way. This generates a sense of ownership and commitment amongst all those involved. Some of these tools can be summarized as follows:

Visioning (Working out management objectives for the natural resource, understanding what farmer's priorities and problems are).

Participatory Social Analysis (Finding out about the villagers, stakeholders, different resource users and their socio-economic status, Ensuring that equity issues are addressed throughout the process)

Resource Mapping (Find out the availability of products and about where they come from, Find out how the resources and people's relationships with them have changed over time, Finding out which users know most about the resources).

Participatory resource inventory (Resource assessment to define sustainable yields and management prescriptions)

Semi-structured Interview (Ensure that everyone has been involved in the process, Get views of different stakeholders)

Time-line (Finding out how the resources and people's relationships with them have changed over time)

Seasonal calendar (Understanding people's occupations and their use of the resources).

Since it's not possible to work with the entire community during all stages of the group formation, normally there is a plenary discussion at the beginning and at the end of the process. All the work in between is done with a group of 10-15 representatives selected by the community, making sure that gender balance is maintained and different social status are represented. Normally the work is done through a sequence of field visits and therefore it can extend over 3-6 months or even a year, depending on the complexity of the issues, the remoteness of the area and the extent of the resource to be inventoried.

The activities were carried out simultaneously in all pilot sites, however with a certain degree of difference in the progress made. During the annual review and planning workshop, field workers shared the progress made, problem encountered and the follow-up activities planned for the following year. Overall, no major problem arose and activities could be implemented according to the plan. Nevertheless, the project itself couldn't pick up according to schedule (March 2005), because of delay in the transfer of the budget. This has then been reflected in a no-cost extension at the end of the phase, which has allowed to complete all activities according to the plan.

PROJECT OUTPUTS AND DISSEMINATION

a). Information sharing and dissemination

Most of documentation process has already been shared in previous chapter, nonetheless it might be worthwhile to summarize the publications that have been published and widely distributed in Bhutan and partly in the region (through RECOFTC). All these documents can be found on the website www.moa.gov.bt (see publication section, downloads of CBNRM).

List of Case studies (in collaboration with PFMP/Social Forestry Division):

1. Community Forestry Contributes to the National and Millennium Goals Without Compromising the Forestry Policy! By Karma J. Temphel and Hans J.J. Beukeboom. June 2006.

2. Equity and Traditional Irrigation Water Sharing Systems in Lingmutey Chhu Watershed. By Yeshy and Aita K Bhujel. June 2006.

3. Will the Sale of *Illicium griffithii* Reduce Poverty in Aja Nye and Yabrang Communities? By Prabhat Kumar Mukhia, Sigyel Delma Tangbi and Kesang Droelkar Tshering. June 2006.

4. Entire Rural Wood Supply from Community Forests: A Challenging Mission. By Sonam Phuntsho and Mani Sangye. June 2006.

5. Bridging the Knowledge: A Journey into Local Experience for Community-Based Management of *Cane* and *Yula*. By Tshewang Dorji and Robin aus der Beek. June 2006.

6. Crushing the Bone: Minimizing Grazing Conflicts in Community Tsamdro. A Case Study from Dhur Village, Choekhor Geog, Bumthang. By Kelzang Wangchuk, Karma Dorji and Ugyen Lhendup. June 2006

7. Gender and Equity: A Challenge in Community Forestry. By Kinzang Namgay and Thubten Sonam. June 2006.

8. Is Community Forestry Making a Difference to Rural Communities? A Comparative Study of Three Community Forests in Mongar Dzongkhag. By Rinchen Wangdi and Nima Tshering. June 2006.

9. Bamboo: The Golden Opportunity for Wamanang. By Karma Dorji and Tenzin. June 2007.

10. Timber Sales from Community Forests is Possible: A Case Study on Two Community Forests from Mongar and Bumthang. By Shacha Dorji and Sonam Phuntsho. June 2007.

11. The Challenge of Degraded Land Management through Private Forestry: The Motivation of a Farmers Group in the Radhi Watershed. By Pema Tenzin and Tashi. June 2007.

12. Beyond This, What..? Can the Sustainable Harvesting and Marketing of Incense Plants Contribute to the Livelihood of the Laya People? By Kinga Namgay, Sonam Thinley and Sangay Tenzin. June 2007.

13. Understanding the Challenges Facing Extension Agents Working in RNR Extension: By Dendup Tshering, Dil Maya Rai and Samdrup Rigyal. June 2007.

14. Chirata: A Medicinal Plant Rescued by Community Forestry. By Kuenzang Norbu and Jigmey Gyeltshen. June 2007.

15. Participatory Watershed Management Planning for Sustainable Resource Management: A Case Study from Lingmutey Chuu and Radhi Watersheds. By Purna B. Chhetri, Purna B. Gurung and Gyenbo Dorji. June 2007.

16. Quality of Community Forest Management Plans: Towards Efficient Implementation of the Community Forestry Programme. By Karma Tempa, Tshewang Dorji and Benedict Urech. June 2007.

17. Dynamics of Different Ethno-linguistic Groups: A Case Study of Three Community Forests. By Karma J. Temphel and Tenzin Lhendup. June 2007.

Other publications and Articles:

1. CBNRM Project in the Last Three Years, What has it Accomplished? By Sangay Duba, published in RNR Newsletter Bajo, June 2008.

2. Sustaining Non Wood Forest Products in Bhutan: A case study on Community Based Management of *Cane* and *Bamboo*. *By: Marianne Meijboom, Dil Maya Rai and Robin aus der Beek*. Published in Insights, RECOFTC 2007.

3. Integrated Approach to Watershed management in Radhi: The Experiences, Lessons and Way Forward. RNR RC Wengkhar, CoRRB. March 2006.

4. Series of 10 Posters each one describing programs at each CBNRM pilot site.

5. Guidelines for the Inventory and Management Plan Preparation for NWFP. FRDD (MoA). June 2008.

6. Integrated Watershed Management Plan for Sustainable Management of Natural Resources in Radhi geog, Trashigang. Compiled by P.B. Chettri, RC Wengkhar, CoRRB. May 2008

7 Mainstreaming CBNRM: Concepts, ongoing activities, and main challenges. A power point presentation during the national RNR Conference, 2007

8. National Strategy for NWFP Development in Bhutan (2008-2020) (Draft), FRDD, June 2008.

Project documents:

CBNRM Review and Planning Workshops – Workshop Proceedings
(Phuntsholing 2006, Trashigang 2007, Bumthang 2008)

CBNRM Annual Reports (2005-2006, 2006-2007)

Evaluation Report of the CBNRM Project by Julian Gonsalves, March 2008.

CBNRM Project Completion Workshop Proceedings, RC Bajo, CoRRB. May 2008.

CBNRM Management Plans and Bylaws:

1. Community-based Chirata Management Plan (Shinkhar Lauri)
2. Community-based Pipla (Piper pedicellatum) management Plan (Nganglam)
3. Community-based Bamboo (B. grossa) Management Plan (Wamanang)
4. Community-based Cane and Yula Management Plan (Bjoka)
5. Community-based Mashutake Management Plan (Geneka)
6. Community-based Lemon Grass (Cymbopogon flexous) Management Plan (Dremetse)
7. Community-based Pasture Management Plan (Dur)
8. Watershed Management Plan (Radhi)
9. Integrated Watershed Management Plan (Lingmutey Chhu)
10. Integrated Forest (Udzurong)

b). Knowledge Creation

The main contribution of the Project in terms of knowledge creation, are methodologies for the inventory and sustainable management of Non Wood Forest Products. These methodologies have been adopted by the Department of Forests in form of implementation guidelines. Out of six guidelines, the five (bamboo, pipla, lemongrass, Yula, and Chirata) were on the NWFPs prioritized in the Project. These guidelines have been uploaded on website www.moa.gov.bt (see publications, download forestry)

Similarly the Project has developed a methodology for participatory watershed management planning, which is likely to be included in the national watershed management policy of Bhutan.

c). Training

Two in-country trainings were developed and provided in collaboration with RECOFTC:

- Analytical Skills and Case Study Writing
- Community Based Enterprise Development

CAPACITY BUILDING

a). Institutional Reinforcement

To enhance the capacity of researchers, the project procured and provided a desktop/lap-top computer each with complete accessories to RC Wengkhar and Jakar, AR site at Udzurong, Wamanang, Radhi watershed, Dremetse, Bjoka, Lingmuteychu watershed, National Mushroom Centre, Nanglam, and RC Bajo. Many of these AR sites were receiving computer for the first time. Computers have helped staff to maintain a digital information on the AR site and it has facilitated in report writing and preparation of work presentations. Staff now are capable of making excellent power point presentations. The Project also supported connection to internet and telephone in some of the AR sites. Access to telephone was very useful in monitoring the far away project sites while internet was used in accessing relevant information from the net. Digital camera was used in keeping snap shot records of the project events at various sites. A 4-wheel drive vehicle was purchased from the project and it helped the project management unit to monitor and in providing timely assistance to the AR sites.

Three staffs from the Project Coordinating Centre were trained to reinforce the project management. A finance staff was trained in Bangkok on government accounting and budgeting for a period of 2 weeks while two administrative support staff attended in-country training on Office Management and Essential Computer Skills and Networking. The capacity developed in this project will have spill over impact in various institutions in the RNR sector.

b). Research and administrative skills

One of the main contributions from the project in capacity development is reflected in significant enhancement of skills and confidence of field staff in community mobilization, resource assessment, implementation of Action Research, reporting and case study writing.

c). Capacity building of women

One woman staff from RNR RC Bajo received the scholarship to attend a 10 months Post Graduate Course on Gender at AIT in Bangkok.
Additional four women attended the training course on “Analytical Skills and Case Study Writing” while two others attended the course on “Community Based Enterprise Development”. An administrative support woman staff also attended an in-country training on Office Management and Essential Computer Skills and Networking course.
The number of women that have received capacity building through the project is much less (< 10 %) than male participants, this mainly because counterpart staff within CoRRB and MoA in Bhutan is still predominantly male.

PROJECT MANAGEMENT

a). Administration

The Project administration was given by CoRRB to the RNR Research Centre in Bajo. Based on the feed-back from all collaborators in the field, the management was extremely efficient and effective:

- Decision making was very transparent and participatory, based on priorities from the field.
- Transfer of funds within the country to the different pilot sites was timely and according to the needs and requests from the field staff.
- All project activities have been documented properly and on time (annual reports, workshop reports, evaluation and current final technical report).
- Budgeting and Accounting is accurate and on schedule.

Nevertheless, some feel that the attention and effort given to this project has diverted the focus of the mandate of the Research Centre and the recommendation was given to shift the Project coordination to CoRRB headquarter in Thimphu. The CoRRB will have to way pros and cons and make decisions for any future arrangements.

b). Scientific management

With the Technical Assistance from SNV, the coordination unit ensured that the required expertise and guidance for field work was provided on time and according to the request from the technical staff. In this regard the partnership CoRRB/IDRC/SNV has been very fruitful and efficient.

c). Technical support from IDRC

The support and guidance provided by IDRC regional office in Delhi fully comply with the requirement of the project coordination unit. The Program Officers visited the project on several occasions (both the office and the field sites) and gave valuable suggestions and feed-back based on their experiences and activities of other projects supported by IDRC in the region.

Of particular value was the attendance of Program Officer at planning workshop for the new phase of the project. Critical comments and suggestions contributed a lot in better defining and understanding future priorities.

IMPACT

As already elaborated in different sections of this report, the project had significant impact at several levels.

At **community level** the groups formed have the capacity to jointly manage the resources that have legally been handed over to them and to process and market their products often by doubling the income they earned before the formation of the group. In addition, by being officially registered they have now easy access to services provided by different organizations in Bhutan. The Cane and Bamboo group from Bjoka, for example received training on product diversification and the required tool kit from the Ministry of Economic Affairs and their sell-counter (showroom) has recently been constructed with funds from the Asian Development Bank. The Bamboo group in Wamanang is getting training, equipment and marketing advise for product development by AMEPP. The chirata and pipla groups in Shinkhar Lauri and Nganglam are getting support on market information and link from AMS. The lemon grass oil producers from Dremetse are getting ensured market at better prices from Bio-Bhutan. The Cordyceps collectors are getting support from the Department of Forest and the Royal Bhutan Army in chasing illegal collectors from their area. All these examples are indicators for sustainability of the groups and the initiatives by the groups themselves show that the project fully addressed their needs instead of imposing outsider's views and priorities. These communities are located in the remote areas of the country, thus addressing the poorest farmers of Bhutan. Approaches and methodologies developed by the project have been adopted by the concerned agencies and if applied in further areas they will surely contribute to establish mechanisms that contribute to poverty reduction of rural population, whilst ensuring the sustainability of natural resources.

At **institutional level**, the project had great impact in building the capacity of technical staff within the RNR Research Centers as well as in the Dzongkhag Administration and RNR Extension Offices. All involved staff have expressed great gratitude for the support received during their field work and through training/study tours organized by the project. Consequently they feel very confident and keen to replicate the experiences learned from the pilot sites in other communities within their jurisdiction.

The impact of the project at **policy level** is reflected in the Land Act of Bhutan 2007, for community based pasture management. Similarly, in the forestry sector, implementation guidelines, NWFP National Strategy and revision of Community Forestry Rules fully reflect the recommendations from this project. Last but not least, the approach for participatory watershed management planning is likely to be adopted in the national watershed strategy for Bhutan, to be developed in near future. Most importantly, the role and potential for community involvement in natural resource management is fully recognized by policy makers and will surely get high priority in the future rural development of Bhutan.

OVERALL ASSESSMENT

There is no doubt both within the project staff and the counterparts in the Ministry of Agriculture, that this project has been extremely useful to support the management of highly valued natural resources in Bhutan. With comparatively limited budget (compared to other projects of this kind), within three years the project has done impressive achievements at all levels with exemplary mode of implementation, collaboration and partnership.

In order to reinforce this statement, the following sections are reminders of some of the comments made by the external evaluation, which reflect the views of all those who have been involved in the project or have collaborated with it.

The CBNRM project has made significant progress demystifying CBNRM and broadening its ownership. It has succeeded particularly well in doing this at the Dzongkhag level, at the Research Centre Level, within the Department of Forestry and within the College of Natural Resources .

Operationalizing the AR sites, using primarily partnership-based modes, bringing in the relevant partners and ensuring a pro-poor orientation in choice of themes and sites have been the more impressive accomplishments. There could have not been a better way to strengthen these capacities than by engaging them in the action research process. The current CNBRM project has made a big leap forward in taking the CBNRM issue to the remote areas where some of the poorer communities reside. In most cases natural resource extraction contributes at least 50-70 percent of the cash income of these residents. The diversity of sites in terms of thematic/problem focus is a strong indicator that the project was responsive to problem situations and built upon current local peoples priorities (especially in case of the NWFPs). The CBNRM project has a strong and clear pro-poor orientation in its choice of AR sites and their current focus. The power and effectiveness of collaborative approaches is being noted where it matters the most, at the community and district levels.

The contributions of the CBNRM project in the area of non wood products have been cited several times because of the impact the project is having on the rules and regulations developed for the entire country.

The case study series were produced through a collaborative effort of the Participatory Forest Management Project, the CBNRM project and the RECOFTC. These are clearly the best documentation on community-based NRM approaches in Bhutan.

A special mention is warranted to acknowledge the strategic inputs made by SNV in the implementation of the IDRC-funded CBNRM project. SNV has provided technical inputs to the project for two years in the form of an expert. Most of the work, almost 90%, has been field focused and oriented towards strengthening local team capacities at the AR site level: management plan development, inventories, etc.

TRACKING EVOLUTION OF CBNRM IN BHUTAN

The formal agricultural research in Bhutan began at RC Bajo (erstwhile CARD -Centre for Agricultural Research and Development) in 1982 with the crops research. A technical collaboration was signed with IRRI in 1984 through a Rice Commodity Project funded by

IDRC which was followed by the Wetland Production Systems Project. During those periods, new rice varieties were developed and released, critical mass of human resource was developed, and basic research infrastructures were put in place and overall a national agricultural research system was put in place. The research, as that was the need of the hour, however, concentrated on improving farm productivity through improvement of crops, animals and other components in the farm.

In1997, the Research Centre at Bajo adopted a nearby watershed to test participatory research approaches to study integrated resources use and management by farmers. The researchers then had little experience in working on-farm with farmers which required additional skills from what they knew. It was then the Centre adopted CBNRM as one of the approaches to work with the communities in the watershed – Lingmuteychhu. The research emphasized participatory diagnosis, analysis, planning and implementation but continued to work at household level on privately owned farms. During this phase researchers' improved their capability and capacity to work on-farm with farmers and appreciated the interdisciplinary research approach.

Recognising the inefficient use and management of some common pool inputs like breeding bulls, stallion, etc, by households in the community, a three year project (2000-2004) to research on NRM using CBNRM approach was implemented under IDRC funding. During this period, the researchers deepened their understanding on the CBNRM approach by studying the management of common pool resources like irrigation water, breeding bull, community forestry, etc. Based on the field research experiences and to support the decentralization policy of the government, in 2002 a National Framework (NF) for CBNRM was formulated and adopted by the Ministry of Agriculture. The NF was presented to a regional CBNRM Workshop in 2003 which was participated by 36 international and 40 national participants who provided their experiences and suggestions.

The current project phase (2005-2008) operationalised the NF by implementing the Action Plan in the Framework. The CBNRM approach climaxed in this phase by empowering communities with rights over resources of importance to their livelihood and ensuring responsibilities for sustainable management through management plan. Vertically, CBNRM is being integrated into policies and programs as exemplified by the Community Forestry Program of the Department of Forest. In addition to the existing 70 approved CFs, in the 10th Five Year Plan (2008-2013), 300 CFs have been proposed to the Department. This clearly indicates the interest and relevance of CBNRM approach for NRM. However, the experiences have been largely with Forestry sector and therefore, there is need for demonstration of CBNRM potential in other two sectors of Agriculture and Livestock.

RECOMMENDATIONS

Towards the end of the current phase, the coordination unit has conducted a broad consultation process in order to identify priorities for the future. The list of issues and problems to be addressed is impressive and can't be summarised in this section, nevertheless they are a strong indicator for the need of a successive phase of the project for a period of at least 3 years.

The main recommendation that has emerged is to further explore the potential for CBNRM in other sectors rather than forestry, particularly agriculture and livestock.

The partnership between CoRRB, IDRC and SNV has been extremely fruitful, therefore it is highly recommended to formalize this tri-partnership for the following phase as well.

Capacity Building, as formulated and implemented in the current phase (including Post Graduate Courses), has been very effective and highly appreciated by the staff and the communities. Keeping a similar component in the new project document as well, instead of having to compete for separate IDRC scholarships, would be a significant incentive for the field workers, who don't have access to internet for the search of such type of scholarships.

Technical Assistance as designed in the current project phase has been found to be very effective in filling the gap for skilled staff shortage and in backstopping the frontline Action researchers as needed. Moreover, the projects in Bhutan are implemented through the government institutions as added responsibility but without deploying any additional staff for the project which can over burden the institution. It is therefore recommended that next phase should also consider having similar TA arrangements as the current phase to ensure that implementation do not suffer.

Focused in-country and ex-country skill oriented trainings are found to be very effective in terms of enhancing staff skills within a shorter period. It is recommended that trainings on Outcome mapping, facilitation skills, process documentation, participatory M & E, etc should receive due attention in the next phase project.

It is well known, that IDRC is implementing a large number of projects in the region. This provides an excellent opportunity for sharing and learning from each other. More interactions (e.g. regional workshops) and exchange visits between these projects would therefore be very much appreciated.

The Rural Poverty and Environmental Program (RPE) cannot be more appropriate at a time when poverty and environmental degradation are rapidly increasing both at global and local levels. Locally, Bhutan has 23.2% of its population under national poverty line of Nu.1096.94 (USD26) per person per month. And poverty in Bhutan is largely a rural phenomenon. On the other hand, Bhutan's glaciers are melting and some of the glacier lakes are about to burst threatening the people living downstream. It is hoped that IDRC will continue to maintain and accord priority to this program in the future.

IDRC has been a long partner since 1982 in developing Bhutan's research system not only as a donor but as a source of knowledge, information, and ideas in the area of natural resource management. This relationship has immensely helped the research system to mature and rise to the challenges. It is therefore hoped that the partnership will continue into next project which is seen as crucial to realise the foundations laid in the current phase.

The past IDRC Projects have been small in size spread over a period of 3-4 years compared to many other donor funded projects in Bhutan. But the impact it has produced has been concrete and tangible. The Council of RNR Research of Bhutan on behalf of the Royal Government of Bhutan is appreciative of achievements made by the current project and the contribution made by the people of Canada through the IDRC. The council is interested to pursue this partnership in development through a next phase project.