REFORESTING DENUDED LANDS:
A Solution to Poverty and Climate Change?
A Critical Look at World Bank Projects on Reforestation in the Cordillera, Philippines

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Acronyms/Glossary

CA - Community Association
CBFM – Community-based Forest Management
CBFMA – Community-based Forest Management Agreement
CAL/DC – Certificate of Ancestral Land/Domain Claim
CAL/DT – Certificate of Ancestral Land/Domain Title
CENRO – Community Environment and Natural Resources Office
CRF- community revolving fund
DENR-CAR – Department of Environment and Natural Resources- Cordillera Administrative Region
ENR-SECAL – Environment Natural Resources – Sectoral Adjustment Loan
ENRO – Environment and Natural Resources Office
FPIC – Free prior informed consent
IFMA – Industrial Forest Management Agreement
ISFP – Integrated Social Forestry Program
IPRA – Indigenous Peoples Rights Act
LGU – local government unit
NCIP – National Commission on Indigenous Peoples
PO – people's organization
RRMP – Regional Resources Management Program

Barangay – village
Sitio – unit of barangay
Kaingin – slash and burn cultivation

Introduction

In the global effort to seek common solutions to combat climate change, various options and means are being advanced to meet this urgent goal. And one area that is receiving a lot of attention is forest conservation and protection. Increasing concern is directed at deforestation, which is considered as contributing significantly to global warming. Forest clearing releases carbon dioxide into the atmosphere, accelerating the greenhouse effect. To arrest this, industrialized countries, corporations, big conservation NGOs, the World Bank and other multilateral fund agencies are proposing what has been coined as Avoided Deforestation (AD).

Reduced Emissions from Deforestation and Forest Degradation (REDD), as AD is also known, calls for preserving forests to serve as "carbon reservoirs." Some countries like India and Indonesia have urged an ecosystem and landscape approach to include forest rehabilitation and restoration as possible AD schemes. Past conservation strategies have accommodated reforestation, afforestation, and forest protection and development.

AD proponents are lobbying to have AD and REDD projects included as a mitigation option under a new protocol on climate change. Under the present rules of the Kyoto Protocol that ends in 2012, AD does not form part of any of the Clean Development Mechanisms (CDM) agreed on that allow industrialized countries to go around their carbon emission reduction caps by investing in emission-reducing projects in developing countries. Like most CDMs, AD proposals similarly target developing countries to implement AD projects through economic incentives. Developing countries will be compensated through grants, aid money or carbon funds to keep their forests intact and prevent forest degradation.

AD projects, which are soon to be piloted in several countries, have a potentially huge carbon financing that includes the carbon credit market. The World Bank will reportedly take the lead in setting up and managing an AD international carbon fund. For developing countries this opens the prospects for a renewed flow of foreign funding into their forestry sectors that most of their governments would likely find hard to resist. But this also raises various questions: How effective and sustainable are such projects? What are their impacts on the lands and livelihoods of local and indigenous communities?

The Philippines provides a useful example, having been a recipient of numerous environmental loans that were concentrated in forestry projects. Over the last two decades, the government through foreign financing has implemented programs in natural resource management, protected areas, reforestation and watershed rehabilitation. One of these was the Regional Resources Management Program (RRMP) under the bigger Environment and Natural Resources - Sectoral Adjustment Loan (ENR-SECAL) program funded by the World Bank. Undertaken in several regions of the country, the RRMP sought to rehabilitate watersheds in upland and indigenous areas.

This case study tried to draw out lessons from the RRMP implementation, particularly in regard to its impact on indigenous communities. Specifically, it looked into whether the WB project succeeded in improving economic and environmental conditions as were its expressed aims and how sustainable the forestry initiatives were. The study was conducted in two indigenous communities in two provinces of the Cordillera region where the RRMP was carried out. The field research, conducted in July and August, was supplemented by a review of project reports and documents and interviews with key government personnel and officials from the environment department and local governments.

I. Philippine Forests: Deforestation and Rehabilitation

Due perhaps to the magnitude of forest denudation in the country, the Philippines has become a pilot area for various reforestation programs and approaches through the years. In less than a century, it has lost almost 80 percent of its forests, making it the country with the thinnest forest cover in Southeast Asia.[1]

The causes for deforestation in the Philippines are varied. Forest loss has been blamed on legal and illegal logging, migration, agricultural expansion, *kaingin* or slash and burn cultivation, elite control and corruption, and poverty. But considered to have inflicted some of the biggest destruction was overexploitation through industrial logging. Logging peaked in the 1960s when it became one of the country's leading industries, with Japan and the U.S. as major export destinations. Timber concessions then covered some 11.6 million hectares or virtually one-third of the country's land area.[2]

Commercial logging declined only after1986 when Marcos' 20-year rule came to an end and a new Constitution ushered in broad policy changes including in the forestry sector. A log ban was imposed in primary forests and the government embarked on a nationwide reforestation campaign. Timber license agreements, which had placed the management of much of the country's forestlands in the hands of a small economic elite, gave way to new, more democratized approaches.

The programs had a variety of names but these all basically involved contract reforestation that offered economic incentives to groups to undertake forest rehabilitation. From the late 1970s to 1980s the government launched the Family Approach Contract Reforestation, Community Contract Reforestation and Corporate Contract Reforestation. The contracts generally had a period of three years, after which the reforested areas were to revert to the government.

The Integrated Social Forestry Program, which came in 1982, targeted forest occupants, enabling the government to additionally tap this sector in tree planting. The ISFP, which developed a 25-year tenurial instrument renewable for 25 years, allowed participants to occupy and cultivate upland areas in exchange for reforesting degraded lands and serving as forest guards to protect these. While they could benefit from forest resources, certain activities, such as harvesting timber crops, were still subject to government regulation.

The period from the 1980s-1990s saw the entry of foreign financing through bilateral and multilateral arrangements into the forestry sector. Such agencies as the United States Assistance for International Development, World Bank, Asian Development Bank, Ford Foundation and Overseas Economic Cooperation Fund/Japan Bank for International Cooperation provided environmental loans or grants to fund the implementation of reforestation programs throughout the country..

The programs had the expressed intent to promote sustainable and equitable forest development and management as well as to reduce poverty in the uplands. Among these was the World Bank's Regional Resources Management Project undertaken from 1992-1997 and extended for one year. More comprehensive than earlier forestry approaches, the RRMP made community organizing, livelihood and infrastructure development as integral components of the reforestation program. The RRMP, along with the Natural Resources Management Programme and Upland Development Programme, funded by the USAID and Ford Foundation respectively, is said to

have provided a model for the community-based concept and mechanics of the Community-Based Forest Management (CBFM) program.

In 1995 the government declared CBFM (Executive Order 263) as the national strategy for sustainable forest management. All earlier people-oriented forestry programs, as the ISFP and contract reforestation schemes were called, including the RRMP, came under the CBFM program. The CBFM is an integrated approach to build the capacities of people's organizations, local government units (LGU), NGOs and other agencies to become partners of government in managing, developing and protecting the country's forests. It provides a 25-year tenure instrument called the Community-Based Forestry Management Agreement (CBFMA).

II. WB-funded Regional Resources Management Project

The Regional Resources Management Project was a pilot program implemented by the Philippine government to rehabilitate and develop watershed areas. The RRMP was part of the US $369 M Environment and Natural Resources - Sectoral Adjustment Loan provided mainly by the World Bank and OECF. The environmental loan, which had two components -- policy and investment -- was intended to fund a broad program to preserve the country's remaining biological diversity.

The Regional Resources Management Program was one of three components under the $103 M investment component. The other two were: 1) a monitoring and enforcement program to develop government agency capabilities to monitor logging operations and enforce forestry regulations and 2) a conservation program to support the management of 10 priority protected areas under the Integrated Protected Areas System.

The loan's policy component supported development of an Integrated Protected Area System, Philippine Economic-Environment and Natural Resources Accounting System, property rights reforms including adoption of Community-Based Forest Management, and devolution of environment and natural resources management responsibilities as contained in the Local Government Code.

Project Design

The Regional Resources Management Project was an integrated community-based program with the aim to harness and mobilize upland communities in the sustainable development and management of watersheds while raising their productivity and incomes. It hinged on the assumption that an organized and empowered community, with sources of livelihood to ensure their economic well being and with teunrial security, would have greater motivation to protect and conserve the environment.

The RRMP was envisioned to be replicated in other watershed and forest communities, and thus also provided for the institutional strengthening of local governments that were to take over the project and its expansion to other areas. The project employed broad strategies that combined community organizing, training, livelihood development, restoration of denuded areas, improving farm technologies, provision of land tenure and infrastructure development. Specifically the RRMP had the following components:[3]

1. Local Social Development

This involved community organizing, formation and strengthening of community associations (CA) and cooperatives, farmers training and barangay development planning. Members of CAs were assisted in establishing Community Information Planning Systems that entailed participatory development planning, assessment, monitoring and evaluation, as well as implementing and managing livelihood and environmental conservation projects.

2. Community Resources Development

The component consisted of two activities: on-farm and off-farm site development. The former was directed to individual farmers who were encouraged to adopt farming systems and technologies to enhance upland agriculture and productivity such as soil-water conservation, soil fertility improvement, improved cropping practices and gradual conversion to perennial cropping. These were demonstrated through the establishment of model microwatershed farms.

Off-farm site development focused on improving the management of the community's watersheds and natural base. Community associations were to undertake this through reforestation/agroforestation and to protect and manage existing natural forests in project sites.

Part of this component was putting in place land tenure instruments such as the Certificate of Stewardship Agreement (CSC), free patent, and additionally in indigenous areas, the Certificate of Ancestral Land Claim (CALC) and Certificate of Ancestral Domain Claim (CADC). The DENR in the early 1990s had started to set in operation the recognition and delineation of indigenous peoples' land rights through CALC and CADC.

3. Livelihood Development

The component's premise was that economic improvement would bring about sustainable management and utilization of natural resources by local communities. Thus project activities aimed to address the need to augment incomes through alternative livelihood sources to reduce resource use in the community's natural base. The project provided various livelihood training.

RRMP provided for a financing mechanism called the community revolving fund (CRF), managed by the CA, to serve as a pool of financial resources to fund livelihood ventures of members and of the organization**.** A seed fund of P60,000 started the CRF in each site, and could be built up from donations, members' contributions and CA profits from economic activities such as lending or products trading. CA members were enjoined to contribute to the CRF by giving a percentage of their wages from work in RRMP-related infrastructure projects.

4. Infrastructure Development

This component entailed building or improving infrastructure to facilitate project activities and service delivery. A project assumption was that providing basic infrastructure would stimulate local economic activities that in turn could influence more rational utilization of natural resources. A second factor was the generation of temporary employment for the local people. The infrastructure projects were mostly contracted out to the community associations, local governments or firms who were required to hire local labor. This was also seen as the entry point for local governments to participate in the RRMP with funds and equipment provided to them by RRMP.

Some of the infrastructure built were school buildings, government or multi-purpose buildings, multi-purpose pavements, new and secondary roads, road improvement, trails and tire paths, bridges, culverts, water supply and irrigation systems.

5. Institutional Strengthening

This involved capacity building through a 4-year training program for DENR and LGU personnel and program committees from provincial to barangay level. Part of the RRMP design was the eventual turnover of project management to local government units. This was also in line with the Local Government Code passed in 1995 that devolved certain natural resource management functions to LGUs.

Organizational Structure

The RRMP had an organization structure that drew broadly from regular staff of all levels of DENR and from provincial, municipal and barangay local governments units. The Department of Environment and Natural Resources was the lead agency with the main responsibility for project implementation. At the national level were a Steering Committee headed by the DENR Secretary and a Project Management Office that provided overall policy direction and program management.

A Regional Project Management Office headed by the DENR Regional Director was the key project implementor. Direct supervision and control of project operations lay with provincial/community environment and natural resources offices (PENRO, CENRO). At the community level were watershed management units, also mainly DENR personnel, who supervised the implementation and monitoring of project plans and programs. They were the focal point for coordinating all support activities to be delivered to farmer participants.

Barangay development units, mostly barangay officials, in target communities were responsible in mobilizing members of the community and in coordinating implementation of project activities.

The provincial and municipal local government units participated on two levels: as project beneficiaries and as implementors. During project implementation, they underwent institutional strengthening through training in preparation for the devolution of the project. At the same time they were actively involved in carrying out the project. They provided staff support, assisted DENR in organizing provincial, municipal and barangay committees to oversee the project, and implemented project-related infrastructure.

On the provincial level, participating personnel were provincial governors, provincial planning and engineering officers, and provincial development councils. At the municipal level were mayors, barangay officials and municipal development councils who provided direct leadership and support to farmer-beneficiaries in project sites.

In RRMP's target regions in Luzon, a consultancy group, the Orient Integrated Development Consultants Inc, was contracted by the DENR to provide technical assistance services in four areas of concern: implementation management, institutional strengthening, direct assistance to component project and training administration.

RRMP in the Cordillera

The Cordillera Administrative Region (CAR) was one of five regions where RRMP was implemented. The others were Regions 1 and 2 in Northern Luzon and Regions 9 and 10 in Mindanao. These regions were selected based on their watershed coverage and comprise around 43 percent of the country's forest cover.[4]

The Cordillera, which sits on 1,829,368 hectares or a sixth of the country's land area, is a chain of mountains that form the spine of northern Luzon. A region of natural riches, it is considered the "watershed cradle" for this part of the country. It hosts nine major river systems that provide much of the irrigation and energy needs in northern and central Luzon. The regional economy is predominantly agricultural, producing rice, vegetables, fruits, root crops and cut flowers as main crops. Mining is another key industry as the Cordillera is abundant in mineral deposits that include copper and gold.

The majority of the Cordillera's population of 1,365,220 (2000 census) are indigenous peoples. Eight major ethnolinguistic groups and various other sub-groups collectively called Igorots inhabit the region. Despite the region's natural wealth, the Igorots like most other indigenous groups in the Philippines can be counted among the poorest sectors in Philippine society. Until recently, all Cordillera provinces formed part of the country's "Club 20," as the 20 poorest provinces have been tagged.

The RRMP had a total cost of US $64.2 million. Of this, the CAR had an allocation of P260.2 million for the whole duration.[5] The RRMP was implemented in then all five (currently six) provinces of the Cordillera Administrative Region. It covered 25 barangays, eight of which were expansion areas, in nine municipalities involving a watershed area of 32,115 hectares.[6] The case study focused on two indigenous communities (see boxes): 1) an Ibaloy community in Tinongdan, Benguet province in southern Cordillera and 2) a Kalinga community in Pinukpuk Junction, Kalinga province in the north.

Project Impact

Forest Rehabilitation

The RRMP performance received good ratings from both the government and the World Bank. The Bank rated the project's overall outcome as satisfactory, citing physical achievements as having surpassed targets set in the 7-year work and financial plan.[7] The Project Management Office gave an even higher rating of "very satisfactory."[8] The Northern Luzon regions were ranked as the top performers, with the Cordillera Administrative Region in second place after Region 1 with an overall accomplishment of 94 percent.

Almost a decade after RRMP completion, a fair gauge of the project's success should evidently be substantial tree growth or vegetative cover in targeted denuded areas. In the two study sites, there is little physical evidence of this. Most of the reforestation sites have reverted to grass lands with only sparse trees that may have sprouted more from natural regeneration than to the project's planting initiatives.

In both Pinukpuk Junction and Tinongdan most of the reforestation sites were not maintained and eventually abandoned or were burned and not replanted. Some successful rehabilitation efforts can be found in on-farm sites, where tree patches have survived. But overall survival rate, estimated at 30-50 percent in Pinukpuk barangays, is still considered low. Forest fires similarly did not spare many of these.

The failed reforestation can largely be attributed to the disintegration of community associations soon after or even before RRMP ended and lack of funds to maintain and protect planted areas.

Community association

Community associations, which had the responsibility to develop and manage the bigger off-farm sites, were essential to the success of the project goal of forest restoration. They were given 3-year contracts amounting to P10,000 per hectare to undertake site development of designated watershed areas. The contract specified nursery development, establishment of plantation and its maintenance. But in most of the sites, little or no maintenance work was made after the planting phase, as many CAs disbanded soon after.

As the study shows, some community associations were organized merely to qualify for project contracts. As such there was no serious commitment to project goals. Once the project or even the contract ended, the CA stopped operating. In other areas, CAs were not set up at all. DENR staff themselves took over site development, defeating the purpose of making the reforestation initiative community-based. Local people served only as hired labor in the different project activities.

Some anomalies were also observed in fund disbursement contrary to the assertion of financial transparency emphasized in project seminars. Some farmer participants received less than the set cost per hectare and wages for hired work were similarly suspected to have been lower than stipulated in contracts.

Some local government officials may also have taken advantage of the project by offering their own land claims for reforestation. Sites were identified by community members and barangay and municipal government officials, but this was apparently used to benefit certain landed individuals in the community.

It is apparent that the projects did not utilize or maximize existing socio-political structures, rather it embarked on an ambitious plan to organize community associations. In some instances it utilized existing associations that were originally set-up for different reasons, like credit cooperatives.

In indigenous areas, indigenous socio-political structures exist side-by-side with government mandated structures and are usually governed by elders. If the projects had tapped into these structures the projects would have had more chances of succeeding because of the intricate relationship of indigenous communities with the forests.

Maintenance

Another reason for the low reforestation rate was the lack of funds to maintain and protect the sites after planting. As it was, individual farmers found the P10,000-per-hectare fund given by the project insufficient to cover all site development costs The amount was barely enough for land clearing and planting, as those with bigger areas had to hire workers. This left little or no funds for maintenance and protection.

On the other hand, as a DENR personnel noted, the community association could not be expected to take care of whole reforestation areas on their own resources.[9] Some off-farm sites spanned up to 100 hectares and located far from residential zones. Ideally the whole community should be

involved in forest maintenance but not all joined the CA and thus not everyone was committed to protect reforested areas. Moreover it takes years for trees to mature, which for pine is at least 50 years. For farmers who live a hand-to-mouth existence, the priority is to earn a living to survive more than tree protection.

Because the sites were not maintained, much less protected, these were more prone to fires. In Tinongdan, while the community formed a fire brigade and set up fire zones, these proved to be inadequate because, as some residents emphasized, maintenance work was wanting. Cleaning of forest areas is vital especially in the summer when dried fallen leaves and pine needles left to pile up can act as a tinderbox.

Local conditions further abetted the occurrence of fire in the sites, which better protection measures could have addressed. The off-farm site in Pinukpuk Junction is a pastureland one kilometer from the residential area with a river to be crossed before it can be reached. There was neither bridge nor boats for easy access. These factors made it difficult for the community to save the plantation once a blaze started. Tinongdan's bane, with its pine-covered areas, is forest fires, and some of the reforestation sites had burned down in the past even before the entry of RRMP.

The few successful reforestation efforts can be seen in individual on-farm sites in both Pinukpuk and Tinongdan. This accomplishment is attributed largely to their location and being private land claims. Being nearer home lots, they can more easily be maintained and protected. And although the lands are mostly claimed under tax declarations, the sense of ownership appears to have made farmer-owners invest more care in the trees they planted even after RRMP closed. A Pinukpuk farmer who cultivated a fourth of a hectare to Gmelina said he maintained it because it was his and could harvest from it. Such farmers were also more appreciative of the project's goals. A farmer in Tinongdan cited increased food productivity, less erosion, the value of planting trees and making use of the land as her gains from the project.

Some farmers however asserted that some tree species used are not suitable for watershed rehabilitation. The RRMP recommended the planting of the fast growing Gmelina arborea, and while it generates faster tree cover and quicker profits for farmers, it does not yield water and instead absorbs it. An Ibaloy woman found that a spring that had long served as her family's water source disappeared when she planted Gmelina on her land.

PINUKPUK JUNCTION, with approximately 2,200 hectares, is one of 23 barangays in the northeastern part of Pinukpuk town in Kalinga province. It is populated mainly by Kalingas with the Pinukpuk tribe as the dominant group. The people are mainly farmers, with rice and corn as their major crops; and peanuts and legumes as seasonal products. They plant rice on both hilly and non-irrigated low lands, and supplement their income with fishing, fuel wood and bamboo collection and cottage industries.

Reforestation
The RRMP was undertaken mainly in Pinukpuk Junction and in the three expansion barangays of Cattabogan, Mapaco and Malagnat. Except for Malagnat where only individual on-farm sites totaling 10 hectares were developed, the rest had off-farm reforestation areas ranging from 5 (Mapaco) to 100 hectares (Pinukpuk Junction and Catabbogan). Pinukpuk Junction additionally had on-farms, with an aggregate area of 20 hectares. The sites were planted to mahogany, narra, Gmelina arborea, mango and citrus.

The Pinukpuk Junction Upland Farmers Association contracted the site development of the 100-hectare pastureland in Piunkpuk Junction. The association was said to have been formed in name only to comply with project requirements. The person behind it was a barangay official who used the community association with a listed membership of 205 to get the contract. Instead of a general assembly, farmers were approached individually to join the organization, with some residents being signed up without their knowledge.

Most of the listed members did not participate in the site development. The barangay official hired instead members of the community to establish the nursery and to plant tree seedlings. Even children were taken in to pack seedlings in individual bags ready for transplanting. Some farmers noted that wages given to workers especially to children may have been lower than what were set in the contract. After the planting phase, no maintenance or protection work was done. An evaluation team came once for an inspection visit but never reached the site, which is a kilometer from the settlement.

In Catabbogan and Mapaco, no community association was organized as required by RRMP. Personnel of the Department of Environment and Natural Resources instead took charge of site development, employing workers from the community to plant the seedlings. Other residents from other barangays who were not part of the project availed of the seedlings provided by the DENR for their own use. There was similarly no monitoring or maintenance done in the sites when the project ended.

All the off-farm reforestation sites in Pinukpuk Junction, Catabbogan and Mapaco later burned down and were not replanted. The survival rate of trees planted was a low one percent but project personnel and other officials claimed it to be higher during the project duration. In Mapaco tree seedlings that were reportedly eaten by cows were actually dug up by local people to grow in their own backyards.

Fire also destroyed many of the on-farm areas, with only 30-50 percent surviving in Pinukpuk Junction and Malagnat. Farmers cited the lack of maintenance funds to protect the sites from forest fire. Some residents in Pinukpuk Junction also observed that farmer beneficiaries were given different amounts for land preparation and planting. They were told that individual farmers would get P10,000 per hectare but some obtained less than this. One received only P10,000 for a whole 10-hectare area.

The project also created a land dispute between community members. A farmer who was a member of the community association planted tree seedlings on one hectare that he owned plus an adjacent hectare that belonged to his neighbor. When the latter learned of this, he burned the encroached hectare and planted it to rice. The case was brought to court and has not been resolved to date.

Livelihood projects
The Pinukpuk Upland Farmers Association had a community revolving fund of P120,000 to finance livelihood and other income-generating activities during the project duration but this eventually disappeared. The organization's officers took out the first loans, virtually dividing the fund among them. They did not repay their loans, and other members who also borrowed from the fund followed suit, leading to squabbles in the organization.

Various livelihood projects were planned in Piunkpuk Junction such as livestock raising, banana and ketchup processing, bread making and soap production, but most of these were not implemented and those that were did not prosper. One program undertaken was duck dispersal but most of those who benefited were government officials in the CA membership. Other members got only a pair of ducks each, which ended up being cooked. Another venture was a bricks-processing project but the machine was later moved to a local government official's house and eventually came under his personal use.

LGU participation
The current mayor of Pinukpuk town was not aware of LGU responsibility over RRMP sites and of past reforestation projects within his jurisdiction. This was mainly because no one had briefed him on this. The town has no Environment and Natural Resources Office.

He is in favor of reforestation in his town and has requested DENR for this since almost all of the rivers are drying up. He claimed the DENR has not succeeded in stopping rampant cutting of trees and illegal swiddening. He is willing to help in reforestation so long as there are funds.

TINONGDAN is the second biggest of eight barangays in the mining town of Itogon, Benguet province. With 12,515.7 hectares, it comprises about a fourth of the town's total land area. The indigenous Ibaloy are the predominant inhabitants with a smaller population of other indigenous groups, the Lowak, Kankanaey and Kalanguya.

Reforestation
Off-farm reforestation was undertaken in *sitios* (unit of barangay) Bagueng, Sabdang and Petican while on-farm areas were nearer the settlement in Tinongdan Proper. The aggregate area for both off- and on-farm sites totaled some 50 hectares. Tree species used were Gmelina arborea, mahogany, alnus and pine while fruit trees such as avocado, mango, jackfruit, coffee, root crops and available local seedlings were additionally grown in on-farm areas.

Four community associations were organized for RRMP, namely, Tinongdan Multipurpose Cooperative, Baloy Integrated Social Forestry Development Association, Gueset Multipurpose Cooperative and Senior Citizens Organization although the last was not involved in reforestation but only in the implementation of infrastructure projects.

As in Pinukpuk Junction, many of the reforestation sites were not maintained and later destroyed by fire. These were not replanted. Community members cited various reasons for the failed reforestation:

- forest fires invariably blamed on slash-and-burn cultivation, children playing with matches, and fire originating from adjacent barangays that quickly spread to reforestation areas.

- lack of funds for maintenance and protection. Funds received by farmers were good only for land clearing and planting, leaving them with no financial resources for maintenance and protection of planted trees. Some had to pay for extra labor for work on their farms. A female farmer who could not do the needed work by herself had to hire four neighbors to help in the clearing and another six persons to do the planting. For the half hectare that she planted, she received only four thousand pesos from the project.

- absence of fencing in reforestation sites, which caused stray animals to eat or trample on seedlings

- loss of interest in the project by community associations after they received contract payments and when livelihood projects were not sustained

- lack of protection and monitoring of reforestation sites when these were devolved to the local government unit

On-farm areas were comparatively more successful as a number have been able to maintain tree stands. A woman farmer, for instance, has started harvesting from the trees she planted. Using seedlings from her own backyard, she cultivated half a hectare, growing mahogany, mango, jackfruit and coffee, and in the surroundings, Gmelina. On the slopes, she planted *madre cacao* to prevent erosion and cassava for an additional source of food. The Gemelina and fruit trees can be harvested although she does not earn any income from the latter as these are only enough for home consumption.

Livelihood projects
The Tinongdan Multipurpose Cooperative was an existing cooperative, established by the Department of Agriculture before RRMP came in, with most of the community as members. Instead of forming another organization, community members decided to use the cooperative for RRMP. It had already a substantial capital fund then, which was further enlarged by the project's P60,000 seed fund and members' contributions deducted from their wages in RRMP infrastructure projects.

Well managed during the project duration, the cooperative's community revolving fund grew to a million by the time RRMP closed. A few years later, however, the cooperative went bankrupt when a new leadership, whose management skills were wanting, took over and non-repayment of loans became prevalent. The barangay government took over the cooperative's building, which is currently used as a day care center.

A rice trading cooperative was also set up in Tinongdan but was not sustained.

LGU participation
The Itogon municipal government has not been able to create an Environment and Natural Resources Office since its budget is already strained by wage allocations. In the absence of the ENRO, the local Department of Agriculture has taken responsibility over all agroforestry programs in the municipality.

The RRMP sites have not been included in LGU planning or monitoring since its turnover. The DENR is currently in the process of evaluating and validating previous areas of reforestation to avoid duplication since Itogon has been the site of several reforestation projects over the past years.

Improvement of Economic Conditions

In addition to conservation and enhancement of the environment, RRMP also intended to address poverty alleviation. The project was able to ameliorate economic conditions in target communities through the local employment generated by infrastructure projects and the livelihood activities that were launched. But gains were generally short-lived, lasting only during project life span, and confined only to a part of the population, largely the membership of the community association. Other members of the community were able to benefit from the infrastructure projects but CAs also implemented some of these.

Most of the livelihood projects started by CAs and members, such as livestock raising and rice trading, were not sustained. The activities involved limited production and did not provide substantial incomes.

Most of the community revolving funds of CAs grew during the project duration. But bad loans and fiscal mismanagement eventually dissipated the CRFs in both study sites. This demoralized members and may have partly caused the loss of interest in the project.

Where RRMP's livelihood option did not last, the infrastructure component succeeded in bringing a more long-term, favorable impact on the economic life of target communities. The physical structures, mostly maintained by the local government, have indirectly contributed to stimulating economic activity. Not only did these bring in local jobs during the construction phase, the people continue to enjoy and benefit from their use today. For some residents, in fact, it is only the infrastructure now existing that they remember of the entire RRMP undertaking.

The construction and improvement of roads, foot trails, tire paths and bridges have connected isolated parts of barangays and brought mobility and ease in the access and transport of local products. In Tinongdan the road improvement considerably cut down travel time for residents from 30 to five minutes. Slope protection and irrigation works have also helped increase farm productivity.

Sustainability

As early as 1996 the DENR began the formal turnover of the management of project sites to respective local governments units. This was embodied in a Memorandum Circular, *Guidelines in Implementing the Turnover Process to Local Government Units and Communities under the Regional Resources Management Project*.

When RRMP ended, however, the management structures set in place to sustain the project did not go into motion. A setback were the various limitations faced by municipal local government units, chief of which were the lack of financial and manpower resources, changing priorities with a change in political leadership, and more urgent local concerns. Since the turnover, RRMP site management has not been included in LGU development plans in both Itogon and Pinukpuk towns.

Part of the LGU commitment under the memorandum was the establishment of an Environment and Natural Resources Office (ENRO) on the provincial and municipal levels. The ENRO is the main office tasked to handle the project sites as well as other DENR projects devolved to the LGU. On the municipal level, an ENRO is still non-existent in Itogon and Pinukpuk towns, for lack of funds and other priorities. Benguet province has created an ENRO but its thrust follows priority programs of the administration, which at present is solid waste management.

On DENR's end, monitoring and protection are part of the agency's regular activities performed through its Community Environment and Natural Resources Office. Monitoring of the RRMP areas has not been a specific concern since the project's devolution to the local governments. In addition the DENR similarly has its own priorities and thrusts that support current national programs.

Project sustainability was dependent on the partnership of stakeholders: the community associations that were to maintain and protect reforested areas, local government units to provide manpower and financial resources to manage the sites, and DENR to provide technical support. When the project terminated, this failed to take off, reflecting on RRMP's non-sustainability. The CAs in the study sites had by then or soon after become inactive.

Social Costs

Reforestation projects do not only have environmental and, where intended, economic impacts, but these have social consequences as well that directly bear on indigenous communities. Past projects including RRMP have spawned values and attitudes that may work in the long run against similar environmental initiatives. A common sentiment expressed by farmers in the study sites and government officials and personnel alike was that the participation of community associations stopped when project funding ceased. The project was looked at more as a source of income and immediate profit rather than for its long-term environmental goals.

Because of the many reforestation projects entering local communities, these have come to be associated with contracts that people can take advantage of for financial gain. The government's community-based forestry projects including RMMP stemmed from earlier contract reforestation that used the economic incentive to mobilize local people to plant trees in denuded areas. A consequence has been the setting up of organizations solely for the purpose of getting reforestation contracts, as was the case in Pinukpuk Junction. The manner and motivation for which these are formed ultimately influence project commitment and overall performance.

The entry of more and bigger projects supported by foreign funds may have further fueled the practice of hastily forming organizations to qualify for contracts. In Itogon, reforestation programs have come one after the other or at times even implemented simultaneously. Over the last two decades, it has been the site of both foreign- and government-financed projects: Itogon Watershed Subproject (ADB), Itogon Integrated Watershed Management Project, Cordillera Highland Agricultural Resource Management Project (ADB), Caraballo and Cordillera Agriculture Development (EU), Cordillera Land Ownership Award (Department of Agriculture) in addition to the World Bank-funded RRMP. Multiple memberships have been found in POs in Itogon because of the presence of various projects in the community.[10]

PO performance is now a major problem in the current Community-Based Forest Management program, which continues to contract out site development to people's organizations. The DENR has suspended since august 2005 the issuance of new Community-Based Forest Management Agreements because of increasing infractions by POs of their CBFMA.[11] In November of the

same year, DENR cancelled 233 CBFMA in 11 of the country's 13 regions, including the Cordillera, due to POs' low performance. In March 2006, all existing CBFMA in eight regions were also cancelled, again due to POs' non-compliance or violation of their Agreements.

Reforestation projects also tend to erode traditional systems of cooperative labor practiced in indigenous communities. In contrast to contract reforestation where every activity from land preparation to planting of seedlings is paid, members of clans or communities work collectively in maintaining and protecting forests.

More alarming are wrong values engendered by reforestation projects that ironically and perversely lead to acts inimical to the environment. In some communities in Itogon, cases of land clearing and deliberate forest fires have reportedly occurred because of potential financial gains under reforestation projects.[12] Some reforested sites are deliberately torched or lands are cleared for these to qualify for funding under reforestation programs.

Another adverse effect is the division caused in local communities. Reforestation projects have spawned land conflicts due to encroachment to enlarge plantation areas as well as envy and resentment among those who are not able to share in contracts. Some fires that have destroyed reforestation sites are suspected to have been started by Individuals left out from project gains.[13]

Finally, reforestation projects are creating cynicism in local people that can lead to apathy to environmental initiatives. In Itogon where so many projects have been undertaken with massive foreign lending, the question is asked: "Where are the trees?" The following remarks, coming mostly from Itogon government officials and workers themselves, [14] show a cynicism that reflects the problem of sustainability plaguing past reforestation including RRMP:

> *There have been so many reforestation projects but we see don't see any trees.*
>
> *If an inventory were made of all the seedlings planted, all areas including the Pacific Ocean would have been planted by now. The physical output is low when compared against the huge amount of money put in.*
>
> *What's left are skeletons of trees; there are no live trees.*

The Itogon mayor's statement is even more telling: "We do not feel the impact of any reforestation project. After all the projects undertaken water is still a big problem in many villages."

III. Indigenous Forest Management Systems

In interior areas of the Cordillera, indigenous communities have addressed the challenge of sustainability, having preserved biologically rich forests through generations. This is due largely to the way they regard forests around which they have developed systems of sustainable forest management and use. Indigenous peoples put a high cultural and economic value on forests. Forests form an integral part of their natural resource base along with rice fields and swidden farms. These provide food, fuel, medicine, lumber for housing, headwaters for irrigation and domestic use, and common pasture area.

Forests also hold religious significance and the indigenous spiritual beliefs regarding forests are now being discovered to have sound ecological principles of protection and conservation. The

Ibaloy, for instance, hold rituals in the forest, which they believe is the dwelling place of the spirits of their ancestors. These beliefs help to deter destructive activities.

Governed by customary law, the indigenous forest management systems and institutions vary in name according to the group but share underlying principles and beliefs. These are called *kidjowan* (Ibaloy), *tayan* (Kankana-ey), *muyong* (Ifugao), *lapat* (Tinggian, Kankana-ey), *ginobat* (Kalinga). These are still practiced today in differing degrees throughout the Cordillera depending on how strong the indigenous culture and ways of life have remained.

The elders generally set the rules for forest use, management and protection, and these are well respected and observed. Watersheds are communal, while families or clans maintain secondary growth forests they lay claim to through previous swiddening or other investment of labor. While owners share the forest resources with the community, use is strictly regulated. A member of a clan or community is allowed to gather dried branches for firewood. Trees can also be cut but only mature ones and only for specific purposes such as for building a house or for use in a *kanyaw*, a ritual feast performed during a wedding, death or for other social purposes.

Protection and maintenance are done through cooperative labor. The elders mobilize clan members to do the various work needed such as weeding, pruning, tree thinning, enrichment planting and stem binding and, if needed, fencing to protect plants from stray animals. In the summer cleaning and setting up fire lines are also done collectively.

Indigenous peoples know the water bearing trees, and these are specially protected. These are not to be cut, such as the *atibanglan*, *balite, alumit* in Benguet and *sabbang,* white and red lauan in Kalinga. The sabbang for instance holds water in its trunk while the presence of alumit signals a spring nearby, and its abundance ensures the water does not dry up.
Swidden cultivation, which has usually been blamed for forest fires, is similarly regulated as it is allowed only in areas that have no trees. In starting a swidden, farmers first clean an area, sparing trees and plants with important medicinal and food value. Grass and other forest debris are then burned and used as fertilizer.

The government is slowly coming to recognize the viability of indigenous forest practices. The regional Department of Environment and Natural Resources has recommended the adoption of a national policy recognizing traditional forest management systems of the Cordillera indigenous peoples.[15] Although the national DENR office has yet to act on the recommendation, DENR-CAR has started documenting their practices. This move acknowledges that forests traditionally managed by indigenous peoples have enhanced the region's natural resources and thus must be supported. Some of the most intact forests that have remained in the Cordillera are those found on indigenous lands.

Today however several factors, including government-encouraged programs, are leading to the destruction of forests in some indigenous communities. In Itogon, some local people are clearing parts of their forest to build green houses for citrus crop production. Forest lands are also being sold for economic gain, which goes against the traditional belief that this should not be sold but if forced to, must be offered to the nearest of kin. Increasing privatization of forest ownership has been the result of the government's campaign to have lands registered or declared for the purpose of realty tax payments. And as cited earlier, some intentionally burn forest areas in order to apply these under funded reforestation programs.

IV. Resource Rights Limitations

When an indigenous person wants to cut a tree he has planted in a family- or clan-owned forest to build a house, he first has to get a permit to cut from the DENR. This illustrates the tenuous hold indigenous peoples have over their forests and resources. Despite the fact that they have developed and preserved forests on their own, under current Philippine laws and policies they do not own forest lands or resources. This erodes their access and use rights to their forests and puts them at constant risk of displacement by government projects including reforestation and conservation programs.

The Philippines has enacted an Indigenous Peoples' Rights Act (IPRA), which recognizes ancestral land and domain rights, but it is not a guarantee against displacement or rights restriction. In various provinces throughout the country, reforestation and other development programs are being carried out on ancestral lands even those issued with certificates of ancestral domain claims (CADC). In Palawan and Mindoro provinces, commercial tree plantations under the Integrated Forestry Management Agreement (IFMA) program are operating on lands covered by CADCs issued to the indigenous Batac, Tagbanua, Palawan and Mangyan groups.

Indigenous inhabitants are restricted from entering IFMA areas even if these are within their certified ancestral domain claims. Some of these IFMAs cover wide tracts of land. In Agusan province, PICOP, a former logging company, holds an IFMA spanning some 50,000 hectares, and plans to have an expired timber license converted to another IFMA covering several other barangays. Within these IFMA areas are indigenous communities like the Manobo who have ancestral claims on the land. Traditional forests of indigenous groups are threatened by logging allowed in IFMA areas. Akin to timber concessions, the 25-year IFMA tenure instrument issued by DENR allows logging simultaneous with tree planting.

While the IPRA is the main law that provides protection for indigenous peoples, it has various limitations, and other conflicting laws and policies are in force, tending to weaken its implementation. Foremost is the Regalian Doctrine of the Philippine Constitution, which vests ownership of forest and other natural resources with the State. The State owns all lands of the public domain which includes forestlands defined as 18 degrees and above in slope under the Revised Forestry Code. In the Cordillera these lands constitute around 85 percent of total regional area. While the IPRA, which was passed in 1997, supercedes the 18 degree slope provision by alienating ancestral lands, such a ruling applies only to individually-owned, not clan-owned ancestral lands and domains.[16] The latter lands, even if claimed as ancestral, are considered inalienable forestland covered by the Revised Forestry Code.

Other conflicting laws are the National Integrated Protected Area System (NIPAS) Act and various proclamations declaring forest reserves. Under the NIPAS four national parks covering five provinces in the Cordillera have been declared as protected areas and a number of watershed reserves are also being planned for inclusion. Indigenous communities inhabit parts of these national parks and watersheds, and one of these, the Mt. Pulag National Park is a sacred mountain to the Ibaloy who consider it a final resting place of their ancestors.

Zoning within protected areas restricts use of resources that the indigenous inhabitants have long maintained and conserved. This adversely affects traditional livelihoods and other economic activities. While a Protected Areas Management Board includes indigenous representation, this is too small as to influence policy decisions and direction.

The Indigenous Peoples Rights Act itself sets limits on land and resource rights indigenous peoples may enjoy. The law confines ancestral domain rights to areas they have traditionally and

actually occupied, and the right to develop land and natural resources refers to stewardship rather than ownership.[17] In the same vein, rights to exploit and utilize natural resources within ancestral domains are considered only priority rights, since natural resources belong to the State. Under this provision, the State or parties granted authority can undertake joint venture or production sharing agreements in ancestral domains.

Prior property rights existing before IPRA took effect are also recognized and exempt from ancestral land or domain claims. Among such property rights are titles, patents, licenses, concessions, leases, permits, and sharing or management agreements.

While the IPRA provides for Free Prior Informed Consent of an indigenous community for any project to be conducted on their lands, current operating mechanics open the FPIC to manipulation to favor interests other than those of indigenous peoples. In the Cordillera provinces of Benguet and Abra, several FPIC certifications have been issued from 1998-2000 by the National Commission on Indigenous Peoples, declaring there were no ancestral domain and land claims in indigenous areas applied for by certain mining companies.[18] The NCIP is the government agency tasked to implement the IPRA.

There is little possibility that laws and policies that conflict with IPRA will be repealed or amended in its favor.[19] As legally required, conflicting provisions of laws are to be harmonized or reconciled by concerned government agencies. In the harmonization of laws, a strong and upright NCIP is needed to assert its jurisdiction and an interpretation of the law that would advance and protect indigenous rights and welfare.

Ancestral land and domain claims are running up against opposition from local government officials themselves. In Benguet the Bakun municipal local government filed an appeal with the NCIP for the withdrawal of the Certificate of Ancestral Domain Title granted to the Bakun community in early 2000. The first CADT to be issued in the Cordillera, the appeal was made on the grounds of unresolved boundary conflicts with neighboring towns. Other local officials see a delineated ancestral domain managed by an indigenous people's organization as an unwelcome "shadow government" within the administrative jurisdiction of a municipality.[20]

Given these legal constraints, indigenous peoples continue to face a threat from projects that could mean their displacement or weaken their own rights to utilize their forests. Since most of the lands they inhabit are considered watershed and forest reserves, these will remain a top priority of national forestry programs that government may take in the name of public welfare and additionally global climate change.

V. Conclusion and Recommendations

The stated objectives of the project in this case study are quite far-reaching, including poverty alleviation and abetting climate change. However, as evidenced by the study, the project has failed miserably in addressing these complex issues. In fact, the question as to whether these types of projects are indeed the appropriate response to the increasing poverty amongst indigenous communities and to the issue of climate change begs to be asked.

In terms of poverty alleviation, the communities where the projects were implemented did not show considerable increase in income. The community associations formed to implement the projects were either dissolved or have become inactive due to lack of financial resources. While

some may have earned some income at the time the project was implemented such income was minimal and did not have much impact on the over-all income of the households.

But the bigger tragedy of the project was in terms of its environmental impact. Despite the huge amounts of funds that supposedly were made available to the communities for reforestation, there is little visible sign of increased forest growth in any of the communities where the projects were implemented. One is tempted to ask, "where have all the tree seedlings gone"?

The reasons for such failure are quite numerous – from project design and implementation to the choice of tree variety used for replanting. What is sad in all these is that a good number of tree seedlings have been wasted – even those that were planted have gone to waste because they were not nurtured.

While forest restoration is vital particularly in watershed areas, in the light of renewed efforts and interest towards avoided deforestation, it might be useful to bear in mind the following lessons:

Project Design

It is not enough to have noble intentions for projects to succeed, what matters most is that communities feel that they "own" the projects and these are meant to address their needs.

Because the projects were conceptualized and designed from the outside they did not fully consider the needs of the community or the objective situation obtaining in the area. In Itogon, what the community clearly needed was water, and the project did or could not deliver this very immediate and basic need.

Perhaps, the biggest flaw was the use of "contracts" for site development. The very term "contracts" is indicative of the relationship that the project had with the community members. For most community members the term "contracts" inferred that money was to be made in participating in the project. This became the overriding reason for forming associations and for participating in project activities.

Also of great significance is the fact that the indigenous peoples do not have secure rights over reforested lands. Most of the areas are classified as public lands and thus the people did not feel the obligation to sustain and nurture it. In the few areas where the project had some degree of success, the people had a claim of ownership over the lands through tax declarations. While the project provided for land tenure instruments, these seemed inadequate to address the basic demand of the indigenous peoples for land rights. Most land tenure instruments issued by the DENR are up to 50 years at most, but indigenous communities that have kept their forests intact have maintained these for much longer than two generations.

Project Implementation

Current reforestation programs are touted to be community-based, but these should not only be in name but truly involve the whole community. Community organizing is a long process and can not be done in haste just to meet project targets and timetables. There are traditional socio-political institutions and structures operating in indigenous communities that should be considered rather than impose another structural layer through the formation of new organizations.

The community should have a stake or ownership over the reforested site. Planting is only the initial stage in reforestation. The more crucial phase is the maintenance and protection of tree seedlings until these reach maturity, which entails a long time. Having a sense of ownership by the community would ensure the commitment to protect reforested sites. Additionally, this will ensure that the species to be used for reforestation will be appropriate.

Finally, the indigenous forest management systems offer models for sustainable development and utilization of forest land and resources. While the DENR-CAR proposal for their recognition is a beginning, more needs to be done before indigenous peoples' forests are destroyed by illegal logging, privatization and erosion of traditional values. Ownership rights, not only recognition, must be extended to forests they have managed through generations and they must be supported in strengthening their cultural integrity.

Future reforestation projects must therefore aim to address the primary issue of securing the land rights of the affected communities. Only then can communities truly own the projects and turn them into sustainable initiatives.###

*the writers were assisted by community researchers Thomas Dammay and Virginia Bandao

Endnotes

[1] Alexander Martin Remollino, *Bulatlat Alternative Magazine*. http://www.bulatlat.com/news/4-45/4-45forest.html, p1.

[2] Juan Pulhin, *Forestry in the Philippines: Paradoxes and Perspectives in Development Practice,* http://dlc.dlib.indiana.edu/archive/ooooo575/00/pulhin06300.pdf. p3

[3] Orient Integrated Development Consultants Inc., Consultancy Services for the Implementation Management of RRMP for Region1, CAR and 2, *Inception Report.*1992. p11-14

[4] CBFMO, Forestry Management Services, DENR-CAR. *A Project Completion Report of the Environment Natural Resources-Sectoral Adjustment Loan, Regional Resources Management Project.* 2000. p3

[5] Ibid. p1
[6] Ibid. p1
[7] World Bank document, *Executive Summary, Implementation Completion Report on a Loan to for an Environment and Natural Resources Sector Adjustment Program,*(Report No: 20256-PH), May 30, 2000, p7

[8] OIDCI, *Technical Assistance Completion Report,*1998, p6

[9] Interview with Alvaro Miclay, Planning Management Division, DENR-CAR. He was part of DENR staff detailed with RRMP

[10] Imelda Casiwan,.*Comparative Analysis of Itogon and Tuba Watershed Sub-Projects*. masters dissertation 2006, p34

[11] Project for Enhancement of Community-Based Forest Management Program, DENR-JICA, *Towards the Brighter Future of CBFMP* (A Field Review on 23 CBFM Sites), 2006, p1

[12] Interview with Santos Mero, resident of Ucab, Itogon

[13] Interview with Alvaro Miclay, Planning Management Division, DENR-CAR.

[14] Interviews with Gerry Marave, DENR-CAR Mining Geosciences Bureau, Legal Services; Virgilio Atumpac, Itogon Municipal Planning and Development Office; Maxi Pedro, Tinongdan barangay councilor

[15] Interview with Moises Bai, chief, Forest Resources Conservation Division, DENR-CAR

[16] Cordillera Peoples Alliance, *Four Years of IPRA: A Critical Evaluation*. Paper presented at the 3rd Multisectoral Land Congress, Benguet, 2001, p8

[17] Ibid, p8

[18] Ibid, p16

[19] Interview with Joseph Humiding, chief, Legal Services, DENR-CAR

[20] Interview with Itogon Mayor Mario Godio

References

Casiwan, Imelda..*Comparative Analysis of Itogon and Tuba Watershed Sub-Projects.* masters dissertation. 2006

CBFMO, Forestry Management Services, DENR-CAR. *A Project Completion Report of the Environment Natural Resources-Sectoral Adjustment Loan, Regional Resources Management Project.* 2000

Cordillera Peoples Alliance. *Four Years of IPRA: A Critical Evaluation*. Paper presented at the 3rd Multisectoral Land Congress, Benguet. 2001

Montanosa Research and Development Center. "Private and Communal Forest Management in Tubo and Sagada." *Pes-ay, MRDC Occasional Papers.*2006

Mt. Times Inc. *External Documentation and Benefit Incidence Monitoring Analysis of the RRMP-DENR-CAR,* Prefinal Draft Report. June 1995.

National Economic Development Authority. *The Cordillera Regional Development Plan 1999-2004*.

Orient Integrated Development Consultants Inc. Consultancy Services for the Implementation Management of RRMP for Region 1, CAR and 2. *Inception Report.*1992

_____. Mid-Contract Project Report. December 1994

_____.Technical Assistance Completion Report. May 1998

Project for Enhancement of Community-Based Forest Management Program, DENR-JICA. *Towards the Brighter Future of CBFMP* (A Field Review on 23 CBFM Sites). 2006

Pulhin, Juan. *Forestry in the Philippines: Paradoxes and Perspectives in Development Practice.* http://dlc.dlib.indiana.edu/archive/ooooo575/00/pulhin06300.pdf.

Remollino, Alexander Martin. *Bulatlat Alternative Magazine*. http://www.bulatlat.com/news/4-45/4-45forest.html

Tebtebba Foundation. *Indigenous Peoples and the Convention on Biological Diversity: The Philippine Report*. 2005

World Bank document, *Executive Summary, Implementation Completion Report on a Loan to for an Environment and Natural Resources Sector Adjustment Program,*(Report No: 20256-PH), May 30, 2000

Interviews

DENR-CAR
Moises Bai, head, Forest Resources Conservation Division
Vicky Silang, head, Forest Resources Development Division
Joseph Humiding, chief, Legal Services
Alvaro Miclay, Planning Management Division
FlorentinoYan, Forest Management Sector
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John Langbis, PENRO, Benguet
Godfrey Cawis, CENRO, Baguio
Juluis Kollin, head, ENRO, Benguet
Augusto Salic-o, forester, ENRO,Benguet
Gerry Marave, Legal Division, Mining and Geosciences Bureau

Itogon LGU
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Francisco Lictag, Municipal Planning and Development Office
Virgilio Atumpac, Municipal Planning and Development Office

Tinongdan Barangay
Norberto Pacio – barangay captain
Carmen Luis – former member of CA
Norma Mo-oy, farmer
Asteria Felipe, farmer
Julian Cario, farmer
Rosa Maingpes, farmer
Ben Medrino, barangay councilor
Santos Mero, resident of Ucab, Itogon

Pinukpuk LGU
Erving Dasayon, Mayor
Salvador Cabannag, Vice Mayor
Josefino Mamawag, Municipal Engineer
Roland Mina, forester
Sacarias Gaano, forest guard
Nel Nicolas, forester

Pinukpuk Junction Barangay
Orlando Aromin, former barangay captain
Johnny Banelan, former barangay captain
Jeremias Baluyan, former barangay captain and municipal councilor
Bobyoy Bagsao, former member, Pinukpuk Upland Farmers Association
Lauriano Dumag, former member, Malagnat Community Forest Inc.
Marcelo Gonoyon, former member, Malagnat Community Forest Inc