

# Community-Based Forest Management in the Philippines: A Preliminary Assessment



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Institute of Philippine Culture  
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## ACRONYMS

AAC	annual allowable cut
ADB	Asian Development Bank
ADMP	ancestral domain management plan
ANR	assisted natural regeneration
ASPECTS	Agroforestry Support Program for Empowering Communities towards Self-Reliance
AWCF	Asian Women in Co-operative Development Forum
AWP	annual work plan
BENRO	Bukidnon Environment and Natural Resources Office
BEST	Bukidnon Environment Small-Scale Tree Farm Project
BLUDPP	Buhi-Lalo Upland Development Pilot Project
BOD	board of directors
BRWDP	Banica River Watershed Development Project
BURDFI	Bicol Upland Resources Development Foundation, Inc.
CADC	Certificate of Ancestral Domain Claim
CADT	Certificate of Ancestral Domain Title
CALC	Certificate of Ancestral Land Claim
CALT	Certificate of Ancestral Land Title
CARP	Comprehensive Agrarian Reform Program
CBFM	Community-Based Forest Management
CBFMA	Community-Based Forest Management Agreement
CBNRM	Community-Based Natural Resource Management
CFLA	Communal Forest Lease Agreement
CFMA	Community Forest Management Agreement
CFP	Community Forestry Program
CFPQ	Community Forestry Program for Quirino
CFSA	Certificate of Forest Stewardship Agreement
CLOA	Certificate of Land Ownership Award
CPEU	Center for People Empowerment in the Upland
CPPAP	Conservation of Priority Protected Areas Program
CRMF	community resource management framework
CSC	Certificate of Stewardship Contract
CSD	Comprehensive Site Development
CTF	Communal Tree Farm
CVRP	Central Visayas Regional Project
DAO	Department Administrative Order
DATEC	Dingle Agricultural and Technical College
DENR	Department of Environment and Natural Resources
DILG	Department of Interior and Local Government
DSFFG	Department of Social Forestry and Forest Governance

DTI	Department of Trade and Industry
ECC	Environmental Compliance Certificate
ENR-SECAL	Environment and Natural Resources-Sectoral Adjustment Loan
EO	Executive Order
EU	European Union
FAR	Family Approach to Reforestation
FIDA	Fiber Industry Development Authority
FLMA	Forest Lease Management Agreement
FMB	Forest Management Bureau
FOB	freight on board
FOM	Forest Occupancy Management
FPE	Foundation for the Philippine Environment
FSC	Forest Stewardship Council
GEF	Global Environment Facility
GO	government organization
GOLD	Governance and Local Democracy
GOP	Government of the Philippines
GTZ	Gesellschaft fur Technical Zusammenarbeit
HES	Human Ecological Security
ICC	indigenous cultural community
ICRAF	International Centre for Research in Agroforestry
IFMA	Industrial Forest Management Agreement
IGM	Inspeccion General des Montes
ILO	International Labour Organization
IPC	Institute of Philippine Culture
IPRA	Indigenous People's Rights Act
IRA	Internal Revenue Allotment
ISFP	Integrated Social Forestry Program
ITTO	International Timber Trade Organization
JBIC	Japan Bank for International Cooperation
KBFAI	Kapit-Bisig Farmers Association, Incorporated
KEF	Kalahan Educational Foundation
KMYLB	Kapunongan sa Mag-uuma sulod sa Yutang Lasangnon sa Bulolakaw
KRA	key result area
LGC	Local Government Code
LGU	local government unit
LIUCP	Low-Income Upland Communities Project
LOI	Letter of Instruction
MBRLC	Mindanao Baptist Rural Life Center
MC	Memorandum Circular
MOA	Memorandum of Agreement
MOSCAT	Misamis Oriental State College of Agricultural Technology
MPFD	Master Plan for Forestry Development
NCIP	National Commission on Indigenous Peoples

NCSO	National Census and Statistics Office
NGA	national government agency
NGO	nongovernment organization
NIPA	NGOs for Integrated Protected Areas
NIPAS	National Integrated Protected Areas System
NPPFRDC	Ngan, Panansalan, and Pagsabangan Forest Resource Development Cooperative
NRMP	Natural Resources Management Program
NTFP	non-timber forest product
NVS	natural vegetative strips
NVSIT	Nueva Vizcaya State Institute of Technology
OECF	Overseas Economic Cooperation Fund
PACAP	Philippines-Australian Community Assistance Project
PAMB	Protected Area Management Board
PASu	protected area superintendent
PD	Presidential Decree
PICOP	Paper Industries Corporation of the Philippines
PLA	Pasture Lease Agreement
PNOC	Philippine National Oil Company
PO	people's organization
PRA	Participatory Rural Appraisal
PROFEM	Program for Forest Ecosystem Management
PSLS	Philippine Selective Logging System
RA	Republic Act
RRA	Rapid Rural Appraisal
RRDP	Rainfed Resources Development Project
RRMP	Regional Resource Management Program
RUP	resource use plan
SALT	Sloping Agricultural Land Technology
SIDA	Swedish International Development Cooperation Agency
SIFMA	Sustainable Industrial Forest Management Agreement
SWCF	Soil and Water Conservation Foundation
SWOT	strengths-weaknesses-opportunities-threats
TKFPI	Tao Kalikasan Foundation of the Philippines, Inc.
TLA	Timber License Agreement
TSI	timber stand improvement
UDP	Upland Development Program
UNAC	Upland NGOs Assistance Committee
UNDP	United Nations Development Programme
UPLB	University of the Philippines at Los Baños
USAID	United States Agency for International Development
VSO-P	Voluntary Services Overseas Philippines

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The CBNRM Forestry Team

# 1

## INTRODUCTION

Community-based forest management (CBFM) constitutes a powerful paradigm that evolved out of the failure of state forest governance to ensure the sustainability of forest resources and the equitable distribution of access to and benefits from them. Acknowledging the role of commercial timber extraction, corruption, and ineffectual governance in creating the twin problems of forest degradation and upland poverty (Porter and Ganapin 1988; Repetto 1988; Kummer 1992), CBFM advocates stress the urgent need to empower and involve communities in forest management (Poffenberger 1990; PWG 1999). Espousing a participatory development paradigm, they maintain that forest protection and sustainable use can be more effectively achieved when local communities plan and implement these themselves instead of having the state, which has shown dismal performance thus far, continue to do so on its own. This participatory and community-based sustainable management stance translates to advocacy for community participation in local forest governance. It is believed that “responsiveness, effectiveness and efficiency are optimally obtained when decisions, programs and projects are done by those who should know them best—the people themselves” (PBSP 1994).

The rationale for this is both pragmatic and ideological. In the first place, forest-dependent communities have as large, or even larger, stake in sustainable forest management as the government bureaucracy for the simple reason that they depend on this resource base for their survival (Poffenberger 1990; Ascher 1995). In addition, living near or within forestlands, local communities are presumed to have greater knowledge and understanding of the terrain, the resources, and their constraints and opportunities (Korten 1986; Ascher 1995), and are presumably in a better position to respond quickly to such emergencies as fire outbreaks, encroachment, or timber poaching. Besides, considering that forestland communities—both indigenous peoples and migrants—have been the subject of government neglect and gross injustice for a long time (Vitug 1993), either through colonial aggression (Hurst 1990; Poffenberger 1990), inequitable resource allocation, or outright displacement by the more favored logging or mining concessionaires (Guiang and Manila 1994), the principle of social justice demands no less than community participation in both the benefits and

□ responsibilities of forest management (Poffenberger 1990; Korten 1993). Finally, in the course of their day-to-day interactions with the forests, many forest-user groups have developed indigenous knowledge systems and institutions that allow them to regulate local forest use (Dove and Rao 1990; Gilmour and Fisher 1991) and ensure continuity of the resource. CBFM allows the use of such local resources as indigenous knowledge and institutions in promoting sustainable forest management.

This movement toward local forest governance reflects national and international tendencies toward decentralization and devolution, particularly in the field of natural resource management (Poffenberger 1990; Hobley 1996). It is a central feature of the international discourse on common pool resources, which encompasses concerns on property rights, collective action, and local institutions that sustain self-regulation (Bromley and Cernea 1989; Ostrom 1991; Agrawal and Ostrom 1999). This discourse also implies the international community's influence on creating awareness of the value of indigenous knowledge, the existence of many sustainable indigenous systems (Dove and Rao 1990; Gilmour and Fisher 1991), and the indigenous people's struggle to protect and reclaim their identities and homelands (Poffenberger 1990). In the Philippine context and as highlighted by the Local Government Code (LGC) of 1991, this is likewise viewed as a concrete effort to realize the national ideals of democracy and social justice (Brillantes 2000).

The success of CBFM efforts is hinged on how well communities have exercised their right not only to participate in forest governance but also to employ their internal cultural resources—such as indigenous knowledge systems and social organizations—toward attaining resource sustainability, as well as on how much space they are given for exercising this right. How the government's CBFM program and the indigenous forest community management systems interact and influence each other is a question that should, therefore, interest government and nongovernment promoters of CBFM. This is tied to the CBFM funders' keen interest in whether or not the current CBFM strategy and related programs are indeed (1) embarking on and investing in sustainable forest and forestland management, and (2) translating into reality the benefits promised to the communities (Guiang and Harker 1998; Mickelwait, Harker, and Guiang 1999; World Bank 2001; Bisson and others 1997).

The present report is an initial attempt to look into the phenomenon of community participation in forest management and governance in the country,

both within and outside the context of the government's CBFM program. It is the result of several months of literature review and limited site validation of documented and undocumented CBFM experiences. It seeks to characterize the various CBFM models that exist, identify their strengths and weaknesses, and articulate underlying issues that enhance or constrain community participation. In so doing, it hopes to serve as a building block for further research and, hopefully, future positive action that will secure the communities' access to their natural resource base, ensure the sustainability of their livelihood, and contribute to the increase in number of empowered individuals whose community organizations and institutions reinforce the sustainable use of their resources.

The report is divided into six parts. This introductory chapter provides the sectoral context of forestry in the Philippines, which serves as the backdrop of current and past CBFM efforts, the research methodology, and the conceptual issues in the literature that frame the research, particularly those relating to community, governance, and sustainability. The second chapter contains a historical overview of the evolution of CBFM in the country. The third, fourth, and fifth chapters focus on the discussion of sustainability, community, and governance, respectively, in the context of CBFM. In each of these three data chapters, the underlying conceptual issues are tackled. The sixth and final chapter brings together the different pieces of the CBFM puzzle to articulate some generalizations on the CBFM Philippine experience thus far, its strengths and weaknesses, and its underlying influences. It interprets from these experiences lessons on how challenges and opportunities might be approached in the future to further the cause of community participation and empowerment in forest resource management.

## **THE PHILIPPINE FORESTRY SECTOR AND CBFM**

This section describes the resource degradation and upland poverty situation in the country which provides the rationale for the implementation of CBFM in the Philippines. It further presents the enabling policies intended to promote and support CBFM efforts, and lays out the assumptions that underlie the CBFM program and the key strategies which formalize state support for CBFM.

### **Resource Degradation and Poverty**

The forest cover of the Philippines declined from 70 percent of the country's total land area of 30 million hectares (ha) in 1900 to about 18.3 percent, or just

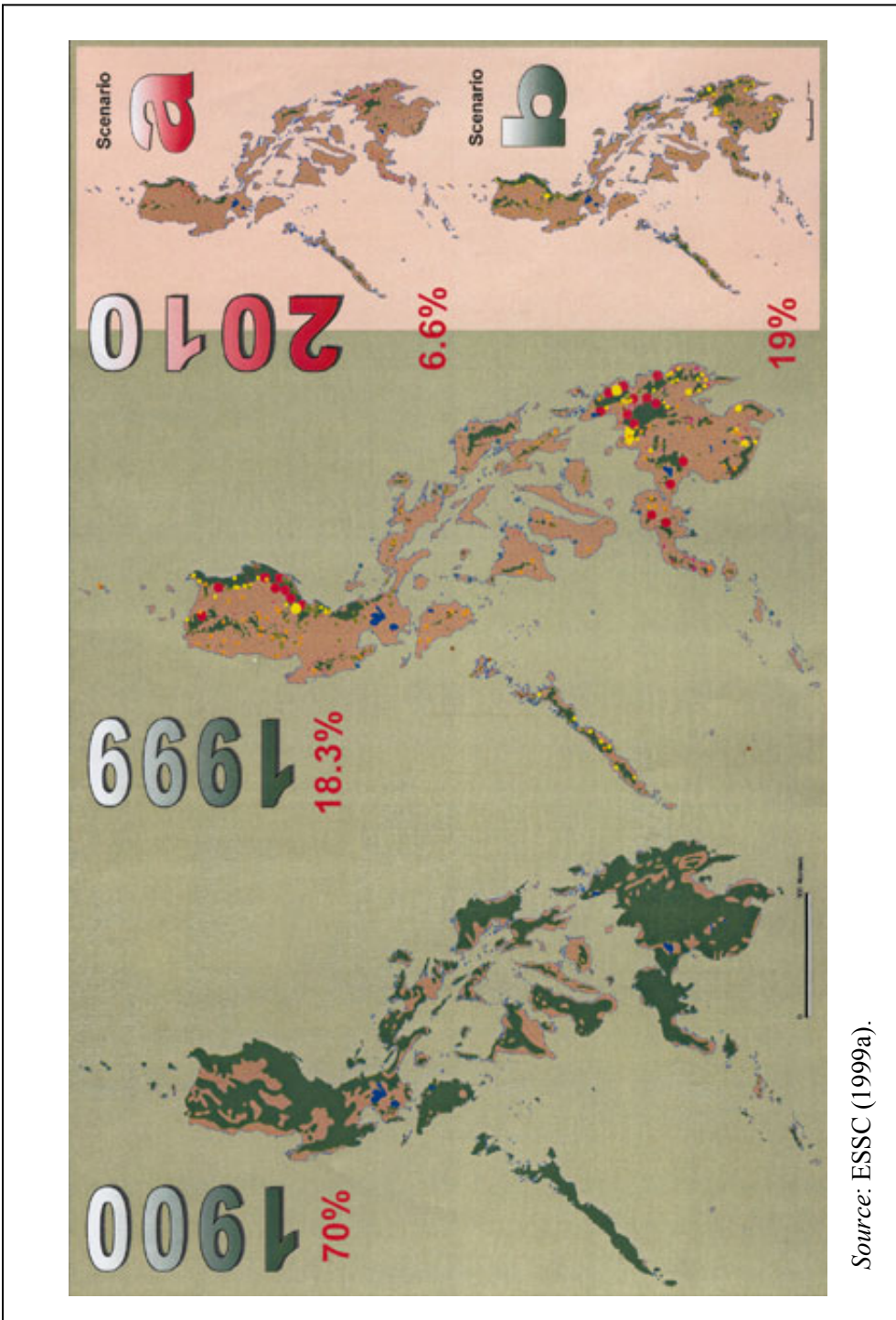
□ over 5 million ha of residual and old-growth natural forests, in 1999 (ESSC 1999a; see Figure 1). Old-growth forests are estimated to comprise less than one million hectare, mostly located in protected areas, reservations, concession areas, and cancelled, suspended, and expired concession areas. The forest cover is projected to decrease further to 6.6 percent of the total land area by the year 2010 if there is lack of government commitment and budgetary support for programs that recognize the interests of the local peoples linked to the natural forest areas. This raises the spectre of a possible loss of dipterocarp forests in the country, which had long been the world's primary source of the "Philippine mahogany" (USAID 1989; Heaney and Regalado 1998; NALCO 1997). With per capita forest cover at only 0.085 ha, the forest cover of the Philippines now ranks among the 11 poorest out of the 89 countries in the tropics (Revilla 1998).

### Causes

Forest degradation in the Philippines is often attributed to two factors: poverty with high upland population growth, and de facto management and open access (Borlagdan 1997; Kummer 1992; Cruz and others 1992; Repetto 1988; Porter and Ganapin 1988).

**Poverty and high upland population growth.** Continuing upland migration owing to scarce economic opportunities in the lowlands and high natural population growth rate exacerbate forestland degradation. The upland population is presently estimated to be close to 24 million, of whom 6 to 12 million are indigenous peoples (Seve 1995; UP Population Institute cited in Guiang 2000; Guiang and others 2001). With marginal household incomes well below the poverty line, the indigenous peoples and upland farmers are considered as among the "poorest of the poor." Migrants, being unable to eke out a living in the lowlands, where resources have already been appropriated by the elite and the middle class, continue to "colonize" the upland forestlands in search of lands to cultivate.

**De facto management and open access.** The lack of operational and effective on-site management systems in many forestlands and forest resources characterizes the Philippine forestry situation. Only 19 percent of the country's 15.5 million ha of forestlands are covered by some kind of on-site management system (Guiang 2000). Most of the Philippine forests and forestlands (at least 9 million ha) are under de facto management (de los Angeles 2000), that is, for all



Source: ESSC (1999a).

Figure 1. Decline in forest cover of the Philippines (1900-1999)

□ intents and purposes, and by virtue of their occupancy or claimancy, forestlands are indirectly “managed” by their users for ill or for good. The intensity of degradation, however, suggests that de facto management systems are inadequate to stem the deterioration of forests, especially in open access areas.

### **Consequences**

The loss of forest cover affects terrestrial and marine biodiversity as well as habitats, the stability of watersheds and water supply for domestic and irrigation needs and aquifer recharge, the security of communities from flashfloods and pests and diseases, the productivity of coastal areas and mangroves, and the protection and maintenance of roads, bridges, dams, and ports. It also threatens the continued existence of the country’s 12,000 plant species, nearly one-third of which are endemic to the Philippines.

In economic terms, the consequences of open access forest leading to resource degradation and of degradation itself are severe. Given the dependence of human and social life on products from the forest—from wood to water and to the oxygen they produce—these consequences impinge on all sectors of society. In addition to reducing the effectiveness of forests to serve as a carbon sink for the environment (Johnson 1999), the major consequences are as follows:

***Market failure and lost revenues.*** The open access condition of forests and forestlands has caused distortions in the market. Prices of forest products legally harvested by communities are much higher than those of illegally harvested products because the latter do not entail forest charges (Easterling 1997; Seve 1995). Both the government and the environment suffer from the open access condition in the form of lost revenue and forest destruction (de los Angeles and Oliva 1996). “Free riders”—illegal buyers, mercenary processors, and corrupt government officials—take advantage of the open access situation (Ostrom 1991). Considering the very high cost of central enforcement, litigation, deployment of forest guards, and management of “checkpoints” (de los Angeles and Oliva 1996; Hyde and others 1996; Mickelwait, Harker, and Guiang 1999), empowering local stakeholders to effectively and efficiently protect the forests and forestlands is expected to reduce the cost of forest management to government.

***Shortage of wood and wood products.*** With the estimated consumption of wood and related products in the late 1980s totaling 37 million cubic meters (cu m), the Philippines’ domestic demand for wood products, fuelwood, and

pulpwood was calculated to increase to more than 76 million cu m by the year 2000 (DENR 1990). The remaining old- and second-growth forests could only supply a total of about 18.5 million cu m of wood by then (Angeles 1999).

For construction timber and related products alone, the average annual demand is around 5 million cu m. Guiang (2000) estimates that this annual demand is being met by (1) the harvest from residual forests, mostly involving existing active Timber License Agreements (TLAs) and local communities (12 percent), plantation forests (1 percent), and coconut farms (15 percent); (2) importation (16 percent); and (3) substitutes and “illegal sources” (56 percent).

This demand is expected to grow by 2 percent to 5 percent per annum (Angeles 1999). The existing residual, old-growth, and plantation forests will not be adequate to meet the projected demand for wood, fuelwood, and pulpwood. Forest plantations, enrichment plantings in inadequately stocked, logged-over areas, and reforested areas are expected to fill the projected demand gap. Thus, only an increase in smallholder tree farming and sustainable management of productive residual forests by communities and the responsible private sector will reduce the supply from “illegal sources.” The alternative is much too costly and unsustainable: escalation of importation of wood, fuelwood, and pulpwood from neighboring countries.

***Compromised water supply.*** At least 90 percent of the more than 200 watershed reservations of the Philippines are considered as degraded (DENR-FMB 1998) and most of them are not under any effective on-site management system. These degraded watersheds continue to erode, silt, and dump sediment loads onto major waterways. They threaten coastal areas and coral reefs, endanger the lives of coastal communities, and increase the maintenance costs of social infrastructure and private investments. The tragedy in Ormoc, Leyte, during the early 1990s, in which more than 7,000 people perished in flashfloods, illustrates the disastrous consequences of environmental irresponsibility in the uplands.

### **Enabling Policies**

In 1995, the Philippines officially adopted CBFM as its strategy for sustainable forest management, in recognition of the urgent need for effective action to minimize negative upstream-downstream and on-site-off-site impacts of forest management externalities (Wallace 1993). This policy proclamation was

□ made through Presidential Executive Order (EO) No. 263, and allied people-oriented policies and programs of the Department of Environment and Natural Resources (DENR). EO 263 identifies forest communities—both upland migrant communities and indigenous peoples, to be represented by their respective people’s organizations (POs)—as legitimate resource managers of the nation’s forests. The policy includes the mechanism for legitimizing resource access and use rights through the issuance of long-term tenurial instruments, particularly the Community-Based Forest Management Agreement (CBFMA) for upland migrant communities, and the Certificate of Ancestral Domain Claim (CADC) for indigenous peoples. The CBFMA legitimates the migrant communities’ rights with respect to the forestlands upon which their livelihoods depend. The CADC recognizes the ancestral claims of indigenous peoples to public forests and forestlands and other natural resource assets therein, as well as their right to peaceably occupy, develop, manage, protect, and benefit from forestlands and resources. The rights of indigenous peoples were further strengthened in 1997 with the passage of the Indigenous People’s Rights Act (IPRA or Republic Act [RA] 8371) and its Implementing Rules and Regulations. The IPRA paved the way for the titling and private (individual or communal) ownership of ancestral forestlands. Both the CBFM and the IPRA are predicated upon participatory planning and bottom-up approaches to identifying and articulating communities’ resource development, management, and protection strategies.

The CBFM is anchored on current and applicable policies of the Philippine government to (1) democratize access to forests and forest resources, (2) improve the upland communities’ socioeconomic condition, (3) decentralize and devolve forest and forestland management, and (4) conserve biodiversity and maintain the environmental services of forests and forestlands to both on-site and off-site communities (see Box 1).

Over the years, CBFM has evolved from a forestry approach that covers only individual/family upland farms or claims into one that encompasses larger forest areas and different land use mixes. CBFM areas now include any or a combination of the following: (1) forestlands that have been planted or areas with existing reforestation projects, (2) grasslands that are quickly becoming the expansion area of upland agriculture, (3) areas with productive residual and old-growth forests, and (4) multiple-use and buffer zones of protected areas and watershed reservations (DENR DAO 96-29; DENR DAO 98-41; DENR DAO 2000-44; Borlagdan 1996; Pulhin 1998).

**Box 1. Government policies upholding and influencing CBFM**

**1987 Constitution:** Enjoins the state to enter into co-production, joint venture, or production agreements vis-à-vis natural resource management with empowered communities.

**Executive Order (EO) 192 (1987):** Reorganizes the environment and the natural resource sector, and mandates the DENR to conserve, manage, develop, properly use, license, and regulate the use of natural resources.

**DENR Department Administrative Order (DAO) 123 (1989):** Promotes community participation in the rehabilitation, protection, improvement, and management of degraded and productive residual forests, brushlands, virgin forests, and marginal lands.

**Local Government Code (LGC) of 1991 or RA 7160:** Devolves central government functions, such as the natural resource management functions of the DENR, to local government units (LGUs).

**National Integrated Protected Areas System (NIPAS) Act or RA 7586 (1992):** Allocates forestlands and forest resources as protected area systems for purposes of biodiversity conservation, habitat preservation, watershed protection, and maintenance of ecological balance.

**Executive Order (EO) 263 (1995):** Declares CBFM as the country's national strategy for sustainable forest management.

**DENR Department Administrative Order (DAO) 96-29 (1996):** Provides the Implementing Rules and Regulations of EO 263; paved the way for the granting of resource use rights to communities; and allows the transfer of tenure as well as their limited division through such mechanisms as joint venture and contracting.

**DENR Memorandum Circular (MC) 97-12 (1997):** Adopts the DENR Strategic Action Plan for CBFM.

**Indigenous People's Rights Act (IPRA) or RA 8371 (1997):** Recognizes, protects, and promotes the rights of indigenous peoples, and paved the way for the individual or communal titling of ancestral forestlands.

□

**Underlying Assumptions**

Taking into account the ecological, social, and policy imperatives mentioned above, the Philippines has pursued the following key strategies through its CBFM program:

1. Provision of tenure security over forestlands to forest communities through stewardship contracts and CBFMAs, and to indigenous peoples through CADCs now convertible under the IPRA into the Certificate of Ancestral Land Claim (CALC) or Certificate of Ancestral Domain Title (CADT);
2. Promotion of sustainable forestry and upland farming practices in a manner that offers both immediate and long-term benefits;
3. Creation of POs, or strengthening of existing ones, in forest-dependent communities, which will serve as recipients of communal tenure, perform the role of overall resource manager, and support the sustainable resource practices of their individual members;
4. Forging of partnerships between and among POs, the national government through the DENR, local government units (LGUs), nongovernment organizations (NGOs), and other private and public groups in order to negotiate resource allocation, coordinate resource use activities, and facilitate the sharing of responsibilities, benefits, and costs of sustainable forest management; and
5. Invitation for NGOs to participate in building the POs' capacity to plan and manage the use of their resources, and to mobilize and monitor their human and financial capital (DENR MC 97-13).

These strategies currently provide the framework for the aggressive promotion of CBFM by the national government. To the extent that NGOs and POs must work with government in their own CBFM efforts, these strategies are expected to influence as well the approaches they employ in realizing the goals and aspirations of CBFM for themselves.

Under the CBFM Strategic Action Plan, community forest management plays a vital role in sustaining the supply of goods and services from natural resources to both on-site and off-site users owing to upstream-downstream interfaces (from upland to coastal areas, including the upper, middle, and lowland portions of the watersheds) and the presence of communities in the upper portions

of the watersheds. The plan upholds a holistic and system approach to managing natural resources with careful consideration of externalities, interdependencies, interconnectedness, and complementarities. Management of the uplands will benefit not only on-site communities but also downstream users of natural resources through sustained water supply; improved water quality; balanced population of prey and predators, thus minimizing damages to crops; reduced siltation in coastal areas; and so on. It is expected that strong and equitable economic activities in the lowlands will discourage migration to the uplands and conversion of fragile areas into cultivated farms.

### **Forest Resources as Community Assets**

Natural timber and minor forest products are regarded as the largest natural resource assets of communities (Laarman, Steward, and Dugan 1995). Based on rough extrapolations using the CBFM sites assisted by the USAID-funded Natural Resources Management Program (NRMP) and the estimates of residual forests within existing TLAs, the 5.3 million ha of CADCs and CBFMAs have at least 1.3 to 1.5 million ha of productive residual forests (Angeles 1999; Guiang 2000; Mickelwait, Harker, and Guiang 1999). Using a conservative estimate of 20 cu m of harvestable natural timber per hectare in residual forests, timber assets in the hands of communities are calculated to be at least 26 million cu m (Guiang and Harker 1998). A complete log ban in the Philippines will have a negative impact on communities because 70 percent of the productive residual forests are under their management.

When communities are granted sustainable and predictable timber harvesting rights over productive residual forests with the least transaction costs, timber becomes their most liquid and immediate natural resource asset, in addition to other minor forest products. The value of timber compared to that of non-timber forest products and the produce of upland farms constitute a much higher proportion of the community's revenues, especially during the early stage of CBFM implementation (Laarman, Steward, and Dugan 1995; Dugan 1989; Dugan 1993). Using a 35-year sustainable cutting cycle, communities can theoretically be allowed to harvest at least 750,000 cu m per year, or about 15 percent of the total annual demand for construction timber in the Philippines (Angeles 1999). With the present average price of timber at P4,500 per cubic meter, this can easily be equivalent to P3.7 billion per year of gross community revenues. Based on this, government forest charges will roughly be P900 million per year (at 25 percent of the freight-on-board [FOB] price).

□

Communities can benefit as well from other natural resource assets. Aside from such non-timber resources as water, biodiversity, location, and unique physical features, surface water flowing from the upper watersheds has a high but unrealized economic value. In terms of the physical area, upland farms, grasslands, and brushlands (covering roughly at least 60 percent to 70 percent of 5.3 million ha) are probably the largest CBFM assets (Mickelwait, Harker, and Guiang 1999). These are devoted to subsistence farming and may have some potential for the development of tree farms and orchards, and the cultivation of high-value perennial crops. Food production is still the primary focus of farm activities, supplemented by forest product extraction. But in the long term, many communities might turn to agroforestry, smallholder tree farms, orchards, livestock, and rural industries and become less dependent on incomes from natural forests.

Accordingly, the strategic approach to technology transfer, extension services, and community organizing activities entails focusing assistance and capacity building on how the upland farmers and indigenous peoples will adopt productive, protective, and economically viable agroforestry systems (DENR-RRDP 1987; Guiang 1993b, 1993c; Garrity 1999; DENR-UDP 1996; World Bank 2000a). Providing them with access to upland production areas, not to the remaining protected natural forests, will increase the value of existing natural resources, tree farms, and upland farms as economic assets of upland communities. Hence, farm-to-market roads, bridges, water systems, and other social services have the general effect of improving the rural economy and quality of life of the community (Hyde and others 1996; Rice, Gullison, and Reid 1997; EDI, n.d.; World Bank and Rural Development and Natural Resources Sector Unit). General observation and information from the World Bank-assisted Agrarian Reform Community Development Project (2001) indicate that access roads are able to reduce the transport cost of farmers by at least 20 percent to 40 percent.

### **Tenure and Rights as Foundation of Asset Building**

Under the Regalian Doctrine, most forests and forestlands are publicly owned and generally treated as common pool resources (Agrawal and Ostrom 1999; Hyde and others 1996; Arnold 1998; Ostrom 1991). The state provides communities with long-term tenure over forests and forestlands, and recognizes their ancestral domain claims. These “allocations” to communities have been made possible by several administrative and legislative policies (DENR DAO 96-29; Philippine Congress, RA 8371; Pulhin 1998; ESSC 1999a). Increasing

allocations of forests and forestlands to communities represent the “closest approximation of what Philippine forestry should be” (ESSC 1999b).

Community forestry puts communities at the forefront in protecting, developing, and managing their communally held resources covered by such CBFM tenurial instruments as the Certificate of Ancestral Domain Claim (CADC), Certificate of Ancestral Land Claim (CALC), Certificate of Stewardship Contract (CSC), Community-Based Forest Management Agreement (CBFMA), Certificate of Forest Stewardship Agreement (CFSA), and Sustainable Industrial Forest Management Agreement (SIFMA). As of 2000, all instruments accounted for at least 5.3 million ha, or about 17 percent of the total land area of the country, 30 percent of the total public forests and forestlands, and 50 percent of the total CBFM potential area (see Table 1). These figures were considered as still below the CBFM program targets (PWG 1999).

Table 1. Total area of public forests and forestlands covered by CBFM tenurial instruments as of 2000 (thousand hectares)

Instrument	No. of instruments	Area	Period of issuance	Remarks
CADC	181	2,546	As of June 1998	Some 10 percent to 15 percent of all instruments issued had approved ancestral domain management plans (ADMPs).
CBFMA	666	1,971	As of September 2000	Almost all CBFM areas had received external funding from USAID (NRMP), the World Bank (ENR-SECAL), the Philippine-German Community Forestry Program, and ADB (Forestry Loan I and II).
CSC and CFSA	442,124	815	1983 to 1996	Major support for the ISFP came from the Ford Foundation, USAID (RRDP), ADB (Forestry Loan I), UNDP, CARP, and GOP funds.
Total	442, 971	5,332		

Source: DENR (2000a).

□

The increase in state allocation of forests and forestlands to upland communities and the recognition of indigenous people's ancestral domains happened only in the early 1990s to 1998. The total area of forests and forestlands under the "control" and responsibility of communities (because of their long-term tenure) is 3.8 times larger than that given to the private sector under various instruments. This is a total reversal of the situation in the 1960s and 1970s with one big difference: the forests then were still intact and had high economic value. The area of 5.3 million ha under communities is also larger than the total area of about 4.6 million ha of forests and forestlands that have been set aside for "public good," including protected areas, national parks, sanctuaries, wilderness, and watershed reservations (DENR 2000a; Wallace 1993). Some of the CADCs or CBFMAs awarded to indigenous peoples or legitimate migrants residing in multiple-use zones and buffer zones, respectively, even cover parts of protected areas or watershed reservations (DENR DAO 2000-44; DENR DAO 02, series of 1993; Philippine Congress, RA 8371). This signifies that CBFM is also applicable to "set-asides" like national parks, protected areas, and watershed reservations.

### **Crucial Role of Support Delivery**

The mobilization of support for the communities' efforts toward sustainable forest management is a central feature of the government's CBFM program. Key entities whose support are considered as crucial are the LGUs, NGOs, and other support organizations, as well as the private sector.

**Local government units.** Consistent with EO 263, LGU participation in CBFM implementation has been clarified, although the devolution of environment and natural resource functions has been partial (Brillantes 2000). Through forest land use planning, DENR DAO 96-29 envisions the DENR and LGUs to jointly "allocate" forests and forestlands through the issuance of CBFMAs, CADCs, and other forest management agreements reviewed and affirmed also by the two parties.

**Resource organizations and institutions.** The CBFM recognizes the potential contribution of resource organizations or institutions, e.g., NGOs, academic and research institutions, and donor agencies, to the program. These contributions may be direct or indirect, and may be in the form of funding or services.

**Private sector.** With the inability of government to provide the massive financing necessary to realize the economic goals of CBFM, planners and implementers recognize the need to redirect private sector capital toward the program.

## THE RESEARCH

The present study is part of a larger research project that aims to identify and characterize the reported strengths and constraints of community-based natural resource management (CBNRM) approaches in three natural resource areas: irrigation, forestry, and coastal resources. The larger research, in turn, is part of the Ford Foundation's effort to undertake a "critical assessment of the scope and impact of community-based approaches to natural resource management" and to evaluate the "long-term viability of prevailing models and approaches to sustainable development, decentralization, and community empowerment."<sup>1</sup> The objectives of the assessment are as follows:

1. "To enhance the Filipino search for new paradigms of sustainable and participatory development, and
2. To offer critical insights and lessons for those in other countries who will seek to learn from the rich experiences of the Philippines."

Short of asking the question, "Is CBFM solving the twin problems of poverty and resource degradation in the country through empowerment and community participation in forest governance?," this literature review and preliminary assessment study look into CBFM from the perspective of forest governance, community, and sustainability. Field experiences obtained from both primary and secondary sources provide the data with which to answer the more specific questions:

1. To what extent are CBFM goals being met or not being met?
2. What key operational and policy concerns facilitate or constrain community participation in forest governance for sustainable forest management?
3. What possible courses of action can be recommended to effectively address these concerns?

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<sup>1</sup>See the Ford Foundation website (<http://www/fordfound.org/manila/program.cfm>).



## Research Strategy

The research for this report was undertaken by teams of consultants and researchers from the Institute of Philippine Culture (IPC) of the Ateneo de Manila University and the Department of Social Forestry and Forest Governance (DSFFG) of the University of the Philippines at Los Baños (UPLB). This covered the period from April 2000 to February 2001.

The teams organized the research into three major overlapping activities. The first was the physical collection of all available published and “grey” literature from various institutions and individuals not only in Metro Manila but also in key CBFM sites in Luzon, Visayas, and Mindanao. The collected literature served as inputs not only for the literature review but also for the establishment of CBFM Reading Rooms at the IPC in Quezon City, and at the DSFFG in Los Baños. This activity was part of a corollary objective to make CBFM information more readily accessible either physically—through the collections at IPC and DSFFG—or virtually, through a CBNRM website commissioned by the Ford Foundation.

To help focus the collection activity and subsequent data analysis, and to validate information from published and grey materials that might already be dated, the team visited sites in which CBFM activities had taken place or were taking place. These visits comprised the second set of activities of the research team. From the knowledge gained through long experience in development and research work on the subject, the researchers categorized known CBFM experiences into three categories based on how these were originally organized, as follows:

1. *Self-initiated sites*, in which community-wide sustainable indigenous resource management systems predated any CBFM interventions in the area;
2. *Locally assisted sites*, in which the growth of CBFM efforts was brought about largely by partnerships with external entities, sponsors, or facilitators such as the LGUs (barangay, municipal, and provincial), local or foreign NGOs, academic or research institutions, and locality-based national government agencies (NGAs), e.g., Philippine National Oil Company (PNOC); and

3. *National program sites*, or all sites in which the DENR implemented various aspects of the CBFM program, including watershed management and protected areas.<sup>2</sup>

The choice of sites to visit was strategic. The teams revisited sites featuring early people- and community-oriented forestry undertakings, particularly those implemented from the early 1980s to the mid-1980s. Some of the consultants either had been involved programmatically in some of the sites or had personal knowledge of these from past field trips. In addition, they had access to background information. Their personal background knowledge, when compared with information from “validation visits,” would yield a deeper analysis of CBFM experiences in these sites. A total of 34 CBFM sites were visited, of which 29 generated additional and more complete data from secondary materials and/or key informant interviews.

The third set of activities involved the collation of field data and the more complex task of situating their analysis in the context of the current discourse on community participation, governance, and sustainability. Data were collated primarily to discern patterns of similar and dissimilar experiences within and across site categories, and to explore their possible causes, outcomes, and impacts. Analysis then focused on understanding the issues of community, governance, and sustainability, and situating these issues in the context of the discourse on CBNRM found in the literature. The present report is the result of this activity.

### **Research Sites**

The 29 sites included 5 self-initiated, 9 locally assisted, and 15 national program sites (see Tables 2 and 3). Except three of the five self-initiated sites, all the sites were able to access assistance from NGOs and the government for the implementation of activities related to natural resource management.

Seven of the 29 sites started undertaking community forestry between 1981 and 1989. Most of them were pilot and learning areas of several foreign-assisted projects such as the USAID-funded Rainfed Resources Development Project (RRDP), the Ford Foundation-funded Upland Development Program (UDP), and the World Bank-funded Central Visayas Regional Project (CVRP); and were

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<sup>2</sup>According to DENR MC 97-13, CBFM can also be used as a strategy for managing such areas as buffer zones.

□ closely linked to the DENR Integrated Social Forestry Program (ISFP). Eleven sites began their CBFM activities between 1990 and 1995. A few of them greatly benefited from the emerging and improving policies on community forestry in the Philippines—the shift toward the direction of larger areas that could be covered by various communal tenure instruments, namely, CADC, Community Forest Management Agreement (CFMA), and Forest Lease Management Agreement (FLMA). Further, CBFM activities in some of the sites were launched in response to the LGC of 1991, which devolved the ISFP site to the LGUs. The youngest seven sites were opened to CBFM interventions only after 1995.

Table 2. List of community forestry sites visited and documented

Site	Year started	Key information
<i>Self-initiated</i>		
Ifugao Province (muyong)		Provided by the DENR with resource use permit and assistance in reforestation under ADB Forestry Loan I and II
Sagada, Mt. Province (saguday)		Developed a guide system named Sagada Environmental Guide Association (SEGA) for tourists
Bontoc, Mt. Province (tayan)		Ato system governing the decision making, information transfer, and cultural bonding of the community
Ikalahan, Sta. Fe, Nueva Vizcaya	1974	Stewardship over the Kalahan Reserve conferred to the community through the Kalahan Educational Foundation (KEF), by virtue of CFSA or MOA No. 1, dated 13 May 1974; with assistance from missionaries and funding support from various international organizations in the 1980s and 1990s
Minalwang, Claveria, Misamis Oriental	1996	Latest intervention in the area: awarding of CADC by the DENR to the Higaonon in October 1997, with assistance from the NRMP and the participation of a local NGO in community organizing and CADC and ADMP processing

Table 2 (cont.)

Site	Year started	Key information
<i>Locally assisted</i>		
Barobbob Watershed, Nueva Vizcaya	1992	Initiative based on the implementation of the 1991 LGC; obtained assistance from the GOLD Project and partly from the NRMP
Lantapan, Bukidnon (Landcare)	1997	Obtained assistance from the ICRAF in the dissemination and refinement of the NVS technology
Guba, Cebu City (Mag-Uugmad Foundation, Inc.)	1981	With a farmer-based extension system which started in Guba; obtained initial assistance from World Neighbors in July 1981
Lunga, Valencia (Bukidnon Integrated Farming System Development Project)	1994	With another project (BRWDP) led by Ting Matiao Foundation (TMF) and approved by the Philippine-Australian Community Assistance Project (PACAP)
Malaybalay, Bukidnon (BEST Project-BENRO)	1993	Initiated barely a year after the devolution of ISFP projects to LGUs; started by the Bukidnon Environment and Natural Resources Office (BENRO)
Apolong, Valencia, Negros Oriental	1994	Part of the Banica River Watershed Development Project (BRWDP)
Buhi, Camarines Sur (BLUDPP)	1981	<ul style="list-style-type: none"> <li>• Implemented with the assistance of the USAID from May 1981 to April 1985</li> <li>• Key documents: Novick (1984); Seymour (1985)</li> </ul>
Senator Ninoy Aquino Kabulnan Watershed, Davao del Sur	1996	<ul style="list-style-type: none"> <li>• Supported by ADB funds and assisted by the Mindanao Baptist Rural Life Center (MBRLC), which trained farmers in the Sloping Agricultural Land Technology (SALT)</li> <li>• Indigenous cultural community</li> </ul>
Don Victoriano, Misamis Occidental	1993	Part of the ENR-SECAL/RRMP sites with World Bank funding; covered by the Mt. Malindang protected area system

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Table 2 (cont.)

Site	Year started	Key information
<i>National program</i>		
Mt. Kitanglad National Park, Bukidnon	1996	<ul style="list-style-type: none"> <li>• Part of the CPPAP site receiving technical and financial assistance from the Global Environment Facility (GEF)-World Bank</li> <li>• NGO assistance to the DENR-PASu in implementing CBFM in the multiple-use zone and buffer zone of the protected area system</li> <li>• With strong LGU support</li> </ul>
Magdungao, Passi City, Iloilo	1985	Received technical assistance from RRDP, a USAID-funded project with the DENR, including farmers' training, small contracts for rehabilitation and infrastructure, and on-site project staff
Maasin Watershed, Iloilo	1990	<ul style="list-style-type: none"> <li>• With assistance from the Ford Foundation, NGOs, and ADB Forestry Loan II</li> <li>• Enjoys strong LGU participation and NGO advocacy support</li> <li>• Watershed of the Iloilo City Local Water District</li> </ul>
Bamban, Ayungon, Negros Oriental (CVRP-CFP)	1984	<ul style="list-style-type: none"> <li>• World Bank-funded CVRP I; implemented from 1984 to 1992</li> <li>• Became a Community Forestry Program (CFP) site in 1995 under ADB Forestry Loan I</li> <li>• Key document: Dugan (1989)</li> </ul>
Bulolacao, Nug-as, Alcoy, Cebu (ISFP/UDP)	1984	<ul style="list-style-type: none"> <li>• One of the ISFP pilot projects begun in February 1984; partly funded by the Ford Foundation</li> <li>• Key documents: Borlagdan (1987, 1992)</li> </ul>
Mt. Isarog National Park	1997	<ul style="list-style-type: none"> <li>• Started with support from the European Union-NGOs for Integrated Protected Areas (EU-NIPA)</li> <li>• Part of the protected area systems</li> <li>• Participatory protected area management planning ongoing</li> </ul>
Labo, Camarines Norte (TKFPI)	1992	<ul style="list-style-type: none"> <li>• Obtained its CBFMA in 1992</li> <li>• Project initially funded by ADB Forestry Loan I and assisted by an NGO</li> </ul>

Table 2 (cont.)

Site	Year started	Key information
Mat-i, Claveria, Misamis Oriental (CFP)	1992	Started in early 1992 under NRMP Phase I and implemented under CFP with technical and community organizing assistance from an NGO
Upper Bala, Magsaysay, Davao del Sur	1989	One of the pilots of the Ford Foundation-funded and DENR-implemented Upland Development Program from 1989 to 1995
Monkayo, Compostela Valley (NPPFRDC)	1994	<ul style="list-style-type: none"> <li>Received initial assistance (community organizing, capacity building, training, on-site technical assistance) from the NRMP in 1994-1999</li> <li>The first CBFMA holder in the Philippines that obtained certification on sustainable forestry from the Forest Stewardship Council (FSC), through Smartwood, in November 2000</li> </ul>
Kiblawan, Davao del Sur (Kiblawan Agro-forestry Project)	1987	One of the RRDP sites in 1987-1988 with funding support from the USAID for technical assistance, training, inputs, small infrastructure, and rehabilitation contracts
Quirino (CFP)	1993	Part of the Philippine-German Community Forestry Program for Quirino; started in 1993 with funding support from the <i>Gesellschaft fur Technical Zusammenarbeit</i> (GTZ)
Claveria, Misamis Oriental (ASPECTS)	1997	Initiated by the UPLB Institute of Agroforestry with funding support from the Ford Foundation and tie-up with the Misamis Oriental State College of Agricultural Technology (MOSCAT).
Bayombong, Nueva Vizcaya (DENR-ITTO)	1995	With funding support from the International Timber Trade Organization (ITTO) and part of the CBFM program
Claveria, Misamis Oriental (Landcare)	1996	Assisted by the ICRAF; one of the pilot sites in disseminating information on the NVS technology intended to control soil erosion and conserve water

Table 3. Status of CBFM implementation in the 29 community forestry sites as of 2000

Site	Type of organization	Tenure	Resource use rights for timber or non-timber	NGO/GO intervention	Natural resource assets
<i>Self-initiated</i>					
Ifugao Province (muyong)	Family/clan	Usufruct	Present; issuance after approval	Present (GO)	Natural forests, planted trees, water, wildlife, NTFP
Sagada, Mt. Province (saguday)	Clan	Usufruct	Absent	Present (GO)	Natural forests, planted trees, water, wildlife, tourist spots, sacred ground
Bontoc, Mt. Province (tayan)	Clan	Usufruct	Absent	Present (GO)	Natural forests, planted trees, water, sacred ground, wildlife
Ikalahan, Sta. Fe, Nueva Vizcaya	Indigenous people/local foundation	CFLA; CADC applicant	Present; approval of limited timber harvesting rights	Present (NGO)	Natural forests, planted trees and fruit trees, upland farms, sacred ground
Minalwang, Claveria, Misamis Oriental	Clan	CADC	Absent	Present (NGO/GO)	Natural forests (old-growth and residual), upland farms, water, sacred ground
<i>Locally assisted</i>					
Barobob Watershed, Nueva Vizcaya	PO	Subagreement with LGU	Absent	Present (LGU)	Planted trees, reforestation, upland farms, spring/water
Lantapan, Bukidnon (Landcare)	Small farmer groups	Tax declaration	Absent; individuals can apply	Present (NGO)	Upland farms, planted trees and fruit trees
Guba, Cebu City (Mag-Ugmad Foundation, Inc.)	PO (upland farmers)	CLOA; some without tenure over public land; CBFMA applicant	Absent; individuals can apply	Present (NGO)	Upland farms, planted trees and fruit trees

Table 3 (cont.)

Site	Type of organization	Tenure	Resource use rights for timber or non-timber	NGO/GO intervention	Natural resource assets
Lunga, Valencia, Negros Oriental (PNOC)	PO	Title	Absent; individuals can apply	Present (NGO/GO)	Natural forests (old-growth and residual), planted trees, upland farms, water, NTFP
Malaybalay, Bukidnon (BEST Project-BENRO)	Community (formerly ISFP participants)	CSC	Present for plantation trees after approval	Present (LGU)	Planted trees, upland farms
Apolong, Valencia, Negros Oriental (PNOC)	PO	CSC; CBFMA; title	Absent	Present (NGO/GO)	Natural forests (old-growth and residual), planted trees, water, NTFP
Buhi-Lalo, Camarines Sur (BLUDPP)	Project participants	CSC; some with no tenure over public lands	Absent	Present (GO)	Residual forests, planted trees and fruit trees, upland farms, water
Senator Ninoy Aquino Kabulnan Watershed, Davao del Sur	Barangay	Title	Absent; individuals can apply	Present (NGO)	Fruit trees, upland farms, water
Don Victoriano, Misamis Occidental (ENR-SECAL)	PO	No tenure over public lands (part of the multiple-use zone of the protected area)	Absent	Present (LGU/GO)	Planted trees and fruit trees, upland farms

Table 3 (cont.)

Site	Type of organization	Tenure	Resource use rights for timber or non-timber	NGO/GO intervention	Natural resource assets
<i>National program</i>					
Mt. Isarog National Park, Camarines Sur	Barangay, PO, GO	Protected area, CADC	Absent; individuals can apply	Present (NGO/GO)	Natural forests (old-growth and residual), upland farms, wildlife, water
Mt. Kitanglad National Park, Bukidnon	Barangay	Tax declaration, claims	Absent	Present (NGO/GO)	Natural forests (old-growth and residual), upland farms, water, wildlife, sacred ground
Magdungao, Passi City, Iloilo	PO	CSC, title	Absent; individuals can apply	Present (GO)	Planted trees, upland farms, water
Monkayo, Compostela Valley (NPPFRDC)	PO	CBFMA	Present	Present (GO)	Natural forests (old-growth and residual), planted trees, water, NTFP
Maasin Watershed, Iloilo	Association and PO federation	Applying for CBFMA; tax claims; tax declarations	Absent; PO can apply	Present (NGO/GO)	Residual forests, planted trees, upland farms, water, NTFP
Bamban, Ayungon, Negros Oriental (CVRP-CFP)	PO association and federation	CSC; CBFMA; title	Present; issuance after approval	Present (NGO/GO)	Natural forests (old-growth and residual), planted trees, upland farms, forest reserve, NTFP
Bulalacao, Nug-as, Alcoy, Cebu (ISFP/UDP)	Cooperative, PO	CSC; CBFMA	Absent; individuals can apply	Present (GO)	Planted trees and fruit trees, upland farms

Table 3 (cont.)

Site	Type of organization	Tenure	Resource use rights for timber or non-timber	NGO/GO intervention	Natural resource assets
Labo, Camarines Norte (TKFPI)	Cooperative	CSC; CBFMA; title	Present; issuance after approval	Present (NGO/GO)	Residual forests, planted trees, upland farms, water
Mat-i, Claveria, Misamis Oriental (CFP)	PO	CSC; CBFMA	Present; issuance after approval	Present (GO)	Natural forests (old-growth and residual), upland farms, NTFP, water
Upper Bala, Magsaysay, Davao del Sur	PO (formerly ISFP participants)	CSC; applying for CBFMA	Absent; individuals can apply	Present (GO)	Upland farms, planted trees and fruit trees
Kiblawan, Davao del Sur (Kiblawan Agro-forestry Project)	Cooperative, PO	CSC; applying for CBFMA	Absent; individuals can apply	Present (NGO/GO)	Upland farms, planted trees and fruit trees, agroforestry and upland farms
Quirino (CFP)	Cooperative	CBFMA	Present; issuance after approval	Present (GO)	Residual forests, planted trees, upland farms, NTFP
Claveria, Misamis Oriental (ASPECTS)	PO	CSC; title	Absent; individuals can apply	Present (GO)	Natural forests (residual), upland farms, agroforestry systems, NTFP
Bayombong, Nueva Vizcaya (DENR-ITTO)	Federation of POs	CBFMA	Present; issuance after approval	Present (GO)	Residual forests, planted trees, upland farms, wildlife
Claveria, Misamis Oriental (Landcare)	Small farmer groups	Title	Absent; individuals can apply	Present (NGO)	Planted trees and fruit trees, upland farms

Source: IPC (2001).

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## CONCEPTUAL FRAMEWORK

Kummer (1992) defines deforestation essentially as the conversion of forestlands to other uses. Two perspectives highlight the causes of deforestation. One popular perspective, offered by the Master Plan for Forestry Development (MPFD), identifies population pressure as the primary factor behind deforestation, followed by the exploitation of forest resources through logging and then by dysfunctional policy and administration (DENR 1990:15-21). Estimates in the mid-1980s placed the upland population at about 14.4 million in 1986 (Cruz and others 1992) and the number of forest dependents at 24 million in the early 1990s (Lynch and Talbott 1995). Cruz (1985) points to the migration of land-hungry lowlanders to the uplands as a key factor in upland population explosion.

A second perspective approaches the issue from the angle of the causes of poverty, which triggers the population problem. Based on this perspective, it is the dysfunctional forest policies and administration that have been largely responsible for deforestation, as such dysfunctions—exhibited by the bias toward industrial logging—foster widespread poverty in the countryside (Kummer 1992; Vitug 1993). The conversion of forestlands into agricultural lands by poor lowland migrant groups has been made possible by the construction of logging roads as well as the culling of big-diameter trees by logging companies. Moreover, the pressure for lowland migrants to invade the uplands stems from inequalities in the lowlands, in which the elite groups capture the vast and rich agricultural resources in a political system that favors only a few. In other words, inequalities in the political system create land-hungry migrants, who are growing rapidly in number (Cruz and others 1992) and who, in order to survive, convert the forests to agricultural lands after the logging companies create the opportunity for them to do so (Kummer 1992; Garrity, Kummer, and Guiang 1993; DENR 1990).

The historical overview in the succeeding chapter shows how varied and strong the reactions are to accelerated deforestation and the upland poverty problem. Since the promulgation of the 1987 Constitution, legislators have been debating whether to impose a total log ban nationwide, or merely strengthen the implementation and enforcement of selective logging practices. EO 263, which declares CBFM as the national strategy for sustainable forestry, cannot be fully and forcefully promoted pending the approval by Congress of a proposed Sustainable Forest Management Act (DENR-CBFMO 1999).

## Complexities Surrounding CBFM

The delays in the state legitimation of CBFM notwithstanding, forestland communities and civil society groups have readily embraced the principles of CBFM. However, realization of its environmental, socioeconomic, and political objectives remains a challenge for several important reasons.

1. ***Ecological imperatives.*** Environmental concerns associated with natural resource management necessitate an ecosystems view of the problems of deforestation and poverty. Following the ecological principles of interdependence and interrelatedness of various ecosystems and of ecosystem elements, deforestation has not only on-site and off-site impacts (e.g., siltation of rivers and streams or downstream flooding) but also on-site and off-site causes (e.g., rights of access, markets, political-economic structures). Moreover, it requires having to deal with the “problem of scale” (Fox 1992). This calls for the ability to understand and respond to issues and problems at various levels, whether by social unit (individual, community), geographical unit (smallholdings, common pool resources in watersheds or landscapes), or politico-administrative unit (barangay, municipality, province, region). Responses to the deforestation issue must therefore run the gamut of technical solutions as well as interventions in the areas of individual and organizational behavior, policies, and institutions.

In addition, ensuring the sustainability of forest resources requires the promotion of resource use practices that enhance, rather than compromise, the carrying capacity of the resource. It entails an appreciation of existing and new technologies that serve this purpose, the tools and social organization needed to practice them, and the self-governing institutions required to enforce them (Ostrom 1999).

2. ***Social imperatives.*** Given a systems context, the causes and consequences of deforestation have an impact on numerous stakeholders, including those living within and outside the ecosystems. Multiple stakeholders make for multiple concerns and contexts that are not only varying but often at odds with one another. Owing to their many uses and the great number of benefits that can be derived from them, forest resources have been magnets for conflicts among groups within and even among nations (Teck Ghee and Valencia 1990).

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Consequently, conflicts normally surround forest management, particularly in matters of ownership and reckoning of entitlements to the resource (Bromley and Cernea 1989; Johnson 1997). Intracountry conflicts may occur at different levels: (1) state and community, (2) national and local governments, (3) communities and local governments, (4) communities and local elites, or (5) intracommunity (Morfit 1998; Brillantes 2000).

Clearly, with the vast potential for conflicts, social negotiation and conflict resolution processes are essential to CBFM (DENR DAO 96-29; DENR MC 97-13). Considering the existing inequitable structures, empowerment processes are necessary to level the playing field and allow previously disadvantaged groups, such as indigenous peoples, women's groups, and poor upland farming communities, to negotiate with government and other entities from a position of strength. Such empowerment has been approached from the perspective of community organizing to obtain power not only through numbers but also through capability building (DENR DAO 89-123).

Most importantly, effective CBFM involves collective action of different social units at various levels. Communities that are able to manage their resources sustainably are known to have evolved institutions for collective action (Ostrom 1991) that bring together the interests, resources, ideas, and ideals of many people (Uphoff 1986). Ostrom (1991) identifies eight design principles underlying common property regimes that have been suggested as guides for crafting institutions for local resource management. Fox (1993) summarizes these design principles into two main points: bounding or clearly defining the limits of resource-user groups, and lowering the transaction costs of making and enforcing internal collective decisions.

3. ***Political-economic imperatives.*** According to Firey (1960), resource use behaviors are influenced for the most part by ecology (i.e., what exists in nature), cultural characteristics (i.e., conformity mechanisms, both sociocultural and political), and economics (i.e., market). Of these three, conformity mechanisms and the market are considered as the most significant determinants of resource use behavior. In the economists' language, the margin or difference between public benefits and costs (e.g., increased water supply in the underground aquifers for watersheds

as a result of the preservation of the forest canopy) and private benefits and costs (e.g., profit margin from logging operations) largely determines resource use behavior (McNeely 1988; de los Angeles 1994, 2000). Overexploitation of resources is viewed as a consequence of higher private benefits and low private costs experienced by resource users, and low valuation of public benefits by the users (Hyde and others 1996). It is also seen as an outcome of resource users' perceptions of the certainty of obtaining future benefits from the resource as compared to present benefits (Bromley and Cernea 1989).

This economics perspective elevates the discourse of CBFM to the level of policy and governance. Legitimation of access and utilization rights to resources and provision of tenure security are viewed as key instruments to ensure present as well as future benefits for resource managers (Laarman 1994; Young 1992). Similarly, resource allocation strategies, measures for regulating harvesting costs through forest charges and licensing fees, and other forest regulations determine the amount of benefits that accrue to resource users as well as the transaction costs that they must bear. In the Philippines, for instance, faulty policies such as low valuation of timber and high transaction costs owing to corruption have been linked to deforestation and the decline of the forest industry in the country (Repetto and Gillis 1988; Porter and Ganapin 1988; DENR 1990; de los Angeles 2000).

### **Asset Building and Sustainability Challenge**

Forest resources, like other natural resources, are a form of natural capital that communities and whole nations utilize to meet a variety of daily requirements: food, fuelwood, clothing, construction materials, industrial materials (e.g., resin, *almaciga*), and so on. Especially for poor people, ease of access to these resources is crucial to ensure their survival. From the standpoint of survival, therefore, husbanding and conservation of these resources are essential.

From a more proactive perspective of development, the forests and natural resources which people use and access are assets that must be developed and optimized to their advantage. How this can be done without compromising sustainability is the key challenge.

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As indicated in the subsequent chapters, the sustainability issue permeates various natural resource management concerns. One is the knowledge base upon which both the “hard” and “soft” aspects of natural resource management are founded. The “hard” aspect refers to the technology and tools, including the funds for procuring them. The “soft” aspect pertains to the resource users’ capacity for participation, organization, management, and governance.

Given that sustainable forest management is largely a collective effort, another concern pertains to the notion of community and the attributes of the resource managers as a community. These influence the type of social organization and institutions that exist or do not exist in resource-using groups. Ostrom (1999) cites certain attributes that are required for communities to organize themselves and undertake collective natural resource management action in a sustainable way, as follows:

- “Salience: Users are dependent on the resource for a major portion of their livelihood or other variables of importance to them.
- “Common understanding: Users have a shared image of the resource and how their actions affect each other and the resource.
- “Discount rate: Users have sufficiently low discount rate in relation to future benefits to be achieved from the resource.
- “Distribution of interests: Users with higher economic and political assets are similarly affected by a current pattern of use.
- “Trust: Users trust each other to keep promises and relate to one another with reciprocity.
- “Autonomy: Users are able to determine access and harvesting rules without external authorities countermanding them.
- “Prior organizational experience: Users have learned at least minimal skills of organization through participation in other local associations or learning about ways that neighboring groups have organized.”

Finally, issues of governance provide the context in which community and empowerment can be supported by various groups—the community itself, the state, and other entities—and institutionalized. Policy incentives, reliable and effective support structures, and clear mechanisms for community participation in resource management, governance, and benefits comprise the necessary enabling environment, or the “soft” aspects of natural resource management.