

Terminal Report

Simplified and Harmonized Forestry Regulatory Procedures

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ANNEX D

Review and Analysis of Co-Management Schemes In the Philippine Forestlands

FORESTRY DEVELOPMENT CENTER

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REVIEW AND ANALYSIS OF CO-MANAGEMENT SCHEMES IN THE PHILIPPINE FORESTLANDS

1. INTRODUCTION

1.1 Background

The co-management of natural resources is currently viewed as an alternative strategy in resource management based on the increased participation of local communities. As defined, co-management involves the sharing of responsibilities and benefits between the government and individuals or collective users for the management, exploitation and conservation of natural resources. This re-orientation of managing natural resources came about as a result of the limited success and sometimes failure of the centralized approach of natural resources management, the continuing deterioration of the environment and the felt injustice done to the local people by disregarding them as potential partners in forest management. Various forms of co-management schemes may evolve depending on the type of resource as different resources require different kinds of management regimes. Co-management arrangements may also depend on the type of communities (i.e. indigenous cultural communities, upland farmers), and the capability and innovativeness of the local government unit exercising control over the forest and natural resource.

Co-management of natural resources is anchored on the Local Government Code of 1991 also known as Republic Act 7160. The Code emphasized the role of the local government units in natural resources management by stating that the local government shares with the national government the responsibility in the management and maintenance of ecological balance within their territorial jurisdictions. The Department of Environment and Natural Resources (DENR) has crafted several policy issuances to strengthen the collaboration and partnership between the Department and the local government units. These are the Department Administrative Order No. 92-30 entitled "Guidelines for the transfer and implementation of DENR functions devolved to the local government units"; the DENR-DILG Joint Memorandum Circular No.98-01 entitled "Manual of procedures for DENR-DILG-LGU partnership on devolved and other forest management functions"; and the more recent Joint Memorandum Circular No. 2003-01 entitled "Strengthening and institutionalizing the DENR-DILG-LGU partnership on devolved and other forest management functions". Other legislations like the National Integrated Protected Areas System of 1991 and the Indigenous People's Rights Act of 1997 have further recognized the role of upland farmers, fisherfolks and indigenous peoples in sustainably managing their natural resources.

After more than a decade of efforts towards decentralization and devolution, a number of co-management schemes were being implemented by different organizations and agencies in

managing the natural resources. Further study of these cases is needed to understand the factors leading to successful co-management arrangements and to find ways of strengthening existing policies and guidelines governing the joint management of natural resources by different sectors. Lessons derived from these experiences would also help in the development of appropriate mechanisms for the involvement of different sectors in co-managing the uplands.

1.2 OBJECTIVES OF THE STUDY

The general objective of the study is to document, review and analyze different co-management schemes existing in the Philippine forestlands. The specific objectives are the following:

1. to identify the different stakeholders and evaluate the mechanism of entering into socially negotiated institutional arrangements;
2. to determine and evaluate the nature and the extent of stakeholders' involvement in co-managing forest resources;
3. to identify and document the factors affecting successes and failures of the different co-management schemes;
4. to determine and recommend ways of achieving sustainability of co-management schemes; and
5. to provide comprehensive recommendations for addressing policy and field level implementation gaps.

1.3. METHODOLOGY

This project component includes an analysis of both primary and secondary data. The analysis of secondary data involved the analytical review of different researches, studies and other relevant literatures on co-management of forest and natural resources by different sectors. The study identified the different stakeholders as composed of the community represented by the people's organization (PO's) in most cases, non-government organizations (NGOs), local government units (LGUs), the DENR and other government agencies (OGAs). The study also determined and evaluated the nature and extent of stakeholders' involvement in co-management and their respective responsibilities and benefits or incentives derived in co-managing the given resource. From the analytical review, the study synthesized the factors influencing the success and failure of the different co-management schemes.

Primary data collection was also done. The team did a case analysis of the co-management scheme practiced in managing the watershed resources in Nueva Vizcaya. The co-management practiced in the province is a showcase of a successful collaboration between the DENR and the local government at the provincial and municipal level. The data were gathered through focused group discussion of the important stakeholders consisting of the DENR, LGU, and PO. The respondents were guided by key questions on their roles and responsibilities; the mechanisms for entering into partnership or collaborative management; assistance or support

received; problems encountered in the implementation and in the management of the project; and their opinions as to the factors contributing to the success or failure of the project. From the case analysis, lessons were drawn from their practices on co-management.

2.0 ANALYTICAL REVIEW AND ANALYSIS OF LITERATURES ON CO-MANAGEMENT

Presented in Table 1 is the matrix of the different factors that contributed to the success or failure of the different co-management arrangements practiced in different types of resources based on studies conducted by the respective authors.

It can be gleaned from the table that the key factors towards successful co-management arrangement is the result of the interaction of the three major stakeholders, namely the community as represented by the people's organization, the local government unit and the DENR. This is possible provided these stakeholders are properly motivated and deeply committed.

2.1. Factors for the Success or Failure at the Community Level

- It can be an effective partner in resource management, protection, and conservation if it is clear to them that they will benefit from the project
- The involvement of the community in the planning of activities builds confidence and creates ownership of the work and outputs, thus it enhances participation
- The livelihood component must be an integral part of the project to sustain the people's participation
- Social preparation should always precede technical intervention
- Commitment and positive perception of the people to the project

2.2. Factors for the Success or Failure at the LGU Level

- Successful LGUs are those that have allocated human resources and their local funds to the project
- Enactment of local policies and ordinances to support the project
- Strong & committed leadership that is dynamic and pro-active
- A strong ENRO as a regular division of the LGU with staffing support and annual budget allocation
- The LGUs recognize that the benefits are measurable and far outweigh the costs

2.3. Factors for Success or Failure at the DENR Level

- Dedication of the DENR personnel engendered by recognition and reward for exemplary performance of duties
- The DENR must review and update policy issuances so as to harmonize existing laws with long-term needs of the people and the environment
- Should seek ways and means to raise and allocate funds for the project
- The field personnel must update and retool themselves on the new policies and implementation guidelines to be effective partners
- The DENR should truly convert itself from a regulatory agency to a people-friendly, development-oriented organization

Table 1. Matrix for the analysis of the different co-management schemes of forest resources.

Author/s	Type of Resource/Description	Site/Location of Study	Size of Proj. Area	Type of Tenurial Instrument Used	Project Classification	Funding Source	Contributing Factors to Success or Failure
Poquita (2000)	Coastal resource	Brgy. Aguing, Pres.C.P. Garcia, Bohol			Community-based coastal resource mgt. project	WB w/counterpart fund from GOP	<ul style="list-style-type: none"> Community given the lead role in implementing the project PO members are well-organized, properly trained and highly motivated Alternative sustainable livelihood is in place
Kayastha (1995)	Indigenous community	Brgy. Haliap, Asipulo, Ifugao			Indigenous community-based forest resource mgt.		<ul style="list-style-type: none"> Politically & legally entrust the utilization & mgt. of the forests to the local people Participation was low due to unequal distribution of forest resources & dissatisfaction w/benefit-sharing Formulation of policies respecting customary tradition
Leonor (1995)	Mangrove	Brgy. Buswang, Kalibo, Aklan Brgy. Songcolan, Batan, Aklan	50 ha. 12 ha.		Mangrove reforestation project	ADB & OECF DAR, DENR	<ul style="list-style-type: none"> Involvement of the community in decision-making to give them feeling of belongingness, thus enhanced participation Commitment & positive perception of the people to the project Dedication of the site coordinator

Author/s	Type of Resource/ Description	Site/Location of Study	Size of Proj. Area	Type of Tenurial Instrument Used	Project Classification	Funding Source	Contributing Factors to Success or Failure
							<ul style="list-style-type: none"> • Full support of the institutions involved • Presence of livelihood project to minimize dependence of people on the forest
Nuestro (1997)	Reservation area for Negritos	Kanawan Negritos Reservation, Morong, Bataan	165 ha.	Cert. of Community Forest Stewardship (CCFS)	Integrated Social Forestry Project	DENR	<ul style="list-style-type: none"> • Strong leadership • Different incentives led the Negritos to diversify their livelihood activities
Gran (1995)	Pilot DENR mangrove reforestation project	Brgy. Sinian, Baliangao, Misamis Occ.	76 ha		Mangrove Reforestation Project	DENR	
Bermosa and Guzman (1999)	Area for indigenous people (Bugkalot)	Nagtipunan, Quirino	43,126 ha.	CADC-CBFMA	CBFM		<ul style="list-style-type: none"> • Strengthening gov't support in preserving & protecting the culture, beliefs & practices of indigenous cultural communities • Confining the tribes w/in their ancestral domain thru more opportunities for educ'n; training to expand their mrkt. linkages & cooperativism for them to get a good price for their products & technology transfer • Presence of policies for res. mgt. & conservation that

Author/s	Type of Resource/ Description	Site/Location of Study	Size of Proj. Area	Type of Tenurial Instrument Used	Project Classification	Funding Source	Contributing Factors to Success or Failure
							<p>allows non-mechanized logging & labor intensive system of forest extraction</p> <ul style="list-style-type: none"> • Project beneficiaries who are vigilant in ff. their customary laws on land & resource use
Serrano et al. (1999)	Area for indigenous people (Dumagats)	Aurora, Quezon		CADC-CBFMA	CBFM		<ul style="list-style-type: none"> • Harmonization of gov't laws w/customary laws • Strategic nat'l framework for incorporating indigenous knowledge system in the co-mgt. of ENR w/c shld. be founded on the Dumagat's rt. for self-determination, & due respect of their primary jurisdiction over nat. resources in their area • Have preferential right to manage & utilize resources for their benefit & those of their children
General (1999)	Buffer zone running parallel to the boundary of the Northern Sierra Madre Natural Park Conservation Project	San Mariano, Isabela		Socialized Integrated Industrial Forest Mgt. Agreement (SIFMA)	Socialized Integrated Industrial Forest Management Project	PLAN International	<ul style="list-style-type: none"> • Provision by DENR of sufficient budget for SIFMA. Budget Plan shld. include the formation of their own survey teams, purchase & reproduction of SIFMA forms & other documents & provision of logistics to DENR's field men to show that they can perform their

Author/s	Type of Resource/Description	Site/Location of Study	Size of Proj. Area	Type of Tenurial Instrument Used	Project Classification	Funding Source	Contributing Factors to Success or Failure
							<p>co-mgt. tasks & responsibilities</p> <ul style="list-style-type: none"> • DENR shld. strive to show their enthusiasm by sending representatives that will help the LGUs, PLAN, brgy. Councils and POs in their information dissemination campaign • Provision by DENR of technical & material support to SIFMA holders after the phase-out of funding agency support • Greater involvement of the PO to ensure that co-mgt tasks & responsibilities of SIFMA applicants are carried out • Barangay council shld. resolve land conflicts or disputes • Interest of communities can be enhanced thru IEC & support to the 1st SIFMA holders • Agroforestry farming in a buffer zone is seen as the most sustainable alternative livelihood • With profitable agroforestry farm, it is easier to convince

Author/s	Type of Resource/Description	Site/Location of Study	Size of Proj. Area	Type of Tenurial Instrument Used	Project Classification	Funding Source	Contributing Factors to Success or Failure
							people to conserve & protect the park
Paguirigan and Pasicolan (1999)	Fuelwood production on individual farms thru agroforestry and communal tree farming	Tumauini, Isabela			Fuelwood-based agroforestry and communal tree farm project	FAO-RWEDP(Regional Wood Energy & Development Project) & Isabela State University	<ul style="list-style-type: none"> • Continuous social negotiation between project implementers & the locals especially for projects that are donor-driven in design • The locals' felt needs are a strategic entry point for development projects. This requires willingness of the donor agency to adjust their terms & conditions to fit into the locals' prevailing needs preference & development pace • Clear definition of individual partner's contribution. • Provision of incentives to the community shld. be developmental, one that leads to capacity building • External institutions shld. function as mere facilitators & catalysts in

Author/s	Type of Resource/Description	Site/Location of Study	Size of Proj. Area	Type of Tenurial Instrument Used	Project Classification	Funding Source	Contributing Factors to Success or Failure
							<p>the development process</p> <ul style="list-style-type: none"> • Community organizing shld. be focused on social capability building & political capability strengthening to break the dependency syndrome of locals on external assistance

3.0 WATERSHED MANAGEMENT IN NUEVA VIZCAYA: THE CASE OF THE DENR-LGU CO-MANAGEMENT SCHEME

One of the successful cases of collaborative management in forestry is the co-management arrangement practiced in Nueva Vizcaya. In September 1997, the Department of Environment and Natural Resources and the Provincial Government of Nueva Vizcaya entered into a co-management scheme for the restoration, protection and management of the forestlands in the province classified as production and settlement zones. The local government in partnership with DENR is currently practicing three models of co-management: the DENR- LGUs- Stakeholders co-management of the Lower Magat Forest Reserve, TREE for Legacy and the Devolved Small Watershed, all part of the Community-Based Forest Management Program.

3.1 Description of the Study Area

The province of Nueva Vizcaya is located in the north-central part of Northern Luzon in Region II. It is often referred to as the northern gate to the Cagayan Valley. It is bounded on the north by the provinces of Ifugao and Isabela, on the east by Quirino and Aurora, on the south by Nueva Ecija and on the west by Benguet and Pangasinan (Figure 1). The province which is 210 km north of Metro Manila is accessible by land transportation.

The province occupies a land area of 390,390 ha (3,903.9 sq km) which is approximately 10.72 percent of the regional land area. Nueva Vizcaya has 15 municipalities and 267 barangays. Bayombong serves as the provincial capital. It is the third largest province in Region II in terms of land area.

The terrain of Nueva Vizcaya is marked by numerous mountains and forests, rolling hills and valleys. The province is surrounded by mountain ranges such as the Sierra Madre on the east, the Cordillera on the west and the Caraballo on the south. It is also well-endowed with natural water that can be tapped for irrigation, domestic and industrial water supply, hydroelectric power generation and recreation.

Because of its relative proximity to Metro Manila, Nueva Vizcaya is the first province in Region II whose accessible forest has been severely denuded, creating several environmental problems affecting not only the province but the rest of the region as well. Recognizing the grave problems of the province and its strategic importance in the region, the provincial government is one of the few LGUs who put on the ground the institutionalization of the DENR-LGU partnership on devolved forest management functions.

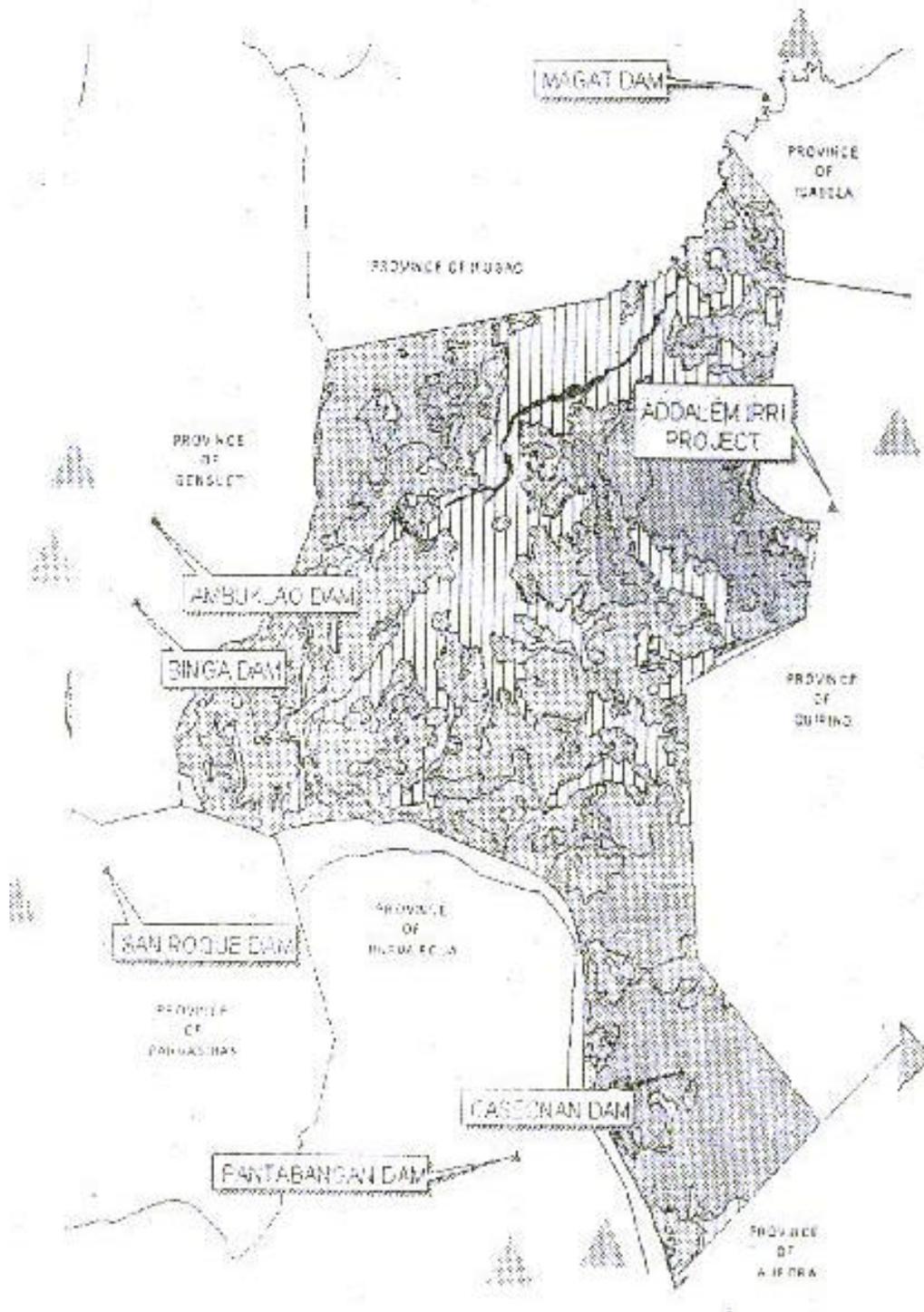


Figure 1. Map of Nueva Viscaya showing its strategic importance as a source of natural water

3.2. Model 1. DENR-LGUs-Stakeholders Co-Management of the Lower Magat Forest Reserve

The Lower Magat Forest Reserve (LMFR) encompasses the municipalities of Diadi and Bagabag in Nueva Vizcaya covering an area of 24,251 ha of forestlands and 6,547 ha of A and D lands. Part of the Lower Magat Forest Reserve was established as a reforestation project in June 1938 by the then Bureau of Forest Development. In 1969, Presidential Proclamation No. 573 was issued establishing the Magat Forest Reserve. As of October 1987, 2,572 ha were reported to have been reforested. The Magat Forest Reserve provides watershed protection support to the Magat Dam. It consists of seven major sub-watersheds and all, except for one, drain into the Magat river which is a major source of water for the Magat Dam.

Socio-Economic Background of the Lower Magat Forest Reserve

The number of households within the Reserve is 3,793 (1995) amounting to a total population of 16,978. Both in the municipalities of Diadi and Bagabag, agriculture is the main source of livelihood. In Diadi, the major crops raised are vegetables, corn, rice, mango and other fruit trees. Aquaculture production is also a major economic activity in the municipality which is noted for its tilapia. Ranching activities are also widespread in Diadi which has 3,687 hectares of pasture land and a cattle production of 4,000 heads. In Bagabag, rice and corn are the main produce. The municipality also grows pineapple, citrus, luffa, tomato, and a variety of vegetables and root crops. As in Diadi, ranching is also an important economic undertaking in Bagabag.

The 24,251 ha of forestland in the reserve consists of a number of tenured areas comprising of certificate of stewardship contracts (CSCs), pasture lease agreements (PLAs), tree farm lease agreements (TFLAs), agroforestry farm lease agreements (AFLAs) and community forestry management agreements (CFMAs). These areas comprise a total of 5,359 hectares. On the other hand, open access areas or those not covered by any tenure agreements have a total of 18,892 hectares.

The lack of adequate forest protection by the DENR, which has jurisdiction of these areas, has resulted to the uncontrolled entry of migrant settlers who continue to occupy and cultivate these areas. Problems on tenurial security and occupancy in expired pasture lease areas is also widespread causing property rights conflicts. Forest fires are common due to the forest land cover in the area which is mostly grasslands and brushlands. Aside from this, uncontrolled fire burning from kaingin farms and pastures are frequent. This situation makes reforestation efforts very difficult. The open access nature of the Reserve has likewise led to illegal resource extraction activities as well as to extensive charcoal making using raw materials sourced from plantations within the Reserve. These management and tenurial problems besetting the Lower Magat Forest Reserve have warranted a change in management regime from DENR-initiated to one jointly managed by the Provincial Government and the DENR.

Mechanisms for Entering into Co-management of the Lower Magat Forest Reserve

With the reorganization of DENR and re-focusing of reforestation efforts towards the contracting mode, funding and staff support for the LMFR resulting to the area reverting to open access status. Fearing that open access and unmanaged areas within the Forest Reserve would lead communities to engage in destructive activities, the Provincial Government of Nueva Vizcaya and the DENR reached an agreement to co-manage the area.

With the assistance of non-government organizations like Governance on Local Democracy (GOLD) Project of the Associates in Rural Development Inc. and Natural Resources Management Program (NRMP) a series of meetings, consultations and workshops were held with LGU officials and the DENR. An indicative plan was prepared laying out the strategic and operational policy directions for co-managing the Reserve by the DENR and the LGUs.

The principles that guided the planning process and the formulation of strategies of the team were the following: recognition and formalization of individual/group property rights in the form of sub-allocations, sub-agreements, joint ventures and contracts within allowed zones; flexibility and autonomy in operationalizing the co-management arrangement between the LGU and DENR based on the MOA, Indicative Plan and Annual Work Plans; the involvement and participation of the private sector (legitimate occupants, claimants, investors and non-government organizations) in the protection, development and management of the Reserve will potentially access private capital, technology, and managerial expertise; transparency, accountability, team work and defined responsibility and authority as keys in the Plan implementation.

Co-Management Implementation Mechanisms

On February 25, 1998, the Provincial Government of Nueva Vizcaya and the DENR forged a Memorandum of Agreement providing for the joint allocation, protection, development and management of the LMFR. To implement this, a Steering Committee and a Lower Magat Forest Management Office (LMFMO) were created.

The Steering Committee illustrates the collaborative arrangement whereby government and local communities share responsibility and decision making in resource management. As such, the major responsibility of the Steering Committee is to oversee, supervise, and provide policy and strategic directions and incentive systems. It is headed by the Governor of Nueva Vizcaya as chair, the Regional Executive Director of DENR-Region 2 as co-chair, and has as its members the PENRO, mayors and NGOs. The Chairman is empowered or authorized to enter into sub-agreements or contracts with individuals, private sector, or groups for the protection, development and management of the reserve as provided in the MOA. Administrative Order No. 99-01, issued by the Steering Committee, further sets the guidelines for the management and utilization of forest resources in the Lower Magat Forest Reserve, specifying the scope and coverage of the program, the basic policies, primary land uses, qualification of the participants, procedure for application and processing of management agreements, tenurial instruments, formulation of management plan and other provisions.

The LMFMO, on the other hand, is the executing and operational arm of the Steering Committee. A Project Manager heads the Steering Committee. Under the Project Manager are three line divisions and two staff offices. The two staff offices are the Administrative and the Planning, Monitoring and Evaluation offices. The line divisions are composed of the Service Center, Investment Promotion and the Eco-Tourism, Research and Commercial Complex Center.

The Service Center is responsible for seed collection and production, nursery management, ground surveys, extension services to community members, provide technical assistance to participants, Conduct IEC and review and process applications for sub-agreements and other tenure instruments. The Investment Promotion Center is in charge of planning and directing public and private sector investments in the Reserve particularly planning and accessing infrastructure support from both government and private sectors. The Eco-tourism, Research and Commercial Complex Center is in charge of managing the existing reforestation and experimental area within the Reserve.

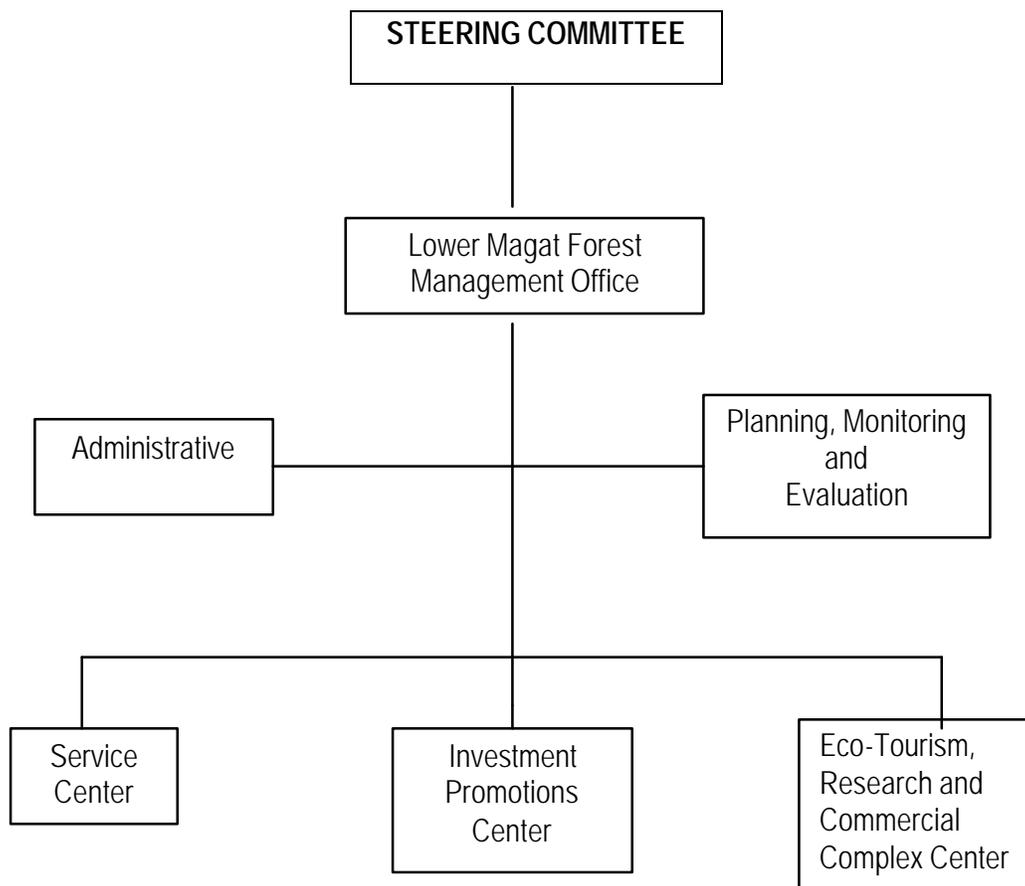


Figure 2. Organizational Structure of the Lower Magat Forest Management Office

Types of Tenurial Agreements

The open access condition of the Reserve has resulted to its “de facto” management by local communities. In recognition of the already existing individual and group property rights, the Provincial Government and the DENR came up with three types of sub-agreements with stakeholders to protect and develop the Reserve. These agreements are:

- Tree Farm Land Management Agreement (for small holders)
- Agro-Forestry Land Management Agreement (for small and large holders)
- Community-Based Agro-Forestry Land Management Agreement (for POs, NGOs, associations, etc.)
- Special Land Use Management Agreement

Memorandum of Agreements are executed between the two partners involved i.e. the Steering Committee, representing the LGU, and the Land Manager. The Governor of Nueva Vizcaya, who is the chair of the Steering Committee, DENR Regional Executive Director, and the Land Manager, jointly signs these agreements.

The primary responsibility of the Land Managers, as the stakeholders are termed in the MOA, is to develop their land, specifically to undertake rehabilitation and protection measures to restore in accordance with their management /work plan as approved by the Steering Committee. However, activities not included in their plan are subject to the consent of the Steering Committee e.g. entering into business agreement with any person, construction of any structures, and others. Since the area is a watershed area, cutting of trees is not allowed. However, designated areas are set aside where occupants can farm.

Status and Accomplishments

As of 2002, the Lower Magat Forest Management Office has issued 51 sub-agreements covering 2,348.68 hectares to individuals and associations. Project reports show that as a result of this co-management project, there have been less incidence of forest fires, timber poaching, charcoal making and forest squatting within the Reserve; expansion of fruit and forest tree farms, increased natural regeneration; more livelihood opportunities, reduced migration and selling of rights, and more participation of farmers. Finally the co-management project led to the issuance of the Joint Memorandum Circular 98-01 of DENR and DILG which served as basis for a co-management framework. Table 2 shows further details on the extent of the program's implementation.

Table 2. Summary of MOAs approved by the LMFMO Steering Committee

Type of Instrument	No. of Applicants	Total Area (has)
Agroforestry Land Management Agreement (ALMA-Large)	15	1,938.33
Agroforestry Land Management Agreement (ALMA-Small)	27	53.9778
Tree Farm Land Management Agreement	1	0.86
Community Based Agroforestry Land Management Agreement (CBALMA)	4	345.89
Special Land Use	4	9.6209
Grand Total	51	2,348.6787

Source: Lower Magat Forest Management Office, Nueva Vizcaya

3.3. Model 2. TREE for Legacy Program (Tree Resources for Enterprise, Education and for Legacy)

The TREE for Legacy Program arose out of the realization that the traditional approach to reforestation, such as standard tree planting and contract reforestation, has failed. The TREE for Legacy Program addresses the problem of unsustainable reforestation activities by providing incentives that would address the basic needs of the beneficiaries.

The program covers the whole province of Nueva Vizcaya and is applicable to private and public lands and forestlands. The area of coverage differs depending on the type of applicants: for individual applications, up to 5 ha; for associations/cooperatives, from 5 to 10 ha, and for corporations, more than 100 ha.

Program Thrusts

The thrusts of the Tree for Legacy program are two-fold, to improve the socio-economic conditions of the participants and to improve the bio-physical condition of the areas covered by the program. On the socio-economic aspect, it aims to alleviate poverty through the generation of alternative sources of income; restore and legitimize local wood supply; democratize access to land and decision-making; reverse negative attitudes towards reforestation; and provide security of tree ownership. On the other hand, the bio-physical thrusts of the program aim to develop and rehabilitate open, idle or degraded and marginal lands; restore and conserve land to improve soil quality; and improve the quality and quantity of water resources.

To achieve these thrusts, the LGU entered into a series of partnerships with local community groups, associations, schools and individuals to rehabilitate degraded forest protection and production zones and private lands. In the 3 program components under the Tree for Legacy Program, the main strategy is for participants to have access to the products they have planted.

Program Components

Tree for Legacy

This program provides usufructory rights to individuals or groups for trees planted in protection areas of watersheds including national parks, public parks, water sources, river banks, areas intended for reforestation, areas along roads, buffer zones, areas not suitable for agriculture and settlement, among others. Participants can enjoy the products from the trees planted such as fruits and flowers. Cutting of trees is not allowed to preserve the scenic and aesthetic value of the area.

Tree for Education

The Tree for Education program supports the raising of commercial trees by students and entitles them to harvesting privileges in designated production areas of watersheds. Areas included in this program are school reservations, open access areas, and ISF areas. Incentives to the program include harvesting of tree products, marketing support and assistance.

Tree for Enterprise

Tree for Enterprise entitles tree growers secure harvesting rights over trees planted in production areas of watersheds, alienable and disposable lands, all open areas (e.g. abandoned PLAs, ISF areas), CADC areas, civil reservation, ISF areas, existing PLAs, areas managed by religious organizations. Awards are given to participants with satisfactory performance and tax breaks/holidays given.

Mode of Implementation

The implementation of the Program involves the DENR, LGU-ENRO, Department of Education, barangay and the provincial assessor's office. The DENR issues permit to cut, transport harvested timber, monitor cutting of trees and processing together with the ENRO, and determines the trees to be cut. The Municipal Assessors, on the other hand, is charged with keeping of and registering documents. The barangay issues the appropriate certificate and acts as arbiter of conflicts.

Program participants are issued certificates of ownership. The Certificate of Usufruct is issued to Tree for Legacy participants. It entitles the holder to harvest flowers/fruits and other by-products from trees but not to cut the tree. On the other hand, the Certificate of Tree Ownership is given to Tree for Education and Tree for Enterprise participants. It allows the holder to cultivate, harvest and market the trees planted and grown in the area. However sustainability is provided for in the Program since only 60 percent of the trees could be harvested and cut trees have to be replaced with new seedlings. Both certificates can be transferred to family members or sold to legitimate residents of the barangay.

Status and Accomplishments

As of 2003, around 2,420 hectares have been covered under the 3 components of the Tree for Legacy Program and approximately 808,718 seedlings planted (Table 3). In addition, 236 Memorandum of Agreements covering 1,776.59 hectares were issued broken down as follows: Tree for Legacy, 6; Tree for Education, 4; Tree for Enterprise, 226. A total of 100 Certificates of Ownership were also released under the Tree for Education and Tree for Enterprise components.

The widespread participation of various sectors in the Tree for Legacy Program has resulted to the following impacts: participants were converted to forest guards/managers, reduction in forest fire, charcoal-making and timber poaching; improved supply of potable water for domestic and irrigation use; creation of alternative sources of employment and livelihood, among others. The program has also reportedly contributed to the decrease of poverty incidence in the province, from 52% in 1992, to 23% in 1997 and to 10.9% as of the 2000 census.

Table 3. Status of Tree for Legacy Program

Project Components	Hectares	Seedlings Planted	Schools	Organizations/ Associations	Individuals
Tree for Legacy	168	58,662	8	59	2,360
Tree for Education	79.59	49,556	70		2,100
Tree for Enterprise	2,172.56	700,540		33	1,423
Total	2,420.15	808,718	78	92	5,883

Source: Environment and Natural Resources Office, Provincial Government of Nueva Vizcaya

3.4 Nature and Extent of Co-Management Practiced

Jointly executed guidelines and Memorandum of Agreements guide the co-management scheme between the LGU and the DENR. These documents further strengthen the co-management arrangements between and among the DENR, LGU and the community. The co-management agreement between the various stakeholders spells out the rights and obligations of each as specified in the MOAs and guidelines. The role of the Department of Environment and Natural Resources, which is the primary government agency responsible for the conservation, management, protection and proper use of the environment and natural resources, is mainly facilitative and coordinative. This includes providing technical assistance to the provincial LGUs, conducting periodic monitoring and assessment, and provide services and resources in implementing the projects, among others.

The main responsibility of the Local Government Unit is to lead, direct and coordinate the planning, implementation and monitoring of work plans; allocate human and financial resources, pass the necessary ordinances, rules and regulations in support of the project, facilitate capability-building and empowerment activities of people's organizations.

The People's Organizations/stakeholders on the other hand, implement the programs and its activities. It is responsible for maintaining, protecting and managing the plantations and farms. It also harvests the produce from the trees they have planted such as fruits and flowers.

3.5. Issues and Concerns Arising from Co-Management Schemes in Nueva Vizcaya

The legal framework for the local-level management of forest and natural resources is the 1991 Local Government Code. It laid down the foundation for decentralization and devolution thereby simplifying the lines of authority over the management of resources. In line with this, the DENR issued several policy issuances governing co-management. These are DAO No. 92-30 entitled Guidelines for the transfer and implementation of DENR functions devolved to the local government units; the DENR-DILG Joint Memorandum Circular No.98-01 entitled Manual of procedures for DENR-DILG-LGU partnership on devolved and other forest management functions; and the Joint Memorandum Circular No. 2003-01 entitled Strengthening and institutionalizing the DENR-DILG-LGU partnership on devolved and other forest management functions.

The LGUs are bounded by the Local Government Code of 1991 in the performance of their roles and responsibilities of the devolved forest management functions. Although the Code embodies a comprehensive legal framework for managing forest and natural resources at the local level, specific policies are needed to be crafted suited to a specific area and type of resource.

There are policy gaps in the Code that weakens enforcement. Section 1 of JMC No. 98-01 reiterates the general policies on devolution contained in the Code. It clearly states that the DENR remains as the primary government agency responsible for the conservation, management, protection, proper use and sustainable development of the country's environment and natural resources. This section also states that the LGUs share with the DENR the responsibility in the sustainable management and development of the forest resources within their territorial jurisdiction. Furthermore, the implementation of devolved functions as provided by the Code is subject to the Department's supervision, control and review. This is a policy gap that negates or limits the powers of the LGUs to exercise their functions. Essentially, this means that the DENR devolved to LGU only field personnel, few assets and resources.

The study also analyzed the issues and concerns arising from co-management at the level of the major partners involved.

DENR

Section 9 of the Joint DENR-DILG MC. No. 2003-01 enjoins the LGUs to provide funds to make devolution, partnership and co-management effective. This provision states that *the*

DENR shall provide the necessary technical support to capacitate the LGUs in handling forest management responsibilities. The LGUs are enjoined to provide the necessary funds to make the devolution, partnership and co-management work. Other resources sharing arrangements shall be worked out among DENR, DILG and LGUs, and guidelines for such arrangements shall be provided for in the National Strategic Partnership Plan. Because of the ambiguity of this provision, funds for this activity are very limited or not available at present. Many technical trainings aimed at capacitating the LGUs are constrained by lack of budget.

LGU

Section 7 of the Joint DENR-DILG MC No. 2003-01 reiterates the participation of LGU in the issuance of tenure instruments and permits under Sec. 9.3 of JMC 98-01. This provision states the participation of the LGU in the issuance of tenure instruments and permits. This section states that *it is mandatory for pertinent DENR offices to submit to the LGU for comments any application for tenurial instruments including resource extraction permits before the said instruments or permits are issued. In cases where the forest area covers two or more cities/municipalities, then the comments of all city/municipal LGUs including the provincial LGU must be requested. In cases where the forestland area covers two or more provinces, the comments of all city/municipal LGUs and the provincial LGUs which cover the area must be requested.*

However, the LGU sees it most proper that it issues by itself the resource extraction permits and that its role be not confined only to giving comments.

PO/Community

The POs/ communities feel that they still lack knowledge about the CBFM program because of insufficient IEC training. Furthermore, they still prefer to be under the old ISF program, because, to be converted into the CBFM they have to fulfill a lot of requirements. Although they expressed interest in applying under the CBFM program so that other community members can avail of land to farm, they feel constrained to do so by the requirements needed. In spite of the co-management, they feel that decision-making still mainly remains with the DENR.

3.6. Strengths and Weaknesses of the Co-Management Schemes in Nueva Vizcaya

The co-management scheme practiced in Nueva Vizcaya is still at a pilot stage. However, it has shown significant progress in rehabilitating denuded forestlands, managing existing forests and undertaking extensive reforestation in production and protection forests. On the other hand, questions still arise on the sustainability of these co-management schemes. Below are the perceived strengths and weaknesses of co-management of natural resources as practiced in Nueva Vizcaya.

Strengths:

1. Formulation of guidelines and strategies to operationalize co-management policies on the field.

These policies are translated into Memorandum of Agreements and guidelines with specific and well-defined functions and obligations, roles and responsibilities of each partner, the DENR, LGU, POs/stakeholders.

2. Recognition of existing community management arrangements and providing the appropriate policy support to institutionalize it.

Tenurial arrangements existing in the area were converted into agreements such as Tree Farm Land Management Agreement, Agro-Forestry Land Management Agreement and CBFMAs which are covered by a Memorandum of Agreement.

3. Provision of rights and incentives

The participants to the different co-management schemes are given the right to harvest the products from trees they have planted in return for guarding, protecting and managing their areas sustainably. Participants are therefore afforded with livelihood opportunities through this program. The agreements are also long-term covering 25 years, renewable for another 25 years. Aside from these, they have the right to transfer their claims to the next of kin or to interested members of the community.

4. Technically trained and capable staff of the Environment and Natural Resources Office

The ENRO, tasked to oversee the co-management activities, consists of technically trained personnel devolved from the DENR to the provincial government.

Weaknesses:

1. Unspecified mechanisms for accessing technical, financial and other forms of assistance from DENR and other government agencies
2. Problems in resolving boundary conflicts in the different tenurial instruments
3. Insufficient IEC to enhance the awareness of participants/stakeholders on the merits of the different co-management programs and on community based forest management programs.

3.7. Lessons Learned from the Co-Management Schemes in Nueva Vizcaya

The following lessons were drawn from the practice of co-management in Nueva Vizcaya:

1. Identification of the project should be demand-driven and based on felt needs of the community
2. The project should answer the basic needs of the stakeholders

3. Recognition of usufruct and tenurial rights
4. Easy and simple to follow guidelines that are transparent and have accountability
5. Clear delineation of roles and responsibilities of the different stakeholders and a well-defined incentive system
6. Strong leadership that can motivate and harmonize the different and conflicting interests
7. Placing a social infrastructure and corresponding budgets attuned to the operationalization of plans
8. Capacity-building for public officials and networking with potential donors and investors, research institutions and NRM practitioners

4.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

4.1 Summary and Conclusions

The study documented, reviewed and analyzed different co-management schemes existing in the Philippine forestlands. A deeper study of these cases is needed to understand the factors leading to successful co-management arrangements and to find ways of strengthening existing policies and guidelines governing the joint management of forest and natural resources by different stakeholders. Specifically, the study aims to pursue the following objectives: (1) to identify the different stakeholders and evaluate the mechanism of entering into socially negotiated institutional arrangements; (2) to determine and evaluate the nature and the extent of stakeholders' involvement in co-managing forest resources; (3) to identify and document the factors affecting successes and failures of the different co-management schemes; (4) to determine and recommend ways of achieving sustainability of co-management schemes; and (5) to provide comprehensive recommendations for addressing policy and field level implementation gaps.

To attain the objectives of the study, primary and secondary data were collected. The study did a case analysis of the co-management scheme practiced in managing the watershed resources in Nueva Vizcaya. The data were gathered through focused group discussion of the different stakeholders consisting of the DENR, LGU, and PO. From the case analysis, lessons were drawn from their practices on co-management.

Analysis of secondary data involved the analytical review of different researches, studies and other relevant literatures on co-management of forest and natural resources. The study identified the different stakeholders as consisting of the community which is represented in most cases by the people's organization, non-government organizations (NGOs), local government units (LGUs), the DENR and other government agencies (OGAs). From the analytical review, the study synthesized the mechanisms for entering into socially negotiated collaborative management; the nature and extent of stakeholders' involvement in co-management; their

respective responsibilities and benefits or incentives in co-management; and the factors influencing the success and failure of the different co-management schemes.

The mechanisms of entering into co-management arrangements greatly vary depending on the type of resource, the conditions and needs of particular sites, and the mode of interventions as dictated by the funding or grant-giving agency. Shown in Table 4 is the summary of the implementation approaches and types of tenure of various CBFM-type approaches in the uplands and near coastal areas. It can be gleaned from the table that the implementing scheme varies with the type of program and so are the mechanisms of entering into partnership agreement. Intervention activities take various forms like infrastructure support; comprehensive site development through loan support, volunteer labor in exchange for free seedlings or funds generated from resources coming from the area; community organizing by NGO or the DENR; and technical support services.

The study also evaluated the nature and extent of co-management practiced by the different stakeholders. As documented in the field study in Nueva Vizcaya, the co-management agreement between the various stakeholders spells out the rights and obligations of each as specified in the MOAs and guidelines. The Department of Environment and Natural Resources, as the primary government agency responsible for the conservation, management, protection and proper use of the environment and natural resources, its role is mainly facilitative and coordinative. This includes providing technical assistance to the provincial LGUs, conducting periodic monitoring and assessment, and providing services and resources in implementing the projects, among others.

The Local Government Unit shares in the co-management through leading, directing and coordinating the planning, implementation and monitoring of work plans, allocates human and financial resources, passes necessary ordinances, rules and regulations in support of the project, facilitate capability-building and empowerment activities of people's organizations. The People's Organizations/community, on the other hand, is responsible for developing and protecting the project area.

There are also several documented cases (Lina, 2001 and Salvosa, 2001) of best practices made by the LGUs in performing devolved forest management functions. In these cases, the local governments implemented projects by mobilizing citizen involvement by appealing to their spirit of volunteerism and sense of civic responsibility. These practices have been recognized through *Galing Pook Awards* initiated by the Department of Interior and Local Government (DILG) and the Asian Institute of Management (AIM). Some of these are the following:

- (1) In 1994, Puerto Princesa City has mobilized the community to protect and conserve natural resources with the creation of Bantay-Gubat, Bantay-Dagat, and other socio-civic groups to protect and manage the environment including watersheds and coastal areas.
- (2) Kalibo, Aklan initiated a related project with its campaign to save the mangroves. With the active involvement and participation of the communities, mangrove areas were enhanced and protected to serve as breeding places for marine resources.

- (3) Marikina City was cited for its Save the Marikina River. This project has been the model of excellence in local governance and environmental protection.
- (4) In Iloilo, the Maasin Watershed was spared from further damage with the timely intervention of the local government. The provincial government established the Maasin Watershed Task Force, a multisectoral group composed of the provincial and city governments; three municipal LGUs, the DENR, media, NGOs, civic clubs, a number of corporations and educational institutions. The Task Force mobilized 5,000 people for mass tree planting. It also implemented the *Adopt a Tree Park* program which designated specific areas for particular groups or organizations to reforest and protect. Program participants are also allowed to practice agroforestry-based livelihood projects.
- (5) In Zambales, the marine conservation of San Salvador Island is yet another illustration of the significant roles the LGUs can play to enhance and conserve natural resources including marine resources.
- (6) The Eco-Walk project implemented in Baguio City, shows how innovative the LGU both in protecting the environment and educating the children to love and protect the environment.
- (7) The upland agricultural development initiated in Magsaysay, Davao del Sur shows how to exploit natural resources and at the same time maximize and protect watershed areas.

Table 4. Summary of the implementation approaches and types of tenure of various CBFM-type approaches in the uplands and coastal areas.

Program/Project	Implementing Scheme	Tenure
ENR-SECAL	Watershed management planning with heavy infrastructure support, CO by the DENR staff	Certificate of Stewardship Contract (CSC)
FSP/OECF	Loan support for comprehensive site development, CO by contract with the NGO	Community Forest Management Agreement (CFMA)
CEP	Site development through volunteer labor, seedlings provided by program	Mangrove Stewardship Agreement (MSA)
NRMP	Site development funds generated from resources coming from the CBFM area, CO by the DENR staff and assisting professionals	Community-based Forest Management Agreement (CBFMA), CSC inside CBFM area, CADC
LIUCP	Heavy emphasis on infrastructure development in cooperation with the LGUs	Community Forest Stewardship Agreement (CFSA) converted to CADC, CSC
CFP	Loan support for comprehensive site development, CO by contract with NGO	CFMA
ISF	Mostly through individual families, technical support services provided, CO by the DENR	
ADMP	Site development generated from resources coming from the CBFM area, CO by the DENR staff	CADC, CALC

Source: Acosta, R.T. 2001. The role of upland communities in Watershed Management. General Technical Report Series No.9. Forestry Development Center, CFNR, UPLB, College, Laguna

In general, co-management arrangements have proven to be an effective strategy in managing forest and natural resources which used to be centrally managed by the government. There are several factors contributing to success or failure of co-management. Hence, we need to probe for the really workable combinations in specific regions or communities. At the community level, the following are the contributing factors to success or failure: (1) it can be an effective partner in resource management, protection, and conservation if it is clear to them that they will benefit from the project; (2) the involvement of the community in the planning of activities builds confidence and creates ownership of the work and outputs, thus it enhances participation; (3) the livelihood component must be an integral part of the project to sustain the people's participation; (4) social preparation should always precede technical intervention; and (5) commitment and positive perception of the people to the project.

The factors to success or failure at the LGU level are (1) successful LGUs are those who have allocated human resources and their own local funds to the project; (2) enactment of local policies and ordinances to support the project; (3) strong & committed leadership that is dynamic and pro-active; and, (4) a strong ENRO as a regular division of the LGU with staffing support and annual budget allocation.

At the DENR level, the important contributing factors to success or failure as derived from the study are (1) dedication of the DENR personnel; (2) the DENR must review and update policy issuances so as to harmonize existing laws with long-term needs of the people and the environment; (3) should seek ways and means to raise and allocate funds for the project ; and (4) the field personnel must update and retool themselves on the new policies and implementation guidelines to be effective partners.

4.2 Recommendations

In view of the findings of the study, the following recommendations were drawn:

- (1) Harmonization of laws on devolution with rules and procedures governing devolved functions. The implementation of devolved functions as provided by the 1991 Local Government Code are subject to the DENR's supervision, control and review. This is tantamount to limiting the powers of the LGUs to exercise devolved functions.
- (2) Build-up the capability of LGUs to deal with management of the natural resources within their territorial jurisdiction. Although there are success stories about the LGUs ability to manage devolved forest management functions, many LGUs have limited capabilities due to very low budget appropriations for staff development.

REFERENCES:

- Acosta, R.T., 2001. The role of upland communities in watershed management . *In* Enhancing and Sustaining Stakeholders' Participation in Watershed Management, General Technical Report Series No. 9, Forestry Development Center, U.P. Los Baños College of Forestry and Natural Resources, College, Laguna, Philippines.
- Agbayani, R. Q. 2002. Role of LGUs in watershed management: The Nueva Vizcaya Experiment. Paper presented to the 6th Multi-Sectoral Forum on Watershed Management, in Banaue, Ifugao, 14-15 November 2002.
- Antolin, A. T. 1999. Co-management of natural resources. *In* Co-Managing the Environment. The Natural Resources of the Sierra Madre Mountain Range (E.C. Bernardo and D.J. Snelder, eds.). Proceedings of the International Work Conference organized by CVPED and Plan International, in Cabagan, Isabela, Philippines, on 21-24 September 1998.
- Baaco, A.T. 1999. Institutional arrangements in the management and utilization of the Iwahig upland ecosystem. MS Thesis, U.P. Los Baños, College, Laguna.
- Bermosa, C. S. and R. Z. Guzman. 1999. Environmental factors influencing migration among the Nbugkalots at nagtipunana, Quirino. *In* Co-Managing the Environment. Natural Resources of the Sierra Madre Mountain Range (E.C. Bernardo and D.J. Snelder, eds.). Proceedings of the International Work Conference organized by CVPED and Plan International, in Cabagan, Isabela, Philippines, on 21-24 September 1998.
- Bernardo, R. G. 2001. Environmental impacts and distribution of benefits of Apo Island marine sanctuary, Dauin, Negros Oriental, Philippines. MS thesis, U.P. Los Baños, College, Laguna.
- Bromley, D.W. and M. M. Cernea. 1989. The Management of Common Property Natural Resources: Some Conceptual and Operational Fallacies. World Bank Discussion Paper No. 57.
- Carandang, A. P. 2001. Determination of appropriate production sharing policy in Community-Based Forestry Management areas. Paper presented at the Forestry Development Center Policy Seminar Series, UPLB-CFNR Operations Room.
- Catacutan, D.C. and C. E. Duque. Local natural resources management: sustaining factors and policy imperatives. A synthesis report of country-wide case studies of eleven practicing LGUs in local Natural Resources Management, Valencia City, Bukidnon, 8-9 November 2001. International Centre for Research in Agroforestry. Southeast Asia and Regional Research Programme.
- FAO. 1993. Common Forest Resource Management: Annotated Bibliography of Asia, Africa and Latin America. Community Forestry Note No. 11.
- Ganguli, B. N. 1993. Sustainable management of forest resources: issues for common property. A keynote address to the 4th International Conference of the International Association for the Study of Common Property (IASCP), Asian Development Bank, Manila, Philippines (mimeographed).

- General, A. A. 1999. Co-management of the environment through the Socialized Integrated Industrial Forest Management Agreement (SIFMA): The San Mariano experience. *In* Co-Managing the Environment. Natural Resources of the Sierra Madre Mountain Range (E.C. Bernardo and D.J. Snelder, eds.). Proceedings of the International Work Conference organized by CVPED and Plan International, in Cabagan, Isabela, Philippines, on 21-24 September 1998.
- Gran, E.G. 1995. People's participation in mangrove ecosystem: Management in Sinian, Baliangao, Misamis Occidental. MS Thesis, U.P. Los Baños, College, Laguna.
- Kayastha, A. K. 1995. Indigenous community-based forest resource management system and its impact on environmental integrity in Haliap, Ifugao province, Northern Philippines. MS Thesis, U.P. Los Baños, College, Laguna.
- Leonor, R. L. 1995. Environmental resource management of two mangrove projects in the province of Aklan. MS Thesis, U.P. Los Baños, College, Laguna.
- Lina, J. D. 2001. Role of local government units in watershed management. *In* enhancing and Sustaining Stakeholders' Participation in Watershed Management, General Technical Report Series No. 9, Forestry Development Center, U.P. Los Baños College of Forestry and Natural Resources, College, Laguna.
- Lower Magat Forest Reserve Indicative Plan.
- Malayang, B. S. III. 1999. Environmental co-management in the Philippines: a policy challenge from the perspective of political ecology. *In* Co-Managing the Environment. Natural Resources of the Sierra Madre Mountain Range (E.C. Bernardo and D.J. Snelder, eds.). Proceedings of the International Work Conference organized by CVPED and Plan International, in Cabagan, Isabela, Philippines, on 21-24 September 1998.
- Nuestro, E. D. 1997. Institutional incentives in Community-Based Resources Management in Kanawan, Negritos Reservation, Morong, Bataan. MS Thesis, U.P. Los Baños, College, Laguna.
- Paguirigan, D. M. and P. N. Pasicolan. 1999. Between donors' prescription and community felt need: A dilemma and a process of social negotiation on co-management. *In* Co-Managing the Environment. Natural Resources of the Sierra Madre Mountain Range (E.C. Bernardo and D.J. Snelder, eds.). Proceedings of the International Work Conference organized by CVPED and Plan International, in Cabagan, Isabela, Philippines, on 21-24 September 1998.
- Poquita, A. L. 2000. Assessment of the first community-based coastal resource management project in Aguning, Carlos P. Garcia, Bohol. MS Thesis, U.P. Los Baños, College, Laguna.

- Sajise, P. E., F. P. Fellizar and G.C. Saguiguit. 1999. The road to community-based resource management in the Philippines: entries, bends, tolls and dead-ends. In Co-Managing the Environment. Natural Resources of the Sierra Madre Mountain Range (E.C. Bernardo and D.J. Snelder, eds.). Proceedings of the International Work Conference organized by CVPED and Plan International, in Cabagan, Isabela, Philippines, on 21-24 September 1998.
- Serrano, R. C., N. Calderon and G. Ebenga. 1999. Incorporating Indigenous Knowledge Systems and Practices in the co-management of Aurora forest biodiversity: Focus on the Dumagats. In Co-Managing the Environment. Natural Resources of the Sierra Madre Mountain Range (E.C. Bernardo and D.J. Snelder, eds.). Proceedings of the International Work Conference organized by CVPED and Plan International, in Cabagan, Isabela, Philippines, on 21-24 September 1998.