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NATURAL RESOURCES MANAGEMENT PROGRAM
(492-0444)

PROGRAM ASSISTANCE APPROVAL DOCUMENT

VOLUME I

USAID/Philippines
September 1990

CLASSIFICATION:

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROGRAM ASSISTANCE APPROVAL DOCUMENT (PAAD)

1. PAAD Number: 492-0444
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3. Category: Sector Assistance
4. Date: September 6, 1990
5. To: Malcolm Butler, Director, USAID/Philippines
6. OYB Change Number: N/A
7. From: John A. Patterson, Associate Mission Director, Office of Development Resources Management
8. OYB Increase: To be taken from: N/A
9. Approval Requested for Commitment of: $ 125,000,000
10. Appropriation Budget Plan Code: SAI
11. Type Funding: ☐ Loan ☒ Grant
12. Local Currency Arrangement: ☐ Informal ☐ Formal ☐ None
13. Estimated Delivery Period: Sept. 1990-Sept. 1995
14. Transaction Eligibility Date: September 25, 1990
15. Commodities Financed

16. Permitted Source		17. Estimated Source	
U.S. only	50,000,000	U.S.	50,000,000
Limited F.W.	-	Industrialized Countries	-
Free World	-	Local	75,000,000
Cash	75,000,000	Other	-

18. Summary Description

The purpose of the Natural Resources Management Program is (a) to promote the economically and ecologically sustainable management of the Philippines' natural resources, with special attention to tropical forests and biodiversity; and (b) to increase economic efficiency in the forest products industries. The Program will provide a total of $125 million in grant assistance. Of this total, $75 million will be disbursed in exchange for GOP performance on agreed policy actions aimed at the removal of constraints to rational management of natural resources. Twenty-five million dollars will be made available to endow a new or existing foundation and/or will be administered as a major grants program to eligible organizations that promote popular participation in the management and protection of renewable natural resources. The remaining $25 million will be used for technical assistance for special policy studies and analyses, policy performance and financial monitoring, evaluation and audit services.

NOTE: The provisions of the payment verification policy regarding methods of implementation and financing, financial capability of recipients, and adequacy of audit coverage have been adequately addressed in this document.

for: J.C. Stanford
James C. Stanford, Controller

19. Clearances		Date
ORAD:KAPrussner	KP	9/19/90
OD/PE:PRDeuster	PRD	9/22/90
OFM:JCStanford	for	9/19/90
OD :JAPatterson	9/24	9/24/90
OLA:LChiles		9/20/90

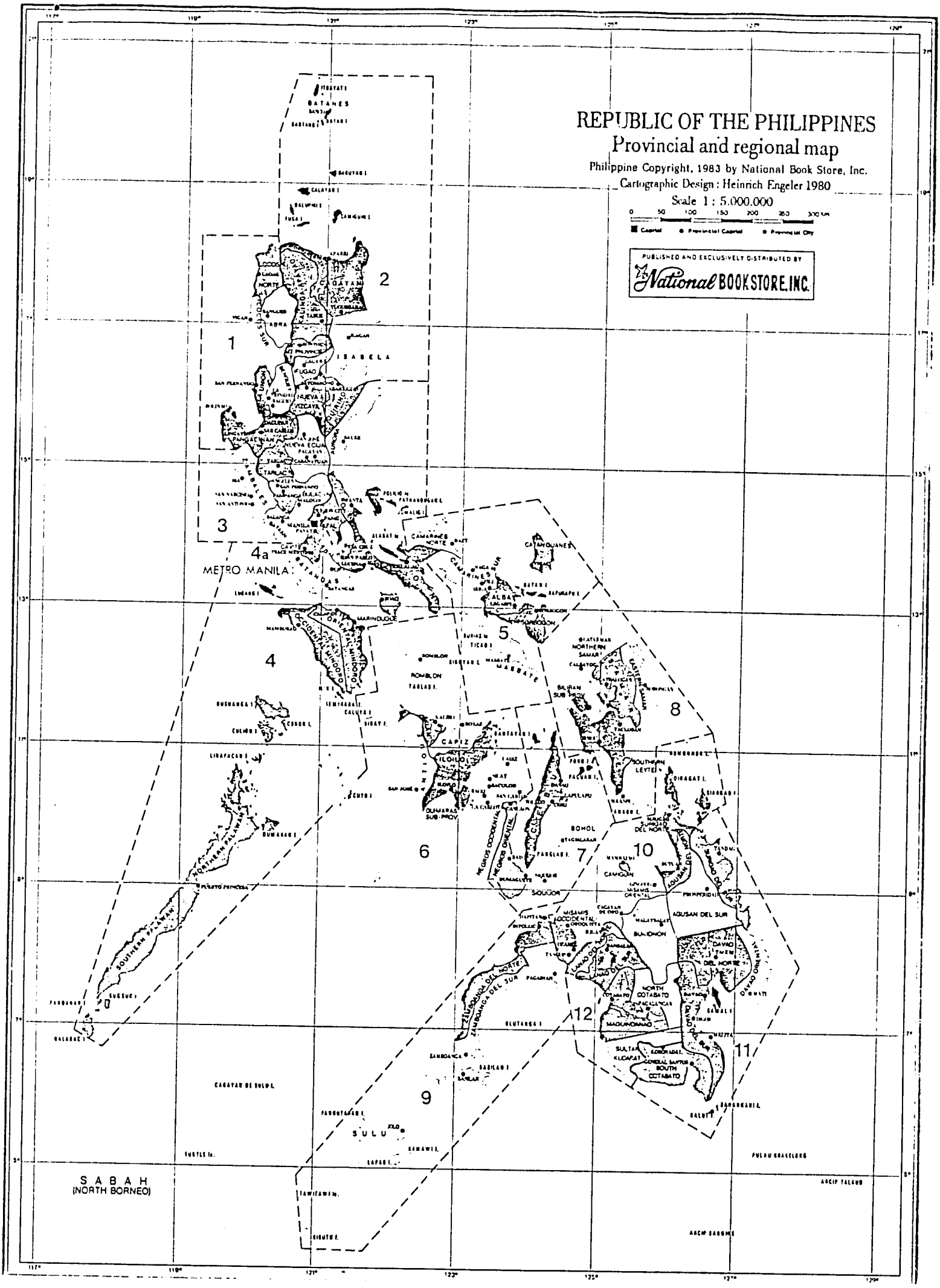
20. Action: ☒ APPROVED ☐ DISAPPROVED

Authorized Signature: Richard A. Johnson — Date: 9/25/90

Title: Acting Director

AID 1120-1 (5-82)

CLASSIFICATION: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ZAMBOANGA DEL SUR
NORTHERN PALAWAN
SOUTHERN PALAWAN
SULU
SABAH
(NORTH BORNEO)

NATURAL RESOURCES MANAGEMENT PROGRAM

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F. Economic Analysis
G. Financial Analysis
H. Institutional and Administrative Analysis
I. Social Soundness Analysis
J. Resources Protection Component
K. Support Services Plan
L. Research Strategy
M. Policy Development and Reform Process
N. Forest Management Policy Strategy
O. Forest Products Industries Policy Strategy
P. Traditional Forest Use and Non-Timber Forest Products

ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
AID	Agency for International Development
ANE	Asia, Near East and Europe (Bureau of AID)
ANR	Assisted Natural Regeneration
A.O.	Administrative Order
AOP	Annual Operation Plan
APT	Asset Privatization Trust
ASEAN	Association of Southeast Asian Nations
BFD	Bureau of Forest Development
CARP	Comprehensive Agrarian Reform Program
CEDP	Community Employment and Development Program
CENRO	Community Environment and Natural Resources Officer
CFIP	Chamber of Furniture Industries of the Philippines
CFP	Community Forest Program
CITE	Communication, Information, Training, and Education
COA	Commission on Audit
cu.m.	Cubic Meter
CVRP	Central Visayas Regional Project
DA	Department of Agriculture
DBM	Department of Budget and Management
DENR	Department of Environment and Natural Resources
DOF	Department of Finance
DOST	Department of Science and Technology
DTI	Department of Trade and Industry
EA	Environmental Assessment
ENR SEL	Environment and Natural Resources Sectoral Adjustment Loan
FMS	Forest Management Services
FPRDI	Forest Products Research and Development Institute
FSN	Foreign Service National
GAA	General Appropriations Act
GATT	General Agreement on Trade and Tariffs
GDP	Gross Domestic Product
GNP	Gross National Product

GOP	Government of the Philippines
GVA	Gross Value Added
IMF	International Monetary Fund
IPAS	Integrated Protected Areas System
I-O	Input-Output
IUCN	International Union for the Conservation of Nature and Natural Resources
LGU	Local Government Unit
MAI	Multilateral Assistance Initiative
MPFD	Master Plan for Forestry Development
NAMRIA	National Mapping and Resource Information Authority
NEDA	National Economic and Development Authority
NFRI	National Forestry Research Institute
NGO	Non-Government Organization
NRMP	Natural Resources Management Program
OMA	Office of Muslim Affairs
ONCC	Office for Northern Cultural Communities
ORAD	Office of Rural and Agricultural Development
OSCC	Office for Southern Cultural Communities
PAAD	Program Assistance Approval Document
PAIP	Program Assistance Initial Proposal
PASA	Participating Agency Service Agreement
PASS	Philippine Assistance Strategy Statement
PCARRD	Philippine Council for Agriculture, Forestry and Natural Resources Research and Development
PCGG	Presidential Commission on Good Government
P.D.	Presidential Decree
PENRO	Provincial Environment and Natural Resources Officer
PICOP	Paper Industries Corporation of the Philippines
PIDS	Philippine Institute for Development Studies
PIL	Program Implementation Letter
PIO/T	Project Implementation Order for Technical Assistance
PPSO	Planning and Policy Studies Office
PSSD	Philippine Strategy for Sustainable Development
PWPA	Philippine Wood Products Association

R&D	Research and Development
RFP	Request for Proposal
RIG/A	Regional Inspector General for Audit
SOW	Scope of Work
TA	Technical Assistance
TLA	Timber License Agreement
TPSA	Timber Production Sharing Agreement
USAID	United States Agency for International Development

SUMMARY AND RECOMMENDATIONS

1. PROGRAM TITLE AND NUMBER: Natural Resources Management (492-0444).

2. GRANTEE: The Government of the Philippines (GOP).

3. IMPLEMENTING AGENCY: The Department of Environment and Natural Resources (DENR).

4. FUNDING LEVEL AND TERMS: U.S. $125 million grant from Special Assistance Initiative (SAI) funds (U.S. $30 million to be obligated in FY 1990).

5. LIFE OF PROGRAM: September 1990 to September 30, 1995.

6. PROGRAM PURPOSES: (a) To promote the economically and ecologically sustainable management of the Philippines' natural resources, with special attention to tropical forests and biodiversity; and (b) to increase economic efficiency in the forest products industries.

7. PROGRAM DESCRIPTION: The program will provide $125 million in grant funds over five years to support policy reform; resource protection efforts; related support services; and monitoring, evaluation, and audit. The program is designed to provide $75 million in performance-based disbursements for the implementation of specified policy changes; a $25 million non-government organization (NGO) debt-for-environment swap; $20 million to finance support services such as technical assistance, training, and research to aid policy implementation; and $5 million for monitoring, evaluation and audit. Disbursements for program assistance are expected in four tranches, with the first tranche to be released in late 1990 or early 1991.

8. GRANTEE CONTRIBUTION: The GOP will provide the peso equivalent of U.S. $33.4 million, including costs borne on an in-kind basis, as counterpart for the program. This amount represents 25 percent of the estimated life of program cost (excluding the debt-for-environment swap).

9. STATUTORY REQUIREMENTS: All statutory criteria have been met (Annex C).

10. RESOLUTION OF PROGRAM ISSUES: All program issues have been satisfactorily resolved; these are detailed in the Action Memorandum requesting Program Authorization.

11. RECOMMENDATION: Authorization of a grant of U.S. $125 million if negotiations do not significantly alter the Program in form or substance.

12. PROGRAM COMMITTEE MEMBERS:

USAID/Philippines:	ORAD:AWahab	DRM:GMImhoff
	ORAD:KRushing	OD/PE:PRDeuster
	ORAD:PDugan	OD/PE:FTrinidad
	ORAD:LJensen	OFM:SCruz
	ORAD:BPrimm	OFM:JRedder
	ORAD:EQueblatin	CSO:WReynolds
	ORAD:PRubio	OLA:LChiles
AID/Washington:	ANE/TR:DWeller	USDA/OICD:JHyslop
	ANE/PD:MKux	
	ANE/DP:CHermann	USAID/Jakarta:DMcCauley
	ANE/DP:KToh	
SUPPORT STAFF:	ORAD:HGatpandan	ORAD:CMacaraeg

EXECUTIVE SUMMARY

A. Overview

The Natural Resources Management Program (NRMP) is designed to support ecologically sound long-term economic growth in the Philippines. The country's forests are an economically and ecologically valuable resource that is disappearing rapidly. The program will help the GOP to achieve its objective of attaining sustainable economic growth by facilitating changes in policies that affect the management of the Philippines' natural forests and the efficiency of the country's forest products industries. NRMP will focus its attention on establishing the policies and management practices needed to sustain this important resource base while laying the groundwork for further assistance in the areas of natural resources and environmental management. USAID intends to provide $125 million under the program, as follows:

-- $75 million is planned for performance-based disbursements to the GOP for the implementation of specific policies to enhance forest management and to improve the efficiency and productivity of the wood processing industry.

-- An additional $25 million will support activities to conserve biological diversity and enhance sustainable natural resources management in cooperation with local and US-based environmental NGOs. A debt-for-environment swap may be used as the chief financial mechanism in this component to generate funds for the establishment of an endowment to sustain support to NGO activities in this field.

-- $20 million will be provided for support services to assist the GOP with the implementation of agreed policy reforms. Services will include technical assistance, training, communications and research in areas essential to the success of the program, and analyses that will provide the basis for future environmental investments.

-- $5 million will be set aside for program monitoring, evaluation, and auditing services required over the five year life of the program.

The economic impact of NRMP will be large. In terms of 1990 present values, estimated changes in the streams of gross domestic product (GDP) from each of the program's policy areas during the life of the program are:

Policy Initiative	Estimated Impact ($000,000)
Timber Pricing	196-393
Tenure Security	25
Free entry/exit and competition	97
Trade liberalization:	
Imports	1,591-3,634
Exports	898
Old Growth Logging Ban	0
Improved Forest Management	42-360

Although there are no policy items on forest protection included in the final NRMP policy agenda, DENR plans to implement forest protection policy reforms as part of its natural resources sector reform program. In addition to the economic benefits estimated in the above table, the economic costs of implementing the forest protection reforms are estimated at $1.265 billion.

These impacts are not additive due to the complexity of interactions within the economy. Nonetheless, the aggregation of the impacts in the five policy reform areas (excluding the impacts of DENR's forest protection policy and of the timber pricing policy, which is a transfer payment) of $2.65 to $5.0 billion provides a useful perspective on the potential benefits of the program. Any reasonable fraction of the aggregate far outweighs AID's projected program expenditures of $125 million and the $184 million in estimated additional GOP and other donor costs.

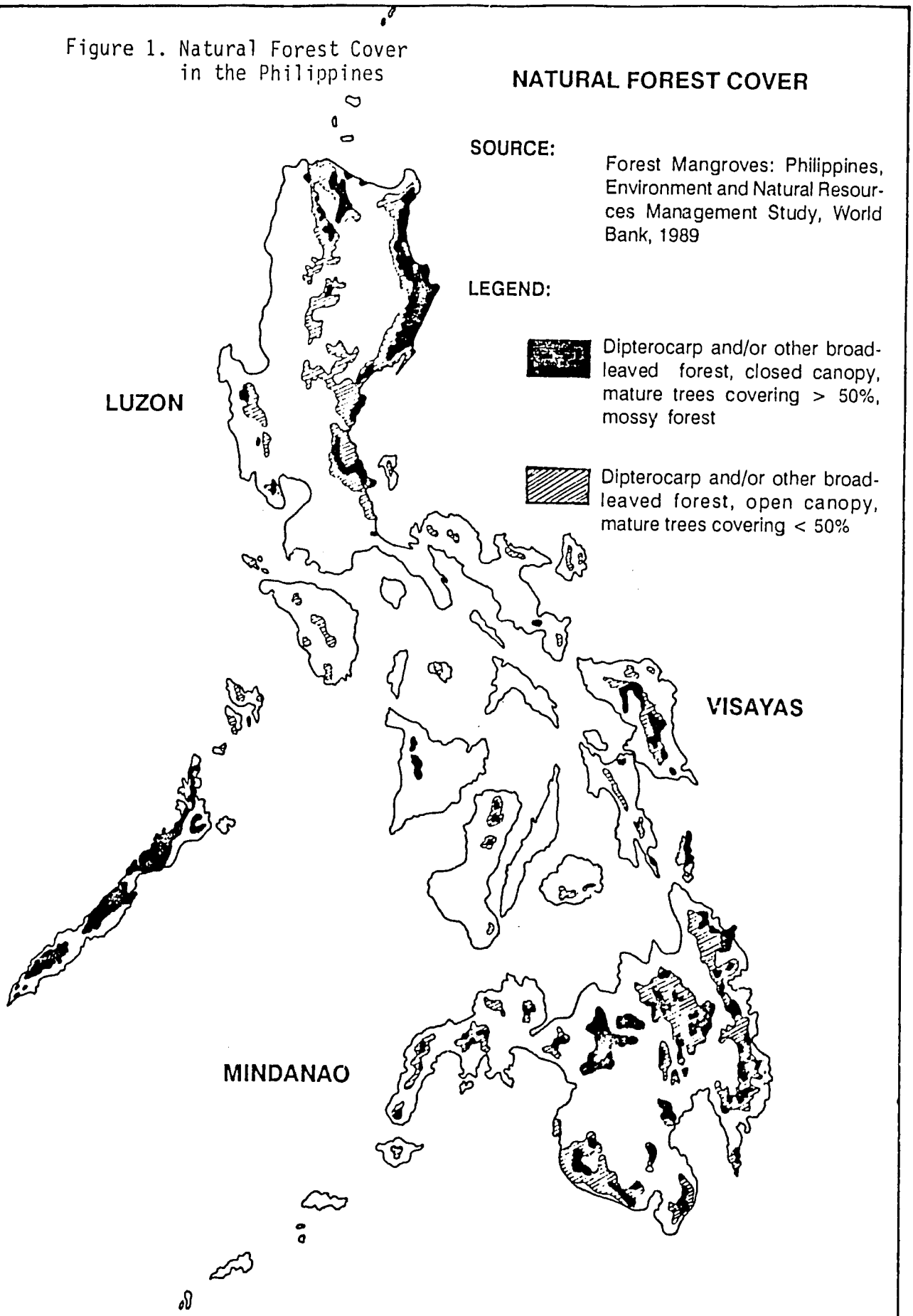
The employment impact is even more difficult to estimate. The estimated employment created by implementing NRMP's policy actions is 846,000 person years by the years 2015-2020.

B. Problem Statement

Though the Philippines is now placing its hopes for rapid economic development largely on accelerated growth of the industrial sector, the economy remains highly dependent on inputs and earnings from natural resources-based sectors. In its recent "Philippine Strategy for Sustainable Development," the GOP outlined the development framework for the natural resources sectors. As part of this overall strategy, NRMP will assist the GOP to improve policies for the protection and enhanced use of a key element of this renewable resources base -- the forest. More specifically, the program will focus on policy reforms that enhance the ecological and economic sustainability of the primary ("virgin" or "old growth") and residual ("second growth") forests. The program will simultaneously promote policies that help to sustain and improve the efficiency of the Philippines' forest products industries.

In 1969, dipterocarp forests covered 30 percent of the Philippines' land surface. Twenty years later, the coverage has been reduced to less than 15 percent, with most of the remaining forest logged over. Much of the logged-over area is now in badly degraded condition. Figure 1 shows the status of the Philippines' natural forest cover.

Figure 1. Natural Forest Cover in the Philippines



Although Philippine foresters are developing promising silvicultural methods for sustained management of the country's forests, the resource continus to be depleted at unsustainable levels. The GOP now plans to manage the public forests to recover much of their past productivity. Doing so will entail changes that are politically, economically, and financially difficult for the GOP as well as for the private sector firms that comprise the industry.

Log export has been made illegal; efforts to control illegal logging have been greatly accelerated; and major reforestation programs are making progress. However, many of the conditions that led to mismanagement of the forests still prevail, and large areas of remaining forest continue to be mined for short-term gains. In addition, local communities, including indigenous populations, that frequently depend on the forests for their livelihoods have not adequately participated in local development plans.

The structure and efficiency of the forest products industries likewise demand attention. Policy changes are required to enable the industry to adapt to changing sources and types of raw materials, i.e., imports (primarily softwoods), wood from plantations, and wood from residual forests, and to enhance productivity, employment and foreign exchange earnings.

The current GOP administration is committed to change forestry from a mining operation to a productivity-conserving, sustainable operation, and to balance forest protection with utilization for economic growth. The conditions that the program will help alleviate are summarized as:

1. Natural resources markets that do not measure or capture true costs to society.
2. Policies that distort resource allocation.
3. Inadequate institutional capacity.
4. Inadequate information for decision-making.
5. Lack of participation by resource users.

C. Policy Reform

Figure 2 illustrates how the program will address the fundamental causes of forest mismanagement. The program will advance policy changes in six areas:

1. To empower and motivate communities and local governments to take responsibility for the protection and sustained management of much of the country's forest estate.

2. To sell commercial timber exploitation rights at prices that represent the true economic rent, and to invest the increased proceeds in sustainable development of the forest resources.

3. To remove barriers constraining imports and exports of raw materials, products, and technologies that the forest products industries need to improve economic efficiency, and to adapt to the changing supply of raw materials.

Figure 2. RELATIONSHIP OF THE NATURAL RESOURCES MANAGEMENT PROGRAM AND CONSTRAINTS TO NATURAL RESOURCES MANAGEMENT

CAUSES OF MISMANAGEMENT / NRMP POLICIES	MARKETS NOT MEASURING TRUE RESOURCE COST	POLICIES DISTORTING ALLOCATIONS	INADEQUATE INSTITUTIONS	INADEQUATE INFORMATION	LACK OF POPULAR PARTICIP'N
TIMBER PRICING	X	X		X	
TENURE		X	X		X
ENTRY/EXIT, COMPETITION		X	X	X	X
TRADE LIBERALIZATION		X		X	
OLD GROWTH LOGGING BAN	X	X	X		X
FOREST MANAGEMENT		X	X	X	X

4. To remove barriers that may constrain firms from entering or exiting the forest products industries, thus inhibiting adaptation to the changing forestry situation.

5. To effectively stop logging in the remaining primary forests.

6. To develop and implement site-specific management plans for conservation and development of all of the nation's natural forests.

D. Program Plan

1. Performance-based Disbursements -- $75 million. USAID will disburse the $75 million in performance-based disbursements to the GOP in periodic tranches over the five year life of the program. The disbursements will be made as regular periodic program monitoring and evaluation indicate that policy implementation benchmarks have been achieved. The first tranche of $15 million is planned to be released in late 1990.

2. Resources Protection -- $25 million. A modest portion of the funds from the $25 million allocated to this component will be used for start-up activities, including completion of an NGO-implemented debt-for-nature swap to support the management of two key nature reserves, and other support that may be provided for NGOs and other organizations working to protect the natural heritage of the Philippines. The balance of funds will be used subsequently in one of two ways. A debt-for-environment swap would endow a new environmental foundation, which would provide the basis for an improved GOP-NGO partnership in sustainably managing vital natural resources over the longer term. The alternative model is the administration of a major NGO grants program that would be overseen by the GOP and USAID.

3. Support Services -- $20 million. Support services will include two primary contracts with qualified organizations to provide long- and short-term technical assistance. These prime contractors will award and administer sub-agreements for further technical assistance, training, and applied research in support of the program objectives. Technical assistance will include the following: studies on tenure/ownership, economic rents, forest products industries, and employment; privatization plan; technology development and transfer plan; residual forest management planning; technical assistance in community forestry and the preservation of old growth forests; environmental education, communications and training services; design of a proposed urban environmental management activity; technical assistance in the development of the debt-for-nature foundation; and technical assistance for determining the natural resources/national income accounts.

4. Program Monitoring and Evaluation -- $5 million. Annual monitoring, midterm and final evaluations, and environmental assessments of policy reforms and forest management plans will be carried out by a contractor(s) independent of the technical assistance contractors. In addition to evaluating progress to date, the midterm evaluation may recommend revisions in NRMP design and structure for the second half of the program. Non-federal audits will be completed periodically.

E. Donor Coordination

The Philippine Strategy for Sustainable Development (PSSD) identifies the framework for investments from the GOP and the international donor community to address priority environment and natural resources interventions. The Natural Resources Management Program squarely addresses the framework's top priority -- forestry -- and complements the efforts of other donors in forestry and other natural resources investments. Currently, the Asian Development Bank (ADB) and the Goverment of Japan are the biggest donors in support of the Philippines' national forestation program, with an investment of $306 million; a second major investment is being planned. In addition, the Government of Australia is providing about $20 million for critical land mapping work. Additional investments in forestry and related natural resources efforts are now being finalized, including the Environment and Natural Resources Sectoral Adjustment Loan of the World Bank ($150 million) and the Industrial Forestry Plantations and Mangrove Project of the ADB ($160 million).

Smaller donors are also assisting with critical priorities identified in the PSSD. Urban and industrial environmental problems are being assessed by the ADB and the World Bank, and USAID will also investigate possible interventions in the urban and industrial environment for project development.

DENR is actively promoting the coordination of donor efforts in the sector. The February 13-14, 1990 meeting was such an event, and future donor gatherings are envisioned. USAID will encourage such efforts, and will ensure that donors continue to coordinate their activities as part of the Mutilateral Assistance Initiative.

I. STRATEGIES FOR ACHIEVING SUSTAINABLE DEVELOPMENT

A. Economic Development Challenges

The Philippine economy grew well during the 1970s, with the gross national product (GNP) expanding at an annual average of over six percent. However, this growth was based on heavy foreign borrowing and extensive intervention in the economy for the benefit of the Marcos administration and its cronies. Monopolies existed in certain agricultural subsectors (e.g., sugar and coconuts), and the public sector acquired formerly private companies. All of this occurred in the context of economic policies begun in the 1950s to emphasize import substitution on the basis of heavily protected, capital-intensive Metro Manila-based industries. Simultaneously, rural incomes were constrained by government pricing policies, export taxes on farm products and low levels of government spending in rural areas. This structural imbalance slowed and distorted the economic development of the country and compounded the problems of under- and unemployment for a rapidly growing population.

By the early 1980s, the Philippines' economic problems were quite serious. They were exacerbated by the global recession, high international interest rates, and weak prices for the Philippines' exports of primary products. By 1983, the GOP was no longer able to meet its payments on foreign debt. In addition, 1983 saw the Benigno Aquino assassination, an event which further contributed to economic decline and capital flight. As a result, economic growth rates were negative in 1984 and 1985, and real GNP per capita was negative for the entire 1982 - 1986 period. After 1983 the GOP attempted to turn the economy around by devaluing the peso, shrinking the government deficit, and reducing bank liquidity, but these efforts have had only limited impact.

Beginning in 1986, the administration of Corazon Aquino not only restored democracy but stimulated an impressive economic recovery: growth in real GNP was 1.5 percent in 1986, 5.1 percent in 1987, 6.7 percent in 1988, and 5.7 percent in 1989. This economic revitalization has been accomplished in part by dissolving the agricultural monopolies, privatizing government assets, emphasizing the growth of small- and medium-sized enterprises, and favoring the non-metropolitan areas of the country. An attempted coup d'etat in December 1989 does not appear to have seriously lessened business confidence.

However, a few years of political and economic reform are not sufficient to change highly skewed income distribution patterns or to overcome the country's 50 percent poverty level. Indeed, the Philippines has fallen behind its Asian neighbors in terms of productivity, international competitiveness and standard of living. Leading development challenges related to maintaining and improving the natural resource base in the Philippines have been examined recently (USAID 1990; Dames and Moore 1989; World Bank Country Study 1989), and are summarized as follows:

-- Urbanization and industrialization in the Philippines are putting pressure on limited water and energy resources and are posing significant problems for human health and economic well-being. Continuing natural resources degradation and increased water, air and land pollution will severely affect the growth and productivity of agricultural and non-agricultural processing industries and their contribution to national income and employment. Can urbanization and industrialization be controlled in ways that avoid aggravating living conditions, particularly in Metro Manila and other urban areas?

-- The Philippines has a high person-to-land ratio, exerting heavy pressures on natural resources, as well as one of the highest population growth rates in Asia. How can the population issue be dealt with in ways that are socially and politically acceptable?

-- Energy consumption rates have been increasing rapidly, with 60 percent of the country's energy needs being met through imported petroleum. Through what means and policies will the country expand domestic capacity to provide energy (including electricity)?

-- Development of rural sectors such as agriculture and forestry is constrained by insufficient rural infrastructure and disturbances created by insurgents. How can basic infrastructure for towns and rural districts be created and maintained while restoring peace and order?

-- The country has a strong laissez faire spirit, which offers hope for economic growth when harnessed, but frequently fosters graft and corruption. How can the positive aspects of the country's entrepreneurial talent be used to the national advantage while the negative aspects are held in check?

-- The Philippines' history of land reform is disappointing: about one-fourth of the population lives on public lands, mainly forested or formerly forested lands, some of which are considered the ancestral domains of indigenous communities. Patterns of land ownership still resemble those of a feudal society. What is required to bring about more equitable and efficient land use?

-- "Planning" is viewed as a paper exercise, and implementation is often weak. What changes will make planning and its practical demonstration more useful in Philippine development?

B. Development Experience and Policy Reforms

With the transition to the Aquino administration, political reform has led to the acceptance of a new constitution, elections at all levels of government, open media, and free discussions of political and economic issues. Along with the return to democratic institutions, the GOP has labored to create an environment for economic recovery and sustainable growth. In its agreement with the International Monetary Fund (IMF) for an extended fund facility, the GOP agreed to implement structural economic adjustments to steer

the economy toward the removal of controls and distortions affecting prices, public finance, trade balances, and employment levels.

Deregulation policies aim to restrain interventions that have kept producer incomes low. Among key existing or proposed deregulation reforms for agriculture are lifting import restrictions on wheat and soybeans; abolishing price controls on rice, corn, other feedgrains, pork, and poultry; breaking up monopolies in sugar, coconuts, and fertilizer imports; and rural rehabilitation through the Community Employment and Development Program (CEDP). Although the impacts of these policies have not been studied in depth, farm prices for coconuts, sugar cane, corn, and palay (rice) have risen since 1987 (Dames and Moore 1989).

Trade and investment liberalization policies increase domestic competitiveness and shift production toward sectors and industries in which the Philippines has comparative advantage. An Omnibus Investment Code was instituted in 1987 to make the Philippines' incentives competitive with those of other Association of Southeast Asian Nations (ASEAN) countries. In addition, import tariffs have been lowered or eliminated for many goods, including some relevant to this program (e.g., the recent removal of tariffs on imported logs). Although the climate for trade and investment has seen substantial improvement, many additional reforms remain before a fully outward-oriented incentives system will be realized.

Improved fiscal policies aim to increase government revenues and reduce government deficits. Compared with other middle-income developing countries, direct tax collection in the Philippines has been strikingly low. Constraints have included lack of enforcement as well as extensive privileges and exemptions. A tax reform package was passed in 1986 to improve tax compliance and reduce evasion, but many additional steps remain. For example, there are substantial uncollected revenues in the forestry sector, where decades of corruption have dominated public interest.

The Aquino administration has continued the financial structural reforms begun by the Marcos administration, including the lifting of ceilings on interest rates and dismantling of selective and priority credit allocations. Commercial banks acquired by the GOP during the financial crisis of the early 1980s are being privatized. However, many fiscal and monetary reforms remain. Reduction of the budget deficit would help lower high interest rates and the overvalued peso. In turn, lower interest rates and currency depreciation through trade and monetary policy reforms should contribute to the Philippines' return to export competitiveness.

Economic policy reforms have been joined by sociopolitical reforms. Decentralization aims at the deliberate shifting of decision-making and budgetary resources outside of Metro Manila. Social reforms include some progress toward implementation of the Comprehensive Agrarian Reform Program (CARP) and attempts to expand the provision of social services to lower-income population groups. Other policies being studied include stronger planning, monitoring, and evaluation of public investments; increased participation by

NGOs in the delivery of basic services; and more efficient implementation of projects financed by official development assistance (Dames and Moore 1989).

The GOP is attempting to shift development toward a community-based, market-driven approach. The aim is to move toward a less capital-intensive and more labor-intensive economy, with strong emphasis on the growth of enterprises, exports, deregulation, rural sectors, openness, democratic participation, and improved government services.

C. Philippine Strategy for Sustainable Development

In 1987 the GOP, through DENR, initiated the Philippine Strategy for Sustainable Development (PSSD). The PSSD articulates the need to view environmental protection and economic growth as mutually compatible. Two-thirds of all Filipinos depend on the country's natural resources (agriculture, forestry and fisheries) for employment and livelihood. The PSSD discusses how constraints in these sectors impede economic growth, and develops strategies (summarized below) by which these constraints can be overcome.

-- The Integration of Environmental Considerations in Decision-Making. Sustainable development means that environmental considerations become an explicit component of economic policies. For example, policies that protect forests improve long-term prospects for the development of agriculture and energy. The emphasis is on a multi-sectoral approach in order to address these overlapping concerns simultaneously.

-- Proper Pricing of Natural Resources. Natural resources must be treated as scarce, not free. This is accomplished through proper pricing with reference to replacement costs, land rents, and other concepts. The strategy aims to correct the gross underpricing of Philippine natural resources (e.g., minerals, water and timber) so that they will be used less wastefully.

-- Reform of Property Rights. The so-called "tragedy of the commons" occurs when every individual has open access to forests, fisheries, and other natural resources because of unclearly defined ownership. There is a need to develop secure use rights such as community forest stewardship contracts, small-holder timber concessions, community forests, reef licenses, community fishing grounds, recognition of the ancestral domain of indigenous peoples, and other new tenure arrangements. Clearly-defined use rights and secure tenure are strong incentives for individuals or communities to manage for resource protection and long-term productivity.

-- Establishment of a Protected Areas System. Natural ecosystems provide scientific, educational, cultural and historic values. They also furnish an array of products and services for economic growth, including compounds and genetic strains used in pharmaceuticals and modern agriculture. Many national parks and other designated reserves in the Philippines exist only on paper due to the general absence of

adequate field protection. An Integrated Protected Areas System (IPAS) will determine which existing protected areas to retain and which new areas to add in order to formulate a rational protection and management system and to educate the public about nature conservation.

-- Rehabilitation of Degraded Ecosystems. Given the massive loss of resource productivity over the last several decades, the rehabilitation of degraded ecosystems is another valuable development strategy. This requires action on a scale and a level of intensity sufficient to reforest denuded watersheds, re-establish mangrove areas, clean up polluted rivers, etc.

-- Residuals Management (Pollution Control). The deadly problem of air, water, and solid waste pollution in the Philippines requires a comprehensive policy framework focused on resource recovery, recycling, and product design that saves on materials and energy. Technological innovations should be supported with strengthening and enforcing pollution control laws, together with the use of economic incentives to reward anti-polluting behavior and sanctions to punish violators.

-- Population Issues. Because population growth is an engine of economic development as well as a constraint, population concerns must be integrated into overall strategies for sustainable development. This requires not merely controlling population numbers, but also improving health, education and employment opportunities. Ideally, future population growth should be directed toward less densely inhabited regions and to less environmentally sensitive areas.

-- Inducing Economic Growth in Rural Areas. The presence of millions of Filipinos living in or adjacent to upland watersheds, production forests, national parks, and other resource areas suggests that rural communities are a powerful force in sustainable natural resources management. To make communities friends and instruments of sustainable management means giving them greater voices in policy-making and project implementation, finding methods to channel the earnings from natural resources to local governments, accelerating land reform, and eliminating the economic and public investment policies disadvantageous to rural sectors.

-- Promotion of Environmental Education. The likelihood of sound political decisions in the area of natural resources is enhanced by widespread public knowledge of current and future environmental issues. This awareness will help Filipinos to intelligently decide on environmental issues. It is also essential to make more progress on studies in environmental science, natural resources management and natural resources economics.

-- Constituency Building and Citizens' Participation. Prospects for the success of such strategies will be enhanced by greater public participation in decisions affecting natural resources. According to

the PSSD, "participation is a decisive factor" in the lessons being learned about environment and economic development in the Philippines (DENR 1990, p. 12).

D. USAID Assistance Strategy

According to the March 1990 Philippines Assistance Strategy Statement, USAID's goal in the Philippines is to promote broad-based sustainable economic growth, requiring the active partnership of the private and public sectors in fostering efficient private sector markets. Achievement of this goal is dependent on an open economy and on establishing and maintaining democratic institutions and processes.

The five objectives of the USAID program are: (1) a policy and institutional framework conducive to healthy economic growth; (2) open and competitive markets; (3) infrastructure that facilitates expanded private sector activity; (4) efficient delivery of essential services; and (5) effective and sustainable management of natural resources. These objectives are supported through policy dialogue, focus on the private sector, and efforts to encourage decentralization.

At the macroeconomic level, the USAID program emphasis is on the implementation of sound monetary and fiscal policies. Liberalized trade is expected to increase the competitiveness of Philippine exports and to favor neutral allocation of scarce resources between competing sectors.

Other institutional development objectives include increasing public accountability, tightening the enforcement of laws and regulations, decentralization of central government authority, speeding up judicial processes for resolving conflicts, and strengthening institutions that support private enterprise. Two of USAID's program performance indicators are to achieve a 100 percent increase in real discretionary resources for local government units (LGUs), and to achieve a 50 percent increase in formal credit outside of metropolitan Manila, both by 1995.

USAID is directing significant financial resources and policy reform efforts toward encouraging a more open economy through competitive exchange rates, neutral investment incentives, and reduced government regulation. Specific initiatives are to privatize public corporations, to deregulate the transport sector and investment registration, and to increase the role of private enterprises in the provision of health services and in natural resources management.

In addition to support for the implementation of policy changes, USAID directs financing toward capital projects and infrastructure in the areas of power generation, roads, telecommunications, and air and waterway linkages. Another programmatic theme is efficient delivery of essential services in family planning, health and nutrition, water supply, housing and sanitation.

USAID's fifth programmatic area concerns the sustainable management of natural resources, with special attention focused on the tropical hardwood forests and the protection of biological diversity. Through the policy

dialogue of NRMP, USAID will work in partnership with the GOP for sustainable forest management and will promote the implementation of policies to improve efficiency in the forest products industries. USAID supports the building of the GOF's capacity to develop and implement appropriate natural resources management policies for both the public and private sectors. Through NRMP, USAID also plans to provide financing for natural resources conservation efforts through debt-for-environment swaps or other vehicles that provide funds for the conservation activities of qualified NGOs.

II. NATURAL RESOURCES AND SUSTAINABLE DEVELOPMENT IN THE PHILIPPINES

A. Environment and Natural Resources Management

A recent USAID analysis of sectoral growth trends and their implications for environmental and natural resource interventions (Toh 1990) examined the most significant current and potential constraints to the country's sustainable economic growth. The emerging picture shows that natural resources-based sectors continue to provide income-generating activities for a sizable portion and for some of the poorest segments of the population. At the national level, the economic costs imposed by mismanagement of these resources are high; at the local level, the costs of mismanagement can be overwhelming.

The primary sectors (agriculture, forestry, and fisheries) employ over 40 percent of the labor force, furnish one-third of export revenues, and contribute more than one-fourth of the Philippines' GDP. Roughly 60 percent of Filipinos live in rural areas, where these sectors are based.

Despite GOP investment policies in the 1960s and 1970s that favored industrial development in and around Manila, the GDP share of the primary sectors is only slightly smaller than it was in 1972. Comparing the national economic structure in 1972 and 1988, the share of agriculture in GDP actually increased from 20 to 22 percent. The share held by fisheries remained constant at five percent, while the share accounted for by "forestry" (primarily logging) declined from four percent in 1972 to less than one percent in 1988. The importance of these resource sectors is greater than their nominal GDP shares, given their downstream linkages with processing industries. These primary sectors also have been more efficient earners and savers of foreign exchange than the industrial sectors (World Bank 1989, p. 6), even though the export share of primary products has decreased dramatically since the early 1970s (Dames and Moore 1989).

B. Costs Associated with Natural Resources Degradation

Natural resources are a source of growth and, if not well managed, they act as a deterrent to growth in other sectors of the economy. Mismanagement and degradation of the country's natural resources and the resultant decline in productivity have serious negative impacts on other sectors. For example, heavy siltation and land destabilization from deforestation results in severe landslides, damage to coral reefs and sediment deposits in hydro-electric reservoirs and irrigation systems. Heavy pesticide use in agriculture has been blamed for groundwater contamination. Degradation of coastal environments and natural areas reduces the development potentials of tourism.

Given that at least 88 percent of metropolitan households have no access to waste water disposal systems, one-third of all solid wastes are uncollected, and half of the region's million vehicles fail to meet minimal emission standards, the resultant effect on health care costs and lost worker productivity in Metro Manila is significant. These are examples of negative cross-sectoral linkages that increase damage, avoidance, abatement and

transactions costs (i.e., resources allocated to resolving these problems through planning, monitoring, evaluation, and research).

Quantification of these costs is difficult because technical knowledge of cause and effect is incomplete and sometimes erroneous. Fragmented information often highlights certain case studies but ignores the complexities of wider extrapolation. Where environmental monitoring data is available in the Philippines, closer examination shows it to be of dubious quality.

For example, until recently the cited deforestation rates were educated guesses. The precise magnitude of illegal logging is uncertain, and no comprehensive inventories or baseline studies are available on the condition of the country's forests. The Philippines is well behind many other similarly developed countries with respect to understanding how land-use changes affect threatened and endangered species.

The full costs of environmental problems and resource degradation are not captured in market prices; in addition, adverse consequences for economic growth are transferred from current to future generations. The following estimates from DENR and other sources should be considered in light of these qualifications (World Bank 1989; DENR 1990):

-- Seventy-five percent of the country's agricultural lands are vulnerable to erosion, and 13 agriculture-based provinces are severely eroded.

-- Nineteen of the 57 major watershed areas are in a critical state of denudation.

-- Of 61 national parks, only seven meet the standards set by the International Union for the Conservation of Nature and Natural Resources (IUCN).

-- Only five to six percent of coral reefs remain in unspoiled condition.

-- According to currently available data, threatened and endangered species in the Philippines include 133 species of birds, 30 species of mammals, 13 amphibian/reptile species and ten plant species.

-- The replacement costs of nutrients lost from overgrazed and eroding grasslands may approximate the equivalent of $100 million annually.

-- The cost of reforesting the 6.5 million hectares of denuded forest lands is about $6.5 billion.

-- Losses to fisheries from excessive fishing pressures are the equivalent of $50 to $90 million annually.

-- Off-site damages due to soil erosion, such as that following uplands deforestation, reduce GDP by 0.77 percent, or the equivalent of $299 million dollars (1988) per year. The largest losses are borne by

irrigated agriculture ($147 million), municipal fishing ($44 million), hydro-electric energy ($22 million), rainfed agriculture ($20 million) and electricity and gas ($14 million). However, there is a wide range of affected sectors: the hotel and restaurant industries, government services, food manufacturing, land transportation, livestock and poultry raising and aquaculture, among others.

The loss of wild species and natural ecosystems not only concerns biologists; there are negative consequences for economic growth. The country's tourism industry has been expanding rapidly, and its foreign exchange earnings exceed those of forest products exports. However, the tourist attraction base is undermined by the destruction of coral reefs and of the few remaining relatively wild habitats on islands, along coasts, and in the uplands.

Other costs resulting from the loss of natural areas include potential contributions the Philippines might make toward new genetic strains from wild species and new pharmaceutical compounds from tropical flora and fauna. The shrinking and degradation of Philippine forests results in pressures on non-timber forest products such as fuelwood, rattan, resins (e.g., almaciga), nipa palm, wild fruits and other products that have direct commercial or subsistence importance. Official GOP statistics vastly underestimate the significance of non-timber forest products as a source of cash income, especially as a source of direct consumption for many million Filipinos who depend on public forest lands for their subsistence.

The constraints to Philippine economic growth presented by environment and natural resources problems are severe. To implement the programs and policies identified under DENR's Action Plan, a total of $2.9 billion will be required over the next five years. In the absence of far-reaching corrective measures, consequences for economic growth will be decidedly unfavorable. To quote Celso Roque, DENR Undersecretary for Environment and Research, programs to enhance and rebuild the Philippines' environment "will require gargantuan efforts, resources, socio-economic reforms, and new technologies" (Roque 1990, p. 34).

C. Causes of Natural Resources Mismanagement

Difficulties in the management of the environment and natural resources in the Philippines began with the problems of rapid population growth, widespread poverty, and the highly unequal distributions of wealth and political influence. The common explanation for deforestation, overfishing, mangrove conversion, and similar phenomena is that too many poor persons are unable to find productive activity elsewhere in the economy. This situation is exacerbated by highly unequal land holdings -- including over half of the land in the Philippines, which are reserved in permanent public ownership. Open access to public lands and waters results from ineffective government control as well as an implicit GOP policy providing an escape from poverty. As a result of this open access, land users have no incentives to manage for long-term sustainability, since others are able to appropriate the benefits.

Despite numerous GOP programs and projects to support natural resources management, implementation has been hindered by the following constraints (delos Angeles and Lasmarias 1990; USAID 1990):

-- Needs for immediate income, including foreign exchange, which favor short-term resource exploitation over long-term sustainability. This is particularly true in view of the fairly high opportunity cost of capital in the Philippines, a rate currently estimated at 15 percent per year.

-- Peace and order problems, which have some of their most serious consequences in the poor rural regions, precisely where resource-based economies are most important.

-- The underpricing of goods, services and the values of various natural resources (e.g., forests). Consequently, these resources are underproduced (or overexploited) in relation to all others when sectors are compared using financial criteria. Public and private forest owners provide the Philippines and other countries with economic, cultural, and environmental benefits for which the owners are not compensated.

-- Strong vested interests, who oppose natural resources pricing reforms that reduce their personal gains. In particular, high profits are realized in logging, commercial fishing, and minerals extraction due to low administrative prices and constrained competition. Traditional opponents to reforms include prominent political figures and their friends, since these individuals have been major beneficiaries of underpriced public resources.

-- The information base for natural resources management, which is highly deficient. Most of the dozens of available reports on natural resources in the Philippines draw from the same pool of unreliable government statistics. There is no truly reliable data on biological diversity, area and composition of second-growth forests, survival rates and productivity of forest plantations, sources and levels of groundwater contamination, sources and quantities of firewood and charcoal production, and other data essential for decision making.

D. Institutional Issues and Policy and Program Response

The policy and institutional setting for the natural resources sectors are of particular importance to the Natural Resources Management Program. DENR and its constituent bureaus have inherited a legacy of serving as regulatory rather than development agencies, which means that the GOP has attempted to manage forests, fisheries, and other natural resources by law, decree, administrative orders and regulations. This heavy regulatory orientation is largely responsible for the enormous numbers of rules and prohibitions -- many of them outdated or internally contradictory -- that are backed by little or no enforcement capability. Attempted management by rule and prohibition has

contributed to graft and corruption in these sectors by encouraging the affected enterprises to buy exemptions and special favors.

The Philippines' social and economic losses due to poorly conceived regulations that distort economic efficiency are equally regrettable. A common pattern is the imposition and rescindment of various bans and requirements that respond to short-term political factors at the cost of long-term economic growth. These "rules of the game" are changeable and unpredictable, and the game itself is dominated by the elite and powerful. DENR's challenge is to eliminate ineffective micro-management by striving for basic reforms in property rights, law enforcement, pricing policies, rural infrastructure, and the provision of information.

DENR was established in 1987 to enable environmental issues and natural resources to be managed from within a single government body. This mission is difficult to achieve in any country, and responsibilities for natural resources continue to overlap with the Departments of Agriculture and Agrarian Reform. On budget and policy concerns DENR also interacts with the Departments of Budget and Management (DBM) and Finance (DOF), the National Economic and Development Authority (NEDA) and staff from the Office of the President.

Given its newness within a new government, DENR is struggling with organizational challenges, including the effective integration of environment and natural resources management; the decentralization of staff from national to regional and local offices; devolution of decision-making authority to regions, provinces, and communities; and the active participation of the public in the development of policies and programs. Continuing budget growth, such as DENR's 1988-90 budget increase from $70 million to $303 million, will assist in the Department's transformation from a regulatory to a development agency.

A number of obstacles stand in the way of DENR's achievement of these objectives (Dames and Moore 1989):

-- DENR lacks experience with decision-making and budgeting at lower administrative levels, due to historical organizational patterns in which operational authority was vested in the Department Secretary.

-- The Department has little background in coordinating its current line and staff structure. In addition, there is is an acute shortage of adequately prepared professionals outside of key positions, especially below the regional level, despite large overall numbers of personnel.

-- Internal economic and policy analysis capabilities are inadequate for the complex issues at hand. With improvement in these areas, DENR's interactions and influence could be far stronger with those GOP departments that focus primarily on the development of economic and social policies.

-- There is a plethora of policies and programs that exist only on paper, and which are consequently useless, given the huge gap between the requirements needed to implement them and the meager physical and budgetary resources currently available.

-- Logistical support -- vehicles, fuel, communications equipment, and travel funds -- is very limited. Even if funds were available, staff are understandably reluctant to engage in field travel in areas where security is a problem.

E. Importance of Forest and Forest Products Industries

The preceding discussion outlines the range of environment and natural resources management problems. In addition to the challenges of providing sustainable forest lands and biological resources management, there are issues concerning appropriate management of agricultural lands and water resources. Coastal and marine resources figure prominently in the rural economy of this tropical archipelago, and the nation is endowed with considerable mineral resources that need to be exploited without placing undue burdens on other parts of the natural resources system. Finally, pollution and hazardous waste management must be an integral part of the country's strategy for achieving sustainable economic growth based on rapid urbanization and industrialization.

The Natural Resources Management Program does not attempt to address the full range of problems. Instead, it provides a policy framework for the sustainable management of the Philippines' remaining forest resources. As described in the next section, the program will also provide funding for resources protection activities with impact beyond the forestry sector. The program will support analyses to identify and address additional natural resource and environmental constraints to the country's sustainable economic development.

The proper management of the forestry sector is of high economic importance to the Philippines, and of both domestic and global ecological significance. As measured by official statistics, the Philippine forestry sector (forest management, logging, and forest products industries) is declining in national economic importance. The forestry sector accounted for 9.6 percent of Philippine GNP in 1970, 3.7 percent in 1980, and 2.5 percent in 1988. Logs and lumber comprised 30 percent of Philippine export earnings in 1970 but only 14 percent in 1987. The most obvious reason for declining shares is that the forest base has not been maintained.

As a result of the commercial logging of hardwoods and forest clearing for agriculture, the Philippines' forested areas contracted from about 57 percent of total land area in the 1930s to approximately 21 percent in 1988. The rate of logging accelerated after World War II to supply both domestic manufacturing and exports. Log output also contracted in the 1980s due to depleted timber supplies, a ban on log exports, the increasing encroachment of shifting agriculture, deteriorating security in many rural areas and GOP attempts to limit the number of authorized firms in the logging and wood products

industries. Today, the Philippine forest estate is estimated at six to seven million hectares. Of this total:

-- Approximately 800,000 hectares are classified as primary dipterocarp forest. Unfortunately, these areas are much less rich in timber and less accessible than areas already cut. The GOP appears ready to ban further logging of the primary forest, believing that the environmental value outweighs the commercial value of the few remaining years of logging (estimated at ten to 15 years if present trends continue).

-- About 1.9 million hectares of logged-over (residual or secondary) forest have had sufficient regeneration, or were logged lightly enough in the first cut, to be considered production forest. These areas can be used to provide wood for industry until a sufficient area of timber plantations can be established and become mature. The Philippine Master Plan for Forestry Development estimates that sustainable annual production from these forests may amount to 3.0 million cubic meters (cu.m.).

-- About 1.5 million hectares will require investment in enrichment planting, and decades to attain maturity, or will remain largely non-productive as forest.

Forestry methods, extraction techniques and processing facilities have all been set up for working with the primary forest. However, the forest that must be used now is very different, and neither the industry nor the GOP is ready for this transition. Inventories of timber and non-timber forest resources are inadequate, and the ecological development of dipterocarp forests is not well understood, which contributes to careless logging. The full extent of illegal logging is speculation, but estimates range from one-half to several times the legal cut.

Management of the natural forest has been governed by methods adopted in the Spanish colonial era. Forestry concessions were granted to private entrepreneurs without adequate provision for recapturing the economic rents generated by the private exploitation of public resources. By law, the tenure of these concessions is 25 years, renewable for another 25 years -- a relatively short period in the context of tropical forestry. The short tenure period encourages hurried and careless logging and discourages any reinvestment of rents in forest regeneration. Moreover, concessions can be cancelled for reasons other than non-performance. The resulting tenure insecurity effectively shortens the concessionnaire's expected tenure and further reduces incentives for investment and sustained yield management.

DENR lacks resources to protect and properly manage the forests, and the lack of security in forest areas makes protection by the central government especially difficult. DENR is largely reduced to managing the forest from a distance. Regulations are used to control log transportation and to make hiding illegal logs difficult. Examples include the system of hauling permits for legal logs from both natural forests and plantations, the closing of

sawmills that cannot prove a legal source of timber, and restrictions on handling imported logs to prevent their becoming a cover for illegal logs.

To prevent further deforestation, DENR is implementing development programs in the uplands that give at least some farmers an alternative to clearing forest lands. Examples include the Integrated Social Forestry program, the Community Forestry program and the contract reforestation program.

Unfortunately, these regulatory methods and development programs are not enough; deforestation continues apace. The Philippines Master Plan for Forestry Development projects that 84,000 hectares, about 2.5 percent of the 3.4 million hectares in productive or potentially productive secondary forest, will be cleared in 1990.

Yet the forestry sector is by no means insignificant, even at its current reduced scale. The forestry sector (i.e., logging plus wood processing) contributes over $700 million annually to GNP, and annual export earnings vary between $25 and $350 million. Direct employment exceeds 215 thousand person-years (see Annex I). This figure underestimates the extent of employment considering that secondary and tertiary users of wood, rattan and other forest products are primarily small cottage enterprises operating informally. Unlike many other countries in Asia and the Near East, the Philippines continues to be a forest-rich country. Present levels of forest-based output, exports, and employment remain surprisingly high in view of the decades of forest depletion.

An input-output model for the Philippine economy in 1983 showed that the logging industry ranked sixth highest (of 24 industries) in terms of providing inputs to other industries. Veneer and plywood ranked tenth and lumber ranked thirteenth. These reasonably strong forward linkages suggest that policies affecting the forestry sector have substantial ripple effects elsewhere in the economy (delos Angeles et al. 1989).

The domestic production of logs and wood products can be evaluated at world prices to determine the extent of the sector's international comparative advantage. The domestic resource cost of an industry refers to its ability to use local resources (e.g., timber, labor, management) at peso social values to earn or save foreign exchange. Two studies for the 1970s showed that the Philippine forestry sector had exceptionally strong international comparative advantage despite adverse policies of negative effective protection (delos Angeles et al. 1989). The key social efficiency question is whether environmental consequences are properly factored into logging costs. Failure to do so encourages unsustainable exploitation by reducing private financial costs relative to societal economic costs.

The Philippines' Master Plan for Forestry Development makes it clear that 1990-1995 is the critical period in determining the sector's future economic growth or decline. Volume of log input will be a highly imperfect predictor of sectoral growth. It seems almost inevitable that most future growth will occur on the intensive rather than extensive margin of industry expansion. Expansion will take place not by geographical extension into new areas, but

rather by using raw materials more efficiently, which is already happening to a certain extent. Hence, increased processing is the reason that current sectoral employment is more than what it was a decade ago even though recorded log production has fallen by half.

Buoyant demand for wood products since the mid-1980s in the face of declining domestic timber supplies has forced lumber prices higher (50 percent in 1989) (see Annex O). In response, the GOP is encouraging the import of logs and semi-finished wood and has banned the export of most grades of logs and lumber derived from natural forests.

There is a 35 percent unutilized plant capacity in the plywood, veneer and other wood panel industries, and the associated technologies are obsolete. This is no doubt largely due to restricted raw material supplies, but is also due in part to over-aged equipment and inadequate technologies.

Current technical standards of timber cutting and wood processing are low. Major improvements in industry value-added and employment are possible through more intensive utilization. With appropriate investments in plant and equipment, value-added per cu.m. of log input could increase by 204 percent in sawmilling, 67 percent in veneer and plywood, 220 percent in secondary processing, and 42 percent in tertiary processing. The corresponding employment increases are 124, 107, 282 and 422 percent, respectively (GOPA 1990). These should be regarded as upper engineering limits, or orders of magnitude that are technically achievable when the investment climate and other circumstances are not constraints.

Finally, the Philippine forests are, in a symbolic sense, the country's primary indicator of environmental quality (Roque 1990, p. 34). Yet this is perhaps true literally, considering the previously cited damage costs of sedimentation and other off-site consequences of deforestation across sectors.

F. Forest Management Policies and Programs

Planning has been underway since 1988 to produce the Master Plan for Forestry Development (MPFD), which should be completed in 1990. The purpose of the MPFD is to present a comprehensive view of directions for sector development. Components of the MPFD focus on soil conservation and watersheds, ecosystem conservation and biological diversity, sustainable natural forest management, plantation forests and tree farm development, wood-based industries, non-timber forest products, and people and NGOs involved in uplands development. The MPFD emphasizes broad strategic objectives and targets, and identifies key activities to move toward accomplishing them. The MPFD is intended to describe a process rather than a "blueprint," and DENR appears prepared to accept the MPFD as its leading programmatic framework for forestry in the 1990s.

The main areas of needed policy and program action outlined in the MPFD can be summarized as follows:

-- Disposition of the forest estate. Critical policy decisions need to be made regarding whether and how to prohibit logging of the small remaining areas of old-growth forests, the choice of land units to include within an IPAS, and policy and management strategies to bring residual forests into sustainable production.

-- Institutional reforms for forest protection. Widespread illegal logging, in combination with kaingin (swidden) agriculture, subverts most efforts to protect and manage the Philippine forests. Past decades of inability to control illegal logging and kaingin suggest that protection policies must differ radically from earlier strategies.

-- Institutional reforms for forest management. Past and current policy is to hold timber concessionaires responsible for developing and implementing forest management plans for their concessions, with the role of DENR foresters to approve the plans and monitor compliance. This has kept government foresters at "arm's length" from forest practices and leaves most discretionary power with the private operators. A more desirable path would see competent, independent private sector forestry planning firms taking the lead in determining appropriate road layout, logging practices, regeneration practices, and other technical matters.

-- Property rights reforms. The overwhelming share of forest resources is considered to be publicly owned, but the forests are home to millions of landless and indigenous peoples. The state has been unable to effectively oversee this vast forest estate, which largely explains the forests' depleted and degraded condition. Policies and strategies are required to transfer a much greater share of responsibility, cost, and benefit for forest management to private individuals and organizations.

-- Pricing policies. Since the colonial era, the GOP has charged only nominal fees to private timber concessionaires for the timber they remove from the country's forests. This has created huge logging profits, encouraged wasteful timber cutting and processing, and generated only meager revenues for the GOP. For several years the DENR and its predecessor agencies have been experimenting with revised fee schedules and other revenue-generating mechanisms to capture more of the potential revenue rightly owed to the GOP. The recently promulgated collection of an environmental fee approximating 20 percent of current market value for timber may solve this problem, but it is too early to predict the outcome of this new initiative.

-- Liberalized trade of forest products. Through various tariffs, administrative orders, decrees, and regulations, the GOP has intervened in forest products trade, with the stated objectives of promoting forest protection and encouraging domestic processing. However, interference with market signals invariably forces financial losses upon the forest products industries and on the larger economy. This results in net social losses, unless the external costs avoided,

if any, (e.g., environmental damages of logging) exceed losses in the forest products industries. This analytical framework is largely absent from policy making, and the GOP's trade policies for forest products often tend to lack empirical justification.

-- Reduction of barriers to forest-based enterprises. Recovery and long-term growth of the Philippine forest products industries require relatively unconstrained choices of markets, products, and technologies. DENR's continued reliance on regulatory controls favoring a few private sector firms rather than open-market policies leading to increased competition and efficiency is counterproductive for industry rehabilitation and restructuring and does not instill confidence for future investment.

G. Other Natural Resources and Environmental Management Issues

Based on a preliminary appraisal of sectoral growth trends that seem to pose potential constraints to sustainable economic development, emphasis should be placed on environmental management challenges associated with rapid urbanization and industrialization. These key environmental constraints include those related to water and energy resources management, specifically in terms of efficiency of use and impacts on human health. In addition, this analysis should include the economic potential and constraints associated with non-forestry natural resource-based sectors such as agricultural chemicals, nature-based tourism, etc.

Lack of water management strategies are an obvious gap in current natural resources and environmental policy and program considerations. Although water management should be a key element of the country's sustainable growth strategy, it has been given inadequate attention to date. To assess the potential for future environmentally-oriented assistance to the Philippines, analyses are needed regarding the potential qualitative and quantitative gains from improved water management for those river basin systems, including the coastal zones, which are the sites of major urban, industrial, and agricultural development and power generation. Agriculture is the heaviest user of water, accounting for 60 percent of the national total, primarily for increasingly inefficient irrigation systems due to siltation from soil erosion and mining debris.

Other key issues affecting water quality include pollution from domestic, commercial and industrial activities, agricultural run-off from pesticide and fertilizer use, and salt water intrusion. Major industries that contribute to water pollution, according to an initial review by the World Environment Center, include chemical/petrochemical manufacturing, power generation, metal finishing/electroplating, mining, leather tanning, dyes/textiles, agribusiness and wood processing. The analysis of water management issues should investigate location, geographic concentration, magnitude of pollution discharges, human health effects, and the relative costs and benefits of addressing the environmental problems.

DENR has begun a "River Revival Program" to address pollution problems, and both ADB and the World Bank are looking into projects to support improved pollution and hazardous wastes management in Metro Manila. However, a more comprehensive, systematic analysis of water management is necessary to determine its importance to the success of the nation's industrialization strategy.

Other issues that may be significant in evaluating the prospects for an urban and industrial environmental management effort include estimating health costs and lost worker productivity in Metro Manila due to the inadequacy of household waste water and household solid waste disposal systems and from air pollution caused by Metro Manila's one million vehicles and stationary sources.

Other natural resources and environmental constraints to sustainable economic development include energy policy, planning and conservation, links between tourism development and coastal and marine resources management, as well as other environmental aspects of mineral resources development. These and other issues that emerge from a macroeconomic analysis of environmental constraints on growth and an analysis of the key environmental problems of the Philippines, should form the core of the urban and industrial environment study, which in turn is expected to form the conceptual basis for a planned FY 91 project. The study should address key economic and technical parameters such as:

-- Estimating the range of negative cross-sectoral linkages which increase damage cost, avoidance cost, abatement costs and transaction costs, such as resources to be allocated for resolving environmental problems through planning, monitoring, evaluation and research.

-- Assessing the extent to which environmental monitoring data are recorded and making inferences on the quality and precision of these data.

-- Estimating the negative intersectoral impacts of off-site damages of one sector to other production sectors.

The analysis should also address the policy and institutional constraints that hinder problem resolution and progress. Key questions include:

-- Are constraints due to policy or implementation failures?

-- Does the policy framework provide a regulatory setting amenable to solutions that can be implemented by the private sector?

-- Are there institutional constraints in either the public or private sector that impede progress, e.g., inadequate information, lack of trained professional staff and budget, highly centralized authority.

Finally, the analysis should present cost effective options that USAID can pursue to address the identified constraints.

H. Donor Coordination

The Philippine Strategy for Sustainable Development (PSSD) identifies the framework for investments from the GOP and the international donor community to address priority environment and natural resources interventions. The Natural Resources Management Program squarely addresses the framework's top priority -- forestry -- and complements the efforts of other donors in forestry and other natural resources investments. Currently, the Asian Development Bank (ADB) and the Goverment of Japan are the biggest donors in support of the Philippines' national forestation program, with an investment of $306 million; a second major investment is being planned. In addition, the Government of Australia is providing about $20 million for critical land mapping work. Additional investments in forestry and related natural resources efforts are now being finalized, including the Environment and Natural Resources Sectoral Adjustment Loan of the World Bank ($150 million) and the Industrial Forestry Plantations and Mangrove Project of the ADB ($160 million).

Smaller donors are also assisting with critical priorities identified in the PSSD. Urban and industrial environmental problems are being assessed by the ADB and the World Bank, and USAID will also investigate possible interventions in the urban and industrial environment for project development.

DENR is actively promoting the coordination of donor efforts in the sector. The February 13-14, 1990 meeting was such an event, and future donor gatherings are envisioned. USAID will encourage such efforts, and will ensure that donors continue to coordinate their activities as part of the Mutilateral Assistance Initiative.

III. PROGRAM DESCRIPTION

A. Goal, Purposes and Expected Results

The goal of the Natural Resources Management Program is to encourage ecologically sound long-term economic growth in selected areas of the Philippines. The program's purpose is (a) to promote the economically and ecologically sustainable management of the Philippines' natural resources, with special attention to tropical forests and biodiversity; and (b) to increase economic efficiency in the forest products industries. USAID and DENR recognize that these two purposes are complementary: forests are a potentially renewable resource, but they are in fact depletable unless the policy and institutional climate favor long-term perspectives in industry as well as in land management.

If encouraged by appropriate policies, forest products industries permitted to pursue economically efficient strategies can make forests a more valuable resource. Conversely, forest-based industries can do enormous harm to the forests and to the national economy when not operating within a business and policy environment of rational timber pricing, necessary access to international markets, secure land tenure, competitive entry and exit of enterprises, and protection from illegal logging.

The Natural Resources Management Program has four components: Policy Reform; Natural Resources Protection; Support Services; and Monitoring, Evaluation, and Audit. The focus of the Policy Reform component is to work with DENR to correct policies that distort sectoral behavior in ways not conducive to either economic growth or forest sustainability. The Natural Resources Protection component will endow a conservation foundation or, alternatively, finance a range of environmental management and natural resources conservation activities of a broader scope than forestry and wildlands management. The Support Services component will provide analytical and technical resources, such as baseline policy analyses, technical services, communications and education, and research and development, that are needed to implement policy reforms. Each program component is briefly described below, with supporting information provided in Annexes J - O.

The expected life of the program is five years, from September 1990 to September 1995. The program's expected results include the following:

-- Logging in the remaining old-growth forests will have ceased. The old growth areas will have been mapped, with the areas most critical for biological diversity and other protection values marked on the ground. User rights to these forests will have been clarified with tribal groups and other communities, who will then act as agents of protection and stewardship.

-- Through a "debt-for-environment" mechanism or other institutional arrangement, the work of NGOs in forest conservation and environmental protection will have been substantially advanced.

-- Tenure agreements for community forestry will be sufficiently attractive and secure so that numerous community forestry projects will have been successfully activated.

-- Management of the residual forests will have been made possible by detailed maps, reliable inventories, and marking of management units on the ground. The GOP will transfer timber cutting rights through methods of appraisal and auction (timber production sharing agreements), leading to greater harvesting efficiency and revenue fo the GOP.

-- Policies on timber pricing will entail implementation of an "environmental fee" tested for effectiveness in raising higher revenues for GOP and for restructuring the forest products industries toward economic efficiency. The environmental fee will be the first step toward continuously improving pricing policies for forest resources.

-- Raw materials for the forest products industries will represent increased proportions of plantation-grown wood and imported logs, the latter facilitated by deliberate policies to maintain low tariff and non-tariff barriers.

-- Exports of lumber, furniture, rattan products, and other forest products will earn substantial foreign exchange, unimpeded by trade barriers.

B. Policy Reform Component

The comprehensive policy agenda in Section IV.A. provides an overview of needed changes in the natural resources sectors. Seven policy areas are indicated in the comprehensive policy agenda; under each is a set of actions needed to implement the policy and a set of indicators and benchmarks to be monitored by USAID to assess policy performance. During AID/Washington review of the policy agenda, and based on subsequent discussions with DENR, the "forest protection" policy area was deleted from the comprehensive policy agenda. In addition, for purposes of program implementation, the policy matrix was condensed and its focus sharpened, as shown in Section IV.B., "Policy Agenda for Performance-Based Disbursements."

The first tranche is expected to be released in late 1990; the second is planned for late 1991. The third and fourth tranches will be issued as the indicators are achieved during the period 1992 through 1995.

The six program policy areas are:

1. To empower and motivate communities and local governments to take responsibility for the protection and sustained management of much of the country's forest estate.

2. To sell commercial timber exploitation rights at prices that represent the true economic rent, and to invest the increased proceeds in sustainable development of the forest resources.

3. To remove barriers constraining imports and exports of raw materials, products and technologies that the forest products industries need to improve economic efficiency, and to adapt to the changing supply of raw materials.

4. To remove barriers that may constrain firms from entering or exiting the forest products industries, thus inhibiting adaptation to the changing forestry situation.

5. To effectively stop logging in the remaining primary forests.

6. To develop and implement site-specific management plans for conservation and development of all of the nation's natural forests.

C. Natural Resources Protection Component

The purpose of the Natural Resources Protection component is to further the sustainable management of natural resources in the Philippines through the activities of NGOs in community-based programs. There has been considerable policy discussion about the need for a closer partnership between the GOP and NGOs in this field, and this is reflected on the NRMP policy matrix. The Resources Protection component will improve the basis for such collaboration by providing resources for NGO activities that support the program objectives.

The Resources Protection component will focus on improving the management of high priority national parks and nature reserves (both terrestrial and marine). Emphasis will be placed on enhancing the economic benefits derived from these areas in ways that simultaneously achieve both development and conservation objectives. Examples include activities to develop nature-based tourism, sustainable extraction of non-timber forest products and legal arrangements through which the Philippines can capture greater benefits from the diverse and valuable store of biological resources housed in its forests.

The activities of the Resources Protection component will support the broader development of the IPAS, in particular, to complement an initial set of actions planned under the World Bank's Environment and Natural Resources Sectoral Adjustment Loan-Hybrid (ENR SECAL). Through ENR SECAL, an updated conservation strategy will be developed, including necessary regulatory reforms and the preparation of management plans for the ten highest priority parks and reserves. Activities under the Resources Protection component will be implemented through the provision of funding for a new environmental foundation or through an alternative mechanism that would provide grant funds to local NGOs for conservation programs that involve and provide benefits to local communities.

Though the Resources Protection component will focus on supporting the development of the IPAS, consideration is being given to slightly broadening the scope of activities. If this occurs, the NGO-oriented approach would remain, but a wider range of community-based natural resources management activities would be eligible for program funding, such as grants to upland and coastal communities or to organizations involved in environmental mediation or litigation. The implementation arrangements and scope of activities to be funded will be finalized during the first six months of program implementation.

Two financial management approaches are being considered for the Resources Protection component. The preferred mechanism is the execution of a debt-for-development swap, with the proceeds generated used to endow a new environmental foundation responsible for administering activities supported by the component. This approach has the advantages of leveraging greater financial resources due to the discount at which official Philippine debt is currently sold and of providing a sustainable and flexible administrative structure for long-term natural resources management.

DENR shortly will transmit a request to the Central Bank of the Philippines for a $100 million debt-for-environment swap window, and the program funds for this component would constitute the first major transaction within this new authority. USAID has some experience with the debt-for-environment approach, although the proceeds were not used to establish an endowment. In collaboration with DENR and the U.S. World Wildlife Fund, USAID has funded part of a $2 million debt swap that has been used to provide grants for improved management of two high priority nature reserves on the island of Palawan. Under NRMP, additional funding will be provided to the World Wildlife Fund to enable the retirement of an additional $700,000 in GOP debt.

If further use of debt-for-development swaps is determined to be infeasible because of Central Bank policy positions or difficulty in establishing the management structures for the proposed environmental foundation, funds under the Resources Protection component will be administered as a grants program designed to strengthen collaboration among the GOP and local and U.S.- based environmental NGOs. Proposed implementation arrangements for the debt-swap and grants programs are discussed in Section V. of the PAAD.

D. Support Services Component

Implementation of the policy reforms described in Annexes N and O will involve technical and financial requirements that the GOP and private sector cannot fully meet in the near term. In addition, the anticipated development of a foundation to support the natural resources management activities of NGOs and the planned studies to evaluate the prospects for an urban and industrial environment activity will likely require specific technical assistance. For these reasons, the Natural Resources Management Program includes a Support Services component. The proposed support services are in three categories: technical assistance (TA); communication, information, training and education (CITE) services; and research and development (R&D). The support services to be provided are more fully described in Annex K to the PAAD.

1. Technical Assistance

Policy Reform Process. Implementation of policy reforms begins with the completion of baseline analyses, which are essential for dealing with related activities in a comprehensive fashion and for evaluating specific policy implementation results on: (a) increasing tenure security to encourage private investment in sustainable forestry management; (b) tariff and non-tariff barriers to imports of raw and semi-processed forest products; and (c) regulations which constrain industry efficiency and expansion.

Other baseline analyses and background studies that require early attention are: implementation plans for divestiture of government equity in the forest products industries; evaluating the economic, social and environmental effects of the newly imposed "environmental fee" (DENR Administrative Order 62 of June 1990); and environmental assessments. Annex K identifies additional policy questions for which TA-supported analyses are proposed.

Management Planning for Second Growth Forests. The ban on logging old growth forests shifts policy attention to the residual forests as a primary source of industrial raw material (along with forest plantations and imports). Management issues that have underlying technical requirements are: (a) separating production areas from protection areas; (b) establishing the allowable cut; (c) establishing the length of the cutting cycle(s); (d) balancing harvests of timber and non-timber forest products; (e) selecting silvicultural methods; (f) selecting harvesting methods; and (g) analyzing the potential environmental effects of proposed management options. No rational actions are possible in these matters until current forest conditions are objectively verified, and this will require a substantial amount of TA.

Regional and Provincial Planning, Programming and Financial Management. Assistance in this category will enable DENR to move forward on decentralization and privatization initiatives, for example, in contracting. The decentralization and privatization concepts are embodied in current policy. However, DENR has a long history of centralized management and limited experience with the transfer of key functions to the private sector (e.g., for forest inventory and mapping) and to local government units. Resistance to change at the field operations level must be overcome, and DENR's capability to function consistent with new policy directions must be enhanced. Program-funded technical assistance will comprise "hands-on" help for the planning, administration, and financial management of contracted forestry services.

Management Units for Community Forestry. Tenure policies transfer increased property rights to upland communities to manage certain areas of residual forests (see Annex I). Many community forestry projects will be located within proposed "buffer zones" in order to limit intrusion into old growth forests. To implement these activities, program assistance will help upgrade the technical capabilities and services of those Philippine NGOs that help these communities assume their new responsibilities.

Services to Private Investors. Technical assistance will also be provided to enable members of the Philippine Wood Products Association (PWPA), the Chamber of Furniture Industries of the Philippines (CFIP) and other trade organizations obtain information on new technologies for wood processing, pollution prevention and mitigation. TA outputs will include a directory of machinery suppliers, establishment of business contacts when requested by local processors, and provision of advice on costs and import requirements. The same services will be provided to processors who plan to import raw logs or semi-finished wood. In addition, TA will be used to help develop "contract-farming" linkages between wood processors who are looking for new sources of raw materials and community associations or tree farmers who are seeking markets for their products.

2. Communications, Information, Training, and Education (CITE)

Policy reforms will be difficult to implement without strong public support. To help develop this support, the program will finance activities that increase the availability of information on environmental issues and natural resources. Professional communicators will prepare information packages using media such as comic books, posters, newspaper articles, television spots, etc. Public fora and workshops will be conducted to explain the rationale for the new policies and programs and to encourage greater local community and NGO involvement in implementing these initiatives.

3. Research and Development

One of the constraints to sustainable forest management is inadequate technology, which can be partially explained by severely underfunded research and development activities in the sector. The GOP spends an average of less than 0.2 percent of its gross value added (GVA) in agriculture and natural resources on R&D activities, while countries such as Bangladesh, Indonesia and Pakistan allocate as much as 0.4 percent of their agriculture and natural resources GVA to R&D. The World Bank recommends a minimum investment of one percent of sectoral GVA in R&D. To help alleviate this condition, the program will provide forestry research grants to develop and verify technologies to enhance forest management and the modernization of forest products industries.

The Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD) has prepared a research agenda for forestry and natural resources in consultation with DENR and other agencies of the research network. Early in program implementation, TA will be provided to evaluate existing research programs, the process for setting research priorities and the role for the private sector in research. Illustrative research themes for natural forest management include: (a) silviculture and utilization of lesser-known species; (b) natural regeneration and timber stand improvement in residual forests; (c) production systems for non-timber forest products; (d) the development of efficient and environmentally sound labor-intensive technologies for forestry, harvesting, and processing of timber from residual forests; (e) management technologies for areas designated as protected or reserved; (f) land use planning; and (g) environmental impact assessment.

4. Old Growth Forest Preservation

The fourth element of the Support Services component will promote the preservation of old growth forests by helping to define, implement, monitor and evaluate key efforts. While the GOP has expressed its commitment to this priority, the delineation of protected areas, devising monitoring systems, and protecting the marked areas are essential steps for ensuring that old growth forests are preserved.

5. Administrative Arrangements

The Support Services component will be implemented through several AID-direct contracts with U.S. organizations acceptable to the GOP. The prime contractors will provide some 420 person-months of services; subcontractors will provide another 290 person-months. Limited quantities of commodities will be procured to support program activities.

E. Monitoring, Evaluation and Audit Component

1. Monitoring

Program implementation will be the responsibility of USAID's Office of Rural and Agricultural Development (ORAD). In consultation with other USAID offices, ORAD will provide routine monitoring of program implementation, including adherence to the implementation schedule, management and monitoring of technical assistance, reviewing required environmental assessments, progress reviews, midterm and final evaluations, and regular monitoring of DENR's policy implementation performance.

USAID's routine monitoring will involve close collaboration with the technical assistance advisers, and will focus on assessing the adequacy of the program design; resolving unanticipated implementation problems; maximizing the impact of the TA inputs; formulating the scopes of work for the annual progress reviews, environmental assessments, midterm and final evaluations; and preparing draft policy implementation matrices for the following year's implementation.

2. Progress Reviews

USAID and DENR will conduct semiannual and annual reviews of progress toward the agreed policy reforms. USAID will prepare scopes of work and Project Implementation Orders for Technical Services (PIO/Ts) for the procurement of services necessary for conducting the annual progress reviews throughout the program period. The first annual progress review, to be held in late CY 1991, will assess the performance of the GOP against the agreed policy objectives and performance benchmarks for that year. USAID will determine whether or not to disburse the second tranche of program funds based on the results of this review. At the same time, USAID and DENR will review and agree on the policy objectives and performance benchmarks to be accomplished during the second year of the program, taking into account the results of the environmental studies related to policy reforms and management plans for second growth forests.

The second and third annual progress reviews, to be held in late 1992 and 1993, respectively, will follow the same format: examination of DENR progress toward meeting the objectives and benchmarks set at the conclusion of the previous review. USAID will determine whether or not to disburse the third and fourth tranches based on the results of these reviews.

In addition to the formal annual reviews, USAID and DENR will jointly conduct semiannual reviews. These in-house reviews will examine actions taken, estimate and project results, and redirect efforts, as necessary, toward the targets set for the next annual review. The first semiannual review will be held in mid 1991.

3. Midterm and Final Evaluations

USAID will conduct the program's midterm evaluation in late 1992. DENR will participate in the development of the scope of work for the midterm evaluation, as well as in the evaluation itself. The evaluation will examine the extent to which DENR has achieved the policy objectives and implementation actions agreed to at the time of the Program Agreement and to revisions mutually accepted by DENR and USAID during progress reviews. The midterm evaluation also will review the process of program implementation (e.g., progress reviews, establishment of performance benchmarks, tranche disbursements, environmental assessment recommendations, implementation of TA activities). The evaluation will make recommendations as needed for revisions in the program design and structure, including the revision of progress indicators or policy focus, as appropriate, for the second half of the program. Based on the midterm evaluation, USAID and DENR will amend the program's policy matrix and implementation arrangements as needed.

The final evaluation, scheduled for early 1995, will determine whether the program has achieved its end-of-program policy reforms. In addition, the final evaluation will compare the program assistance mode for natural resources activities with the project mode. DENR will assist in the preparation of the scope of work for the final evaluation and is expected to actively participate in the evaluation. The primary beneficiaries of the evaluation will be DENR, NEDA, USAID/Philippines, and other USAID country missions considering similar programs.

The priority questions to be addressed by the evaluation are:

-- To what extent have the program activities helped USAID and the GOP to reduce the rate of forest degradation and to realize efficiencies in the forest products industries?

-- Is the program contributing to an increase in the availability, utilization and sustainability of resources necessary to expand sustainable forest management? Has the program contributed to an increase in these services to underserved areas?

-- What specific outputs has the program produced? Have the specified policy changes been accomplished?

-- Has the program resulted in greater levels of community-based activities for rural livelihood improvements while conserving biological resources?

These management questions will be answered by reviewing monitoring reports and program documents and by interviewing key informants and program implementors. The annual progress reviews, midterm and final evaluations will be completed by contractors independent of the TA contractors. To the extent possible, USAID intends to contract directly with a qualified 8(a) or Gray Amendment firm or firms for the annual progress reviews, midterm, and final evaluations.

4. Audit Services

The primary responsibility for audits of AID programs lies with the Regional Inspector General for Audit (RIG/A). However, auditors may be contracted by RIG/A for the purpose. It is anticipated that the audit will cover the financial and compliance aspects of the program.

5. Financial Monitoring

USAID will contract for financial monitoring services to monitor the dollar and local currency disbursements under the Policy Reform, Resources Protection and Support Services components of the program.

F. Justification for Program Assistance

USAID has opted for program rather than project assistance for several reasons. First, the GOP has developed and obtained the endorsement of the major donors for the "Philippine Strategy for Sustainable Development," of which the program activities are part, and which assigns a high priority to forestry sector activities. NRMP builds on the GOP strategy through its primary emphasis on making basic changes in the structure and performance of the forestry and forest products sectors. Operating principally through sector-wide policy actions, NRMP's impacts are expected to be far-reaching and often difficult to quantify in terms of discrete measurable outputs.

In addition, the Resources Protection component will create a mechanism (a foundation) through which program impact will surpass in scope and in time traditional development projects. Although the program has project-like elements, these services will directly support the program's policy implementation efforts.

NRMP relates closely to a multi-donor effort with co-financing by ADB and Japan, to support an on-going national forestation program in the Philippines. Current funding for this effort is $306 million. ADB and the World Bank are planning to provide additional funding to support policy reforms in the natural resources sector by:

-- Correcting price distortions.

-- Improving tenure security and the recognition of property rights; and

-- Encouraging greater private sector investment in sustainable forest production as a renewable resource for downstream industries while enhancing biodiversity.

ADB and DENR are presently negotiating for an additional $140 million to be used for natural resources activities, and the World Bank is expected to provide an additional $150 million to natural resources sectoral programs.

As noted in Annex H to the PAAD (Institutional and Administrative Analysis), over the past three years DENR has also demonstrated powerful leadership, the political will and an increasingly apparent institutional capability to expand its role from regulation to development. For these reasons, USAID believes that program assistance, implemented primarily through the use of performance-based disbursements for agreed policy changes, is the most appropriate mode of assistance.

IV. POLICY AGENDA

The program's policy agenda is divided into two parts. During program design, a comprehensive seven-part policy agenda was developed jointly by USAID and DENR, and was subsequently endorsed at the USAID Mission Review of the program in July 1990. This matrix, entitled "Natural Resources Management Program: Comprehensive Policy Agenda," is presented in Section IV.A. of the PAAD. It is followed by several pages of explanatory notes that detail the steps for accomplishing each policy objective. The explanatory notes include modifications to the "tenure" and "forest protection" policy objectives, which were agreed to by USAID and DENR.

The AID/Washington review of the PAAD in August 1990 led to the Asia, Near East and Europe (ANE) Bureau's suggestions to condense the policy agenda and to sharpen the focus on the key economic elements of ownership, pricing, trade regulations and privatization. The Bureau also suggested the elimination of the "forest protection" policy reform area. These suggestions led to USAID's revision of the policy agenda as shown in Section IV.B. The revised policy agenda, or "short matrix," contains the key elements of the comprehensive agenda. To facilitate comparison of the two, numbers in the far right column of the revised agenda refer to the corresponding item(s) on the earlier comprehensive policy agenda. The "short matrix," entitled "Policy Agenda for Performance-Based Disbursements," is the subject of GOP-USAID negotiations, and will form part of the Program Grant Agreement.

NATURAL RESOURCES MANAGEMENT PROGRAM (492-0444)
COMPREHENSIVE POLICY AGENDA

1. TIMBER PRICING:

POLICY: Increase forest charges to create incentives for (1) careful and efficient extraction, and (2) efficiency in forest product industries. Use the proceeds from timber sales (i.e., "economic rent") as an indicator for government investment in forest management and protection.

POLICY OBJECTIVE: To make forest management economically and ecologically sustainable, and to motivate improvements in efficiency of extraction practices.

IMPLEMENTATION ACTIONS	PERFORMANCE INDICATORS			
	FIRST TRANCHE (Dec. 1990)	SECOND TRANCHE (Oct. 1991)	THIRD TRANCHE	FOURTH TRANCHE
A. ATTAIN TIMBER PRICE REFORMS: Collect higher revenues from forest concessions.	- 1 - Agreement reached on scope of work for study on effects of new forest charges.	- 2 - Report on effects of 20% pricing and recommendations for changes completed. Revenues from forest charges collected in 12 months previous are 300% of revenues in 1989.	- 3 - Formal action taken on recommendations. Revenues from forest charges collected in 12 months previous are 500% of revenues in 1989.	- 4 - Revenues from forest charges collected in 12 months previous are 500% of revenues in 1989.
B. PROMOTE FINANCIAL SUSTAINABILITY: Make the level of government budgets for forest protection and management relate to increased revenues from the forest.	- 5 -	- 6 - Budget for forest protection/management is P100 million over the regular budget for Regional FMS subject to approval of Congress.	- 7 - Budget for forest protection/management is P200 million over the regular budget for Regional FMS subject to approval of Congress.	- 8 - Budget for forest protection/management is P300 million over the regular budget for Regional FMS subject to approval of Congress.

NATURAL RESOURCES MANAGEMENT PROGRAM (492-0444)
COMPREHENSIVE POLICY AGENDA

2. TENURE:

POLICY: Reform property rights and revenue flows so as to empower and motivate communities and local governments to protect and manage forests.

POLICY OBJECTIVE: To involve communities and local governments in forest protection and management.

IMPLEMENTATION ACTIONS	PERFORMANCE INDICATORS			
	FIRST TRANCHE (Dec. 1990)	SECOND TRANCHE (Oct. 1991)	THIRD TRANCHE	FOURTH TRANCHE
	- 9 -	- 10 -	- 11 -	- 12 -
A. STRENGTHEN COMMUNITY FOREST PROGRAM: Implement the Master Plan recommendations for the CFP components of people-oriented forestry.	Agreement to implement the community forestry component of the master plan.	Distribution from all PENROs of set of brochures describing in detail rights, responsibilities, and eligibilities for CFP.		
Use trained NGO personnel to teach and assist community members in developing and implementing site-specific and tree-specific management plans.	Draft MOU between DENR and NGOs specifying guidelines to implement the community forestry program.	50 community forestry management agreements finalized. 200 NGO personnel and 800 community members trained by forestry professionals in methods of community-based forest planning and management for sustained productivity.	Management plans for 20 community forests completed, inspected on site by DENR foresters, modified as necessary, and approved.	Management plans completed, inspected on site by DENR, and approved for at least 75 community forests. DENR report on completion of initial management treatments for 50 community forestry sites.
	-13 -	- 14 -	- 15 -	- 16 -
B. PROVIDE FAIR COMPENSATION: Assure that holders of forest agreements perceive tenure security adequate to justify investing their own capital and labor to maintain the long-term productivity of the forest.		Issuance of an AO to provide compensation to all agreement holders whose agreements are revoked for reasons other than non-compliance, and who have invested in enrichment planting, etc.		
	-17 -	- 18 -	- 19 -	- 20 -
C. ENHANCE LGU PARTICIPATION: Develop procedures for local government units to plan and implement sound forest management projects.		Detailed proposal submitted to the Cabinet for procedure to encourage LGUs to undertake natural resources protection and management.	10 LGUs implementing forest protection and management as part of their development plans.	20 LGUs implementing forest protection and management as part of their development plans.

NATURAL RESOURCES MANAGEMENT PROGRAM (492-0444)
COMPREHENSIVE POLICY AGENDA

3. COMPETITION:

POLICY: Reduce barriers to entry and exit in the forest products industries, and facilitate rehabilitation and modernization through non-regulatory approaches.

POLICY OBJECTIVE: To increase efficiency in the forest products industries.

IMPLEMENTATION ACTIONS	PERFORMANCE INDICATORS			
	FIRST TRANCHE (Dec. 1990)	SECOND TRANCHE (Oct. 1991)	THIRD TRANCHE	FOURTH TRANCHE
A. DE-REGULATE INDUSTRY: Revoke or amend regulations that discourage entry and exit of firms to and from forest products industries.	- 21 - Scope of work completed for baseline analysis on regulatory impacts.	- 22 - Baseline analysis completed for policy studies and development of "report card" approach to performance indicators.	- 23 - "Report card" approach to performance indicators.	- 24 - "Report card" approach to performance indicators.
B. MODERNIZE EXISTING TECHNOLOGY: DENR, DTI, DOST/FPRDI, and private sector cooperate to encourage acquisition of new technology for wood industry.	- 25 -	- 26 - Detailed plan for a program of research and technology transfer in the forest products industries.	- 27 - Five workshops held for technology transfer to industry personnel.	- 28 - Technology transfer program implemented by at least 30 participating firms. Conversion efficiency gains by participating firms are 10%.
C. DIVEST GOP EQUITY: Increase competition in forest industries by divesting GOP equity in PICOP and other GOP-controlled forest products enterprises.	- 29 - List of GOP controlled forestry and agro-forestry firms. Detailed APT plan for divesting PICOP.	- 30 - Detailed APT plan and schedule for divesting GOP equity in other firms including analysis of constraints on buyers.	- 31 - More than 25% of aggregate GOP equity in the GOP-controlled firms has been divested.	- 32 - More than 50% of aggregate GOP equity in the GOP-controlled firms has been divested.

NATURAL RESOURCES MANAGEMENT PROGRAM (492-0444)
COMPREHENSIVE POLICY AGENDA

4. TRADE:

POLICY: Increase trade liberalization in forest products by reducing tariff and non-tariff barriers.

POLICY OBJECTIVE: To sustain economic growth in the forest products industries.

IMPLEMENTATION ACTIONS	PERFORMANCE INDICATORS			
	FIRST TRANCHE (Dec. 1990)	SECOND TRANCHE (Oct. 1991)	THIRD TRANCHE	FOURTH TRANCHE
A. MAINTAIN LOW TARIFF ON LOGS & OTHER RAW MATERIALS: Maintain low tariff barriers on raw and semi-processed forest products so that importing materials, adding value, and re-exporting are profitable.	- 33 - Agreement on scope of work to analyze tariff structures.	- 34 - Baseline report on tariff barriers to import of raw materials and semi-processed forest products. Agreement on "report card" approach for confirmation of low tariff barriers to import of raw and of raw and semi-processed materials.	- 35 - "Report card" approach for confirmation of low tariff barriers to import of raw and semi-processed materials, if warranted.	- 36 - "Report card" approach for confirmation of low tariff barriers to import of raw and semi-processed materials, if warranted.
B. REDUCE NON-TARIFF BARRIERS: Remove non-tariff barriers (e.g., delays in releasing items from customs).	- 37 -	- 38 - Baseline report on non-tariff barriers and presenting plan for lessening them.	- 39 - "Report card" approach for confirmation that non-tariff barriers have been reduced, if warranted.	- 40 - "Report card" approach for confirmation that non-tariff barriers have been reduced, if warranted.
C. ALLOW LUMBER EXPORTS: Assess economic and environmental effects of allowing export of lumber. Issue corresponding AO.	- 41 -	- 42 - Assessment report on economic and environmental effects of allowing lumber exports.	- 43 - Issuance of an Administrative Order to implement the results of assessment report.	- 44 - Confirmation that Administrative Order is implemented.

5. LOGGING BAN IN OLD GROWTH FORESTS:

POLICY: Apply executive and legislative authority to prohibit logging in the old growth forests.

POLICY OBJECTIVE: To prohibit logging in the old growth forests.

IMPLEMENTATION ACTIONS	PERFORMANCE INDICATORS			
	FIRST TRANCHE (Dec. 1990)	SECOND TRANCHE (Oct. 1991)	THIRD TRANCHE	FOURTH TRANCHE
A. BAN LOGGING ON SLOPES OVER 50%: Implement the ban on logging upland sites with slope over 50%. Notify DENR field offices and TLA holders regarding methods to determine which areas are in the 50% slope category.	- 45 -	- 46 - Use photos, etc. to identify areas greater than 50% slope at scale of 1:50,000 or larger in active logging areas. Issuance and dissemination of circular defining methods to demarcate areas on the ground covered under 50% slope logging ban. Notification acknowledged by all field offices, TLA and TPSA holders.	- 47 - Logging ban implemented in 50% of area covered in active logging areas.	- 48 - Logging ban implemented in 100% of area covered in active logging areas.
B. BAN LOGGING IN OLD GROWTH FORESTS: Prohibit further logging in the remaining old growth dipterocarp forest.	- 49 -	- 50 - Identify areas of old growth in active logging areas. Coordinate with slope mapping in Box 46.	- 51 - Plan completed and budget provided for phased program to protect old growth forests. Synchronize with IPAS.	- 52 - Communities organized and mobilized, management plans completed for more than ten sites and effectively implemented in at least 2 sites.

NATURAL RESOURCES MANAGEMENT PROGRAM (492-0444)
COMPREHENSIVE POLICY AGENDA

6. FOREST PROTECTION:

POLICY: Reform and strengthen institutional mechanisms for the control of illegal logging and deforestation.

POLICY OBJECTIVE: To protect forests from illegal logging and deforestation.

IMPLEMENTATION ACTIONS	PERFORMANCE INDICATORS			
	FIRST TRANCHE (Dec. 1990)	SECOND TRANCHE (Oct. 1991)	THIRD TRANCHE	FOURTH TRANCHE
	- 53 -	- 54 -	- 57 -	- 58 -
A. STRENGTHEN SANCTIONS AGAINST ILLEGAL LOGGING: Make sanctions against illegal logging more effective, so that fewer persons choose to cut GOP forests outside the cutting allowed by approved management plans.	Baseline report on frequency of arrests, convictions, confiscations in 1989 and 1990. Ten news releases made publicizing enforcement actions.		Numbers and values of logs and seized equipment are 50% higher than in 1960. Or evidence that amount of illegal logging has been reduced so much that increased confiscations are not feasible.	Numbers and values of logs and seized equipment are 100% higher than in 1950. Or evidence that amount of illegal logging has been reduced so much that increased confiscations are not feasible.
Use improved information management and communications systems to control log movements. Make forest guards more effective (e.g., reduce areas of responsibility, train them and provide equipment, travel funds, mobility, legal back-up, and other incentives).	Completion of plans for phased implementation of log control system and for enhancing forest guard effectiveness. Both include schedule and budget analysis.	Coordination meeting of donors held to develop strategy for funding both programs with donor assistance.	Arrests and convictions for illegal logging increase by 50% over 1990. Or evidence that amount of illegal logging has been reduced so much that increased arrests and convictions are not feasible.	Arrests and convictions for illegal logging increase by 100% over 1990. Or evidence that amount of illegal logging has been reduced so much that increased arrests and convictions are not feasible.
	- 55 -	- 56 -		
Provide improved, timely information to officers charged with forest protection by using air photos and air patrols to locate sites of illegal logging and illegal settlements causing deforestation. Use experts experienced in use of air patrols for natural resource law enforcement as consultant to planning process. Implement program in region where need is greatest.		Info system utilizing aerial photos and patrols is operational in one region.		Info system utilizing aerial photos and patrols is operational in three regions.

6. FOREST PROTECTION: (Continued)

POLICY: Reform and strengthen institutional mechanisms for the control of illegal logging and deforestation.

POLICY OBJECTIVE: To protect forests from illegal logging and deforestation.

IMPLEMENTATION ACTIONS	PERFORMANCE INDICATORS			
	FIRST TRANCHE (Dec. 1990)	SECOND TRANCHE (Oct. 1991)	THIRD TRANCHE	FOURTH TRANCHE
B. REDUCE DEFORESTATION DUE TO UNAUTHORIZED SETTLEMENT: Make existing programs for development in upland areas more effective in reducing the rate of deforestation.	- 59 -	- 60 - Plan complete for investigation to determine how deforestation is affected by DENR, DA and DAR programs and policies.	- 61 - Formal action begun to implement recommendations from investigation.	- 62 - Improvements in at least three programs underway in one region.
Assess the problem of "landlords" and others abetting deforestation for financial or other gain. Develop and implement a plan to (i) identify and sanction such activities and (ii) change policies or programs that motivate people to abet deforestation.	- 63 -	- 64 - Study on problem of landlords abetting deforestation. Coordinate with Box 60. Recommendation presented to Secretary of DENR for action.	- 65 - 25% increase in sanctions and cases filed against persons abetting deforestation.	- 66 - 50% increase in sanctions and cases filed against persons abetting deforestation.
C. DISCOURAGE LOGGING PRACTICES THAT CAUSE DEFORESTATION: Improve control of concessionaires' practices to prevent intensity of cutting and degrees of site damage that destroy the forest (e.g., many high-lead practices, cutting on steep slopes) and to better restrict unauthorized settlers' access to logged-over sites.	- 67 - See indicators & benchmarks for policy 7 on forest management.	- 68 -	- 69 -	- 70 -

NATURAL RESOURCES MANAGEMENT PROGRAM (492-0444)
COMPREHENSIVE POLICY AGENDA

7. FOREST MANAGEMENT:

POLICY: Reform institutional structures in order to develop and implement forest management methods and management unit plans that sustain the long term productivity of the forest estate.

POLICY OBJECTIVE: To improve forest management so that the forests are sustained in perpetuity.

IMPLEMENTATION ACTIONS	PERFORMANCE INDICATORS			
	FIRST TRANCHE (Dec. 1990)	SECOND TRANCHE (Oct. 1991)	THIRD TRANCHE	FOURTH TRANCHE
A. BOUNDARIES: Make type maps for categories of GOP forests. Administrative order specifying typing criteria for the various categories of forests and mandating the DENR offices to carry out mapping and typing of forests in various priority areas.	- 71 - Administrative Order mandates forest typing in two regions most urgently in need of improved forest management.	- 72 - Regional offices of two region have begun fieldwork for production of forest type maps. Type maps completed for one third of forested areas on 1:50,000 or larger maps in both regions. See boxes 46 and 50.	- 73 - Type maps completed for two thirds of forested areas at scale 1:50,000 or larger in both regions.	- 74 - Type maps of all forested areas completed in both regions.
B. INVENTORY: Inventory, demarcate and assess productivity of production forest areas in residual dipterocarp forests.	- 75 -	- 76 - Plans for inventory complete. Consultants selected. Synchronize with Box 72.	- 77 - Phase I (survey design) completed. Consultants selected for Phase II.	- 78 - Phase II (three year inventory process) underway. Inventory completed and results published for the first 500,000 hectares of production forests.

NATURAL RESOURCES MANAGEMENT PROGRAM (492-0444)
COMPREHENSIVE POLICY AGENDA

7. FOREST MANAGEMENT: (Continued)

POLICY: Reform institutional structures in order to develop and implement forest management methods and management unit plans that sustain the long term productivity of the forest estate.

POLICY OBJECTIVE: To improve forest management so that the forests are sustained in perpetuity.

IMPLEMENTATION ACTIONS	PERFORMANCE INDICATORS			
	FIRST TRANCHE (Dec. 1990)	SECOND TRANCHE (Oct. 1991)	THIRD TRANCHE	FOURTH TRANCHE
C. RATIONALIZE MANAGEMENT RESPONSIBILITIES: DENR contract with accredited, professionally competent foresters to develop comprehensive management plans for residual forests.	- 79 - Admin. Order establishing guidelines for selecting contractors and developing management plans.	- 80 - Admin. Order mandating compliance with comprehensive plans by all timber licensees (TLA, TPSA, etc.). First five management plans developed. Admin. Order specifying TPSA procedures, rights, responsibilities, eligibilities.	- 81 - Additional ten management plans complete and used as basis for TPSA implementation.	- 82 - Additional 20 management plans complete and used as basis for TPSA implementation.
D. PROMOTE RESEARCH AND DEVELOPMENT: Develop and implement a comprehensive plan for generating information and technologies necessary for intensive stand-level management of residual forests.	- 83 -	- 84 - Comprehensive R&D plan completed, including budget, schedule, specification of institutions and TORs for each major research question and technology development task.	- 85 - Implementation of R&D plan. R&D underway and progress reports complete on first five research projects. Technical ("how-to") bulletins addressing five key issues regarding managing residual forests for sustained production, written for practical use of field level foresters, distributed to all DENR, TPSA and NGO foresters.	- 86 - Budget provided for second year of R&D plan. Progress reports on ten avenues of research. Ten more technical how-to bulletins developed and distributed. Ten workshops held at field sites for practical demonstration of technical methods for residual forest management.

Notes for the Comprehensive Policy Agenda

1. Timber Pricing

"Forest charges" in the Philippine forest revenue system are equivalent to a "royalty," or flat tax. Prior to 1987, this royalty was 30 pesos per cu.m., even though timber was selling at 1,500 pesos per cu.m. and higher. In 1989, a reimbursable "reforestation deposit" of 10,000 pesos per hectare was applied to timber licensing agreements (TLAs). In June 1990, an "environmental fee" of 500 pesos per cu.m. was mandated by DENR through Administrative Order (A.O.) No. 62.

While the best pricing in theory would be timber appraisal for auction sales of appraised standing timber, the program supports the implementation of A.O. 62 as an interim measure. (Auction sales of standing timber require intensive preparation at the field sites, and DENR will not be in a position to do this for many years.) Before release of Tranche 2, an assessment should be conducted (using Support Services component funding) on the performance of A.O. 62. The assessment should recommend whether and how to further change the policy on forest revenues, and the performance indicators for Tranches 3 and 4 should be adjusted accordingly.

Box 1 Prior to the release of Tranche 1, a scope of work will be prepared to analyze the impact of A.O. 62 on logging firms, processing firms and the forest environment. The scope will include level of compliance, log price behavior,. financial impacts on loggers and processors, effects on illegal logging, and other issues judged important at the time of scope preparation.

Box 2 Prior to the release of Tranche 2, the analysis of the 20 percent pricing policy (i.e., A.O. 62) will have been completed.

Regarding revenue collection, some 3.2 million cu.m. of timber was legally harvested from the public forest in 1989. At 30 pesos per cu.m., total forest charges collected were at least 96 million pesos ($4 million). The "environmental fee" of 500 pesos per cu.m. would theoretically increase the collection of revenues to approximately 1.6 billion pesos ($66.7 million). However, imposition of the higher fee, in combination with dislocations caused by the proposed logging ban in old-growth forests, is likely to cause contractions in log supply. A pessimistic scenario is a reduction by one-half in log production (1.6 million cu.m.) in 1991, compared to 1989. In absolute amounts, expected revenues in 1991 from the collection of the environmental fees and regular forest charges should be around 800 million pesos ($33.3 million), even under the pessimistic scenario of 1.6 million cu.m. The collection of 300 million pesos, a prerequisite for the release of Tranche 2, should be easily attainable. (However, indicators will have to be revised if the system of forest revenues changes from its present reliance on A.O. 62 and the forest charges of 30 pesos per cu.m.)

Boxes 3-4 By the time Tranches 3 and 4 are to be released, the requirement to increase revenues by 500 percent would mean collections of approximately 500 million pesos. Even if log production drops to one-third of 1989 levels, the GOP can still meet the tranche requirements.

Box 6 Regional Forest Management Services (FMS) budget must be augmented in 1991 to reflect the effect of increased forest revenues (beginning in 1990) and the ability of DENR to negotiate increases in budgetary outlays with DBM and the Treasury Department. The July-December 1990 collections from environmental fees alone are expected to generate around 800 million pesos. Assuming that DENR can negotiate at least 50 percent of this additional revenue collection to plow back into forest management/protection development activities, this 400 million pesos can be made available in early 1991. For purposes of Tranche 2, an additional 200 million pesos over and above the budget earmarked for regional FMS in 1991 is conservative.

Boxes 7-8 Incremental increases of 100 million pesos above the budget earmarked for regional FMS in 1991 for every tranche period are reasonable.

2. Tenure

The program will focus primarily on the Community Forestry Program (CFP) because it is the component of social forestry in the Philippines that most directly links communities with the stewardship of natural forests. The CFP as an institution is relatively new, and only 12-13 signed agreements existed in 1989-1990. Security of tenure has to be affirmed; understandings of rights and responsibilities need clarification; and NGOs need to be brought into partnership with DENR and USAID to help implement the CFP. The ultimate test of CFP is evidence of management plans and initial forest treatments.

In addition, the issue of fair compensation for both community and corporate entities assures that holders of forest agreements are compensated for investments of their time and money should these agreements be revoked for reasons other than non-compliance. The intent is to encourage investments that might not otherwise be forthcoming.

A third line of action under NRMP's tenure policies is distribution of funds to LGUs for forest protection and management. DENR needs to propose how this would be done in terms of policies and procedures. The result will be judged in terms of numbers of LGUs observed to use forest revenues for reinvestment in forestry.

Box 9 Administrative affirmation of commitment to CFP and the NGOs that will work with them is an easily accomplished step before release of Tranche 1.

Box 10 The requirements for the release of Tranche 2 are brochures (or possibly substitute media, where appropriate and justified) describing the CFP to all eligible communities are distributed through DENR's provincial offices.

Second, DENR must demonstrate that it has in place a functional legal administrative process to compensate agreement holders for cancellations. This must be broader than agreements under CFP alone, including due process for all kinds of forest lease agreements. Third, it is reasonable to expect that 50 CFP agreements will have been signed before the release of Tranche 2, and that 200 NGO personnel and 800 community leaders will have been trained to work with CFP (i.e., modest average ratios of 4 NGO persons and 16 community leaders per CFP).

Box 11 The signing of CFP agreements (Box 10) should lead to actual management plans within a short period. From the 50-plus agreements signed before Tranche 2, it is assumed that 20 management plans will be ready and inspected before the release of Tranche 3.

Box 12 Progressions from Boxes 10-11 lead to 75 completed and approved CFP plans and 50 community forestry sites operational (i.e., evidence of boundary marking, silvicultural work, product harvests, etc.).

The following revisions to Implementation Action A, Strengthen Community Forest Program, have been discussed with DENR:

-- Addition of an implementation action: "Initiate action to recognize and protect ancestral domain rights." The performance indicators for Tranches 1 - 4 (Boxes 9 - 12) would be as follows:

Prior to the release of Tranche 1, DENR and USAID would agree on a scope of work for a study to develop location-specific approaches for recognizing ancestral claims.

Prior to the release of Tranche 2, a joint review of the progress of the ancestral claims study will be conducted by GOP and USAID. Preliminary recommendations will be made available so that initial implementation actions can be made toward effective delineation of the ancestral lands.

Prior to the release of Tranche 3, DENR will issue additional administrative guidelines to expand the delineation of ancestral lands as well as to begin the process of recognition (within the limits of DENR's authority) using location specific approaches as recommended by the ancestral claims study.

Prior to the release of Tranche 4, joint GOP/USAID study of the status of implementing the delineation of ancestral lands.

-- Expansion of the implementation of the ongoing pilot CFP from the present 10 to 75 project sites within the program period, including indigenous cultural communities as participants. CFP agreements with these communities will include provisions that said agreements will not jeopardize their claims to the ancestral areas.

Box 14 This A.O. should focus on the procedures and mechanisms by which compensation is to be provided. All types of forest leases and user agreements are included here.

Box 18 DENR must propose how LGUs will use revenues for forest management and obtain approval from the Cabinet.

Boxes 19-20 Out of perhaps 40,000 LGUs, the targets of 10 and 20 LGUs (prior to the release of Tranches 3 and 4, respectively) seem modest. However, revenue sharing for forestry is experimental, and only small numbers of LGUs have opportunities to invest in the forestry sector.

3. Enterprise Entry, Exit and Competition

The forest products industries are subject to numerous rules and regulations that limit their choices of technologies, production lines, market outlets and investments. These serve as barriers to enterprise entry, exit, and competition. Intervention in operational decisions is not the most advantageous role for DENR, which instead should concentrate on providing a broad and secure investment framework. NRMP will work to remove regulatory constraints, but only after careful analysis of impacts.

Second, the need to rehabilitate and modernize the forest products industries are obvious. NRMP will support technology improvement and transfer, working through several institutions.

Finally, the GOP should divest itself of the Paper Industries Corporation of the Philippines (PICOP) and of the forest-based enterprises it has sequestered and is holding under the Asset Privatization Trust (APT).

Boxes 21-22 Following signing of the Program Agreement, a baseline analysis will be conducted of regulations believed to negatively affect efficiency in the forest products industries. These should be completed before the release of Tranche 2. An illustrative list follows:

-- FAO 11 (1970) and Presidential Decree (PD) 705 (Sec. 28) on TLA holders establishing plants.

-- PD 705 (Sec. 30) and MAO (1986 series) on non-TLA holders having log supply purchase agreements.

-- MAO 50 (Sec. 10) on short operating permits for processing plants.

-- MAO 50 (Sec. 13.8) on not permitting increased plant capacity or new equipment without DENR approval; and

-- Bureau of Forest Development (BFD) Cir. 8 and A.O. 55 on permits required to cut trees on private lands.

This list is for illustrative purposes. Through the Support Services component, a team of policy analysts and economists, working

closely with DENR's policy units and with representatives of the forest products industries (e.g., through PWPA) will review and modify the list. A modified list of perhaps 8-10 key regulatory impediments will be developed after extensive consultation and field visits. Of these, some 4-5 will then be analyzed in greater detail through data collection and testing of empirical models.

"Policy dialogue" on industry de-regulation will be a continuing process throughout the program rather than a one-time study at the outset. Hence the baseline studies will be followed by ongoing analysis and discussion of regulatory impacts. It is inevitable that key regulations will shift through the life of NRMP, and the program must have flexibility to adapt to these changes.

Boxes 23-24 The specialists who conduct the baseline analyses will describe reasonable progress for each regulatory issue. The aggregation of these descriptions will become the basis for an itemized evaluation of successes and failures across all regulations being examined. Quantifiable targets will be specified whenever possible. A clear and objective system will be devised to weight progress across the different deregulation elements to determine a "passing grade" for the release of Tranches 3 and 4.

Box 26 GOP efforts in technology improvement shall be a joint undertaking between DENR, the Forest Products Research and Development Institute (FPRDI) of the Department of Science and Technology (DOST), the Department of Trade and Industry (DTI) and PWPA. A program for technology research and technology transfer shall be undertaken under a Memorandum of Understanding between DENR and FPRDI. The plan shall include but not be limited to:

- An industry survey to determine the extent and specific areas for technology improvement.
- Financial analysis of technology improvement alternatives.
- The timetable for planned technology transfer activities.
- Credit facilitation strategy for participating firms; enlisting of participants; and
- Timetable for implementation of technology improvement program.

The development of the plan, including a comprehensive funding schedule for 1992, shall be required prior to Tranche 2.

Box 27 The survey results, financial analysis, and technology transfer activities (see Box 22) shall lead to technology transfer workshops, preferably in four locations (e.g., one each in Regions 2, 7 and 11 and two in FPRDI/Los Banos).

Box 28 Target of the technology improvement program is 80 TLAs plus about 100 wood-processing firms that do not have TLAs or similar log sources. The participation of 30 firms is less than a third of the total target. It is, however, a sufficient number to improve national efforts to increase wood recovery from milling. Together, these

processors could account for some 1 million cu.m. of log input. Current technology can produce at most 500,000 cu.m. of equivalent lumber or wood-based panels. If the technology program can increase wood recovery by 10 percent (i.e., final recovery equaling 60 percent), an additional 100,000 cu.m. of processed wood products annually would go into export or domestic use without incurring additional allowable cut.

Box 29 Because PICOP has been under GOP control for many years and the enterprise is now financially healthy, full divestiture should be possible.

Box 30 The performance indicator for Tranche 2 calls for an updated listing of GOP-owned and controlled forestry firms; determination of GOP equity in each firm; planning/scheduling of divestiture of GOP equity by the APT; and other inherent activities in asset privatization. Actual divestiture calls for approval from the Presidential Commission on Good Government (PCGG).

Boxes 31-32 The performance indicators for Tranches 3 and 4 require that only 25 and 50 percent, respectively, of total GOP assets be divested. However, the GOP might encounter difficulty attaining these figures, in which case USAID might consent to release Tranches 3 and 4 on the basis of documented sincere efforts on the part of the GOP to divest itself of at least 25 percent of its equity holdings in said firms.

4. Trade

The Philippine forest products industries have shown strong comparative advantage in the past (delos Angeles et. al, 1989). This has been due mainly to low costs and high quality of logs, rattan poles, and other raw materials. This advantage is eroding as domestic raw materials from the forests become scarcer. As an interim measure and perhaps over the longer term, the Philippines may turn increasingly to imports of logs, veneer sheets, wood pulp, rattan poles, bamboo canes, and other raw and semi-processed materials to keep its processing industries alive.

This requires a comprehensive look at tariff and non-tariff barriers in terms of consequences for industry structure and efficiency. The whole mix of raw and semi-processed raw materials, not just logs, should be analyzed. While current tariffs on logs are zero, tariffs on lumber and veneer sheets are 20-50 percent. Over the life of the program, prices of logs and wood products may rise to such levels that imports of even lumber and veneer will turn on tariff and non-tariff barriers.

Concurrently, forest products exports must be permitted without restrictions, both for short-term industry survival during these years of transition, and to stimulate long-term reinvestment and modernization. In this respect, the recent ban of lumber exports must be analyzed for its consequences on different producers and consumers in the Philippine economy and on the reduction of illegal logging.

Boxes 33-40 Prior to Tranche 2, NRMP will provide for baseline studies to analyze tariff and non-tariff barriers across the range of relevant products, identifying economic consequences of current policies after extensive consultation and field visits. This baseline work will be contracted through the Support Services component as described for industry deregulation (Boxes 21-24). The consultant team will work in close consultation with DENR and representatives of the forest products industries, as well as with the Tariff Commission, Bureau of Customs, port authorities, and other GOP units. Policy dialogue will take place along lines similar to those identified for industry deregulation, and performance will be tracked as outlined for industry deregulation.

Box 42 The completion of a study to assess economic and environmental effects of relaxing the lumber export ban shall be a condition for the release of Tranche 2. The GOP, through the Philippine Institute for Development Studies (PIDS), should endeavor to harness the input-output model of the Philippine economy for the economic assessment, and from there extrapolate the environmental effects of various scenarios using the "no lumber export ban" as baseline scenario. The assessment will then be reviewed jointly by USAID, DENR and a neutral academic body such as PIDS or the University of the Philippines/Los Banos Forestry Development Center.

Box 43 The required GOP action is dependent upon the result of the economic and environmental assessment (Box 42). If the assessment favors the alternative of "no lumber export ban," then the GOP must take appropriate actions to lift export restrictions.

Box 44 If lumber exports are warranted in the assessment, documentation to confirm lumber exportation, such as a certification from the PWPA accompanied by proof of shipments or orders, shall suffice for the release of Tranche 4.

5. Logging Ban in Old Growth Forests

This ban would be imposed in stages, beginning with the implementation of the present policy to prohibit logging on slopes with a grade exceeding 50 percent. This requires a technical determination and practical approach to classify where cutting is and is not permitted, which will require site surveys, slope measurements and boundary establishment.

The ban on all old growth logging will require strong political support, and will not succeed unless the lobbying power of logging concessionaires is overcome. The ban depends on a comprehensive, practical plan to actively protect the old growth forests after timber concessions are no longer active. In this respect, a major effort will be undertaken to gain the active participation of NGOs, communities, the military, LGUs and people's organizations to protect the most threatened tracts of old-growth forest (see policy on forest protection). This will need to be coordinated with other DENR programs, especially the Community Forestry Program (see policy on

tenure). Assessments will evaluate the ecological and economic feasibility of allowing forest dwellers to process non-timber forest products in some old-growth forests in return for forest protection services.

Box 46 DENR-(spell out) (NAMRIA) will pre-identify on regional maps of scale 1:50,000 or larger subject areas with slopes greater than 50 percent. The identification can be accomplished without great expense on the part of GOP, using existing remote sensing technology, the (spell out) (NFRI) photos, U.S. topographical maps, and other sources.

DENR will prepare field procedures for checking on compliance by TLAs; schedule and conduct training of field survey crews, if necessary; incorporate corresponding logging prohibitions in the annual operation plans (AOPs) of TLAs; and enable the organizational units to undertake this program through an administrative order.

Boxes 47-48 Bi-monthly inspection reports from DENR field offices detailing compliance with the logging ban on at least 50 percent and 100 percent, respectively, of active logging sites.

Box 50 DENR-NAMRIA shall pre-identify on regional maps of scale 1:50,000 or larger subject areas that are old growth dipterocarp forests. Given the overlapping data requirements, this work will be coordinated with the work described in Box 46.

DENR will prepare procedures to identify and delineate on the ground the logging ban areas; prepare field procedures for checking on compliance by TLAs; schedule and conduct training of field survey crews, if necessary; incorporate corresponding logging prohibitions in the AOPs of TLAs; and enable the organizational units to undertake the program through an administrative order.

Box 51 Comprehensive plan (including budget) is completed prior to Tranche 3 for a phased program to demarcate the boundaries of old growth forests; organize/motivate communities to assist in the protection of the old growth forest; and develop forest protection plans for the demarcated areas. All of this is coordinated with implementation of the IPAS.

Box 52 Management plans on ten sites, and implementation observed on two of these sites, for Tranche 4.

6. Forest Protection

Various estimates of illegal log removal from Philippine forests range from one-half to three times the legal cut. Management plans spell out the volume of wood to be removed in managed forests. However, current forest conditions indicate that much more than the allowable volume has been removed; the resource has been depleted, and productivity of the forest reduced. As long as harvested volume exceeds growth, there will be no opportunity for the forest to recover productivity over time. The wide range of estimates of

illegal logging, and the current conditions of forests in general, imply that illegal log removal is seriously limiting the Philippines from managing forests for sustained production.

Illegal logging can be controlled only by vigorous, consistent, effective enforcement of log removal regulations. These regulations are in place, with powers and responsibilities for enforcement assigned. However, enforcement is limited by the following constraints:

-- The wide expanses of forests to be protected and lack of personnel for adequate forest patrol.

-- Shortages of vehicles, horses, and radios for surveillance and apprehension of illegal loggers.

-- Lack of military support to face well-armed loggers; and

-- Inadequate political will and judicial interest to mount a well-organized effort to stop illegal logging and to prosecute loggers who are apprehended.

NRMP will work to make sanctions against illegal logging more effective; to improve information management and communications for better control of log movements; to provide improved and timely information on illegal logging and illegal settlement by using air photos and air patrols; to assess and correct the problem of abetted deforestation; and to improve control of logging practices and restrict access to logged-over areas.

Box 53 Prior to the release of Tranche 1, DENR will provide a baseline report on the number of arrests and convictions of violators and confiscations of illegal forest products in 1989 and 1990. Ten news releases publicizing the strengthened efforts of DENR in law enforcement will be required. In addition, a plan for phased implementation of a "Log Movement Control System" and a plan for enhancing forest guard effectiveness will be prepared, with corresponding budgetary requirements.

Box 54 A meeting of donors will be held to develop strategies to fund the two plans specified in Box 53.

Box 56 Forest protection efforts can be significantly improved through the effective combination of aerial patrols and air photos. Air photos, when compared to periodic (e.g., semi-annual) baselines, will indicate TLA compliance with logging ban provisions and uncover illegal logging activities. Prior to the release of Tranche 2, the aerial system should be operational in one region, with expansion to three regions prior to Tranche 4 (Box 58).

Box 57 To show the effectiveness of improved law enforcement through the implementation of the above plans, Tranches 3 and 4 will require that arrests and convictions for illegal logging, volume of confiscated materials, and number of of equipment seized shall be at least

50 percent more than 1990 baselines. Otherwise, documentary evidence must be shown that illegal logging has been reduced to such an extent that further increases in arrests and confiscations are no longer realistic.

Box 58 Arrests and confiscations progress from a 50 percent increase prior to Tranche 3 (Box 57) to a 100 percent increase by Tranche 4.

Box 60 Despite significant gains by the GOP in law enforcement in recent years, deforestation continues at a rapid rate. A thorough evaluation and investigation of the causation and incidence of deforestation in GOP upland programs must be conducted. Prior to the release of Tranche 2, the completion of the plan for such an evaluation will be sufficient.

Box 61 Upon completion of the evaluation, formal recommendations to decrease deforestation will be made.

Box 62 Release of Tranche 4 will require follow-up of the recommendations in Box 61 so that in one test region results can be seen in three programs.

Box 64 An investigation/survey of "landlordism," land speculation, and other behaviors abetting deforestation will be conducted in at least two regional locations. The investigation might include a limited census and a thorough review of policies and implementation actions that abet deforestation activities. Release of Tranche 2 will require completion of the investigation, with a comprehensive report and recommendations presented to the DENR Secretary for action.

Boxes 65-66 From the baseline established in Box 64, the number of sanctions and cases filed increases by 25 and 50 percent, respectively, presumably from a very small base.

The following changes to the Forest Protection agenda have been discussed with DENR:

-- Statements referring to increases in arrests and convictions will be deleted to remove the possibility of misinterpretations regarding AID's support of law enforcement work in insurgency-prone rural areas. New indicators will be placed as described below. However, DENR may use the original indicators (i.e., arrests and convictions) for their own monitoring purposes.

Prior to the release of Tranche 2, an information system utilizing aerial photos and air patrols will be operational in one region with substantial primary and secondary growth forests.

Prior to the release of Tranches 3 and 4, the information system will be operational in three regions. At the same time, the operationalization of the information system and the upgrading of forest guards in the pilot region will have resulted in reduced

incidence of illegal logging by at least 50 percent in the same region. This improvement in forest protection efforts will be replicated in the two other regions where the information system is operational.

-- Implementation Action C, "Discourage logging practices that cause deforestation," will be deleted, as it duplicates the Forest Management policy implementation action.

7. Forest Management

The program will support the reform of policies and technical approaches to progress toward on-the-ground forest management. This will require marking forest boundaries, conducting forest inventories, redefining management responsibilities in forestry, and conducting forestry research and development. The intent of policy changes is to provide an investment framework through which the other program activities become feasible. This could be viewed as filling information gaps for decision making, given the present poor state of knowledge on Philippine forests.

Box 71 For the release of Tranche 1, DENR will need to issue an Administrative Order enabling forest typing to proceed in two major forested regions (e.g., Regions 10 and 11). Typing should recognize vegetative class, age structure, condition class, and special or unique features requiring protection.

Boxes 72-74 Prior to Tranches 2, 3 and 4, forest typing should be completed for one-third, two-thirds and 100 percent, respectively, of the forested area in the two regions at a scale of 1:50,000 or larger. It is assumed that DENR and NAMRIA will cooperate with remote sensing imagery, aerial photos, topographical maps, and other information sources.

Boxes 76-77 Complementing the forest typing is a forest inventory to estimate the volumes and conditions of commercial timber and non-timber (e.g., rattan) resources. For proper estimation methods, the inventory should parallel forest typing or lag just behind it. The sequence is from inventory plans (prior to Tranche 2) to a completed survey design and selection of technical team (by Tranche 3).

Box 78 Prior to Tranche 4, forest inventories should be completed for 500,000 hectares of production forest.

Box 79 An Administrative Order directs DENR to produce plans for forest management at the level of working units, focusing on implementing these plans through the Timber Production Sharing Agreements (TPSAs), and directing that the plans be prepared by accredited and professionally competent foresters contracted by DENR.

Box 80 Prior to Tranche 2, execution of Administrative Orders clarifying how and why contracted foresters will develop forest management plans, and specifying TPSA procedures. The first five on-the-ground TPSA operational plans are prepared by foresters contracted through DENR.

Boxes 81-82 Ten and 20 TPSAs, respectively, will be completed under the new arrangements prior to Tranches 3 and 4, with procedures established to auction them.

Box 84 Management of second growth forests in the Philippines requires answers to basic questions on forest regeneration, alternative harvesting methods, and other fundamental concerns. Prior to the release of Tranche 2, DENR will have a comprehensive plan for research and development on second growth forests, including budget estimates and terms of reference.

Box 85 Initiation of the R&D plan and research progress should be reported. Also, five technical issues in second growth forest management will be treated in technical bulletins distributed to field foresters in DENR and elsewhere.

Box 86 Progression to ten research progress reports and ten more technical bulletins will be required prior to the release of Tranche 4. Ten "field days" will be held in various parts of the country to demonstrate technical methods for managing second-growth forests.

B. Policy Agenda for Performance-Based Disbursements

Policy Actions	Performance Indicators: First Tranche	Second Tranche	Third Tranche	Fourth Tranche
1. Increase tenure security to encourage private investment in sustainable forestry management.	Agreed on SOW to analyze major factors affecting tenure security (ancestral domain, public vs. private ownership, et al).	AO issued ensuring compensation to TLA holders whose licenses are revoked for reasons other than non-compliance.	Formal GOP (DENR)* action taken to implement agreed upon study recommendations for increased tenure security.	
2. GOP collect substantially larger % of economic rents of timber harvested on forest concessions.	Forest charges increased by at least 20% from the 1989 levels.	Revenues from forest charges collected in 1990 are 300% of revenues in 1989.	Revenues from forest charges collected in 1991 are 500% of revenues in 1989.	Revenues from forest charges collected in 1992 are 500% of revenues in 1989.
3. Revoke or amend regulations that restrict exit/entry of firms to & from forest products industries.	Agreed on SOW to study impact of current regulatory policies; eg., capacity & trade restrictions, etc.		Formal GOP (DENR) action taken to implement agreed upon regulatory reforms in sector.	
4. Encourage private investment & competition in sector by divesting/liquidating parastatals and/or GOP equity/assets in forest enterprises.			More than 25% of aggregate equity/assets as of Sept. 1990 in these firms has been offered for sale on fair market terms and conditions and widely publicized.	More than 50% of aggregate equity/assets as of Sept. 1990 in these firms has been offered for sale on fair market terms and conditions and widely publicized

Note: GOP = Philippine Govt.; SOW = Scope of Work; LGU = Local Govt. Units; AO = Administrative Order; DENR = Dept. of Environment & Natural Resources; TPSA = Timber Production Sharing Agreements; GOP FY = Follows calendar year; NGOs = Non-Government Organizations; MOU = Memorandum of Understanding; mngt. = management; incl. = including; TDT = Technology development & transfer

*"GOP" in the matrix refers to the executive branch of the Government of the Philippines. The agency that appears in parentheses is the lead agency for the GOP in carrying out the policy action.

Policy Actions	Performance Indicators			
	First Tranche	Second Tranche	Third Tranche	Fourth Tranche
5. Preserve remaining old growth forests & the biodiversity contained therein.	Agreed to ban logging on slopes over 50% and on the remaining old growth areas.	Adm. Order issued with guidelines for implementing agreed upon bans. forest area.	Ban implemented in 50% of high slope sites with significant old growth forest area.	Ban implemented in 100% of high slope sites with significant old growth
6. Rationalize DENR management of residual forests and provide adequate financial resources to carry out its mandate.	Agreed to issue AO establishing guidelines for DENR selection of private contractors to develop forestry mngt. plans.	Budget submitted to Congress for forestry mngt. activities is P100 million above FY91 level.	Budget submitted to Congress for forestry mngt. activities is P200 million above FY91 level.	Budget submitted to Congress for forestry mngt. activities is P200 million above FY91 level.
7. Facilitate technology development & transfer in forestry management & preservation plus wood processing.		TDT plans have been jointly developed by public and private sectors; incl. budgets and TORS.	Budget provided, TDT program underway & progress reviewed by private & public sectors.	
8. Increase local community and NGO participation in forestry management.	AO issued giving guidelines for NGO participation in community forestry programs.	DENR finalized 25 community forestry mngt. agreements which utilize NGOs to provide services.		At least 75 community forest management projects initiated and underway with NGO assistance.

V. PROGRAM IMPLEMENTATION

A. Administrative Structure

1. Role of USAID

The Natural Resources Management Program will be managed by USAID's Office of Rural and Agricultural Development (ORAD). The Chief of ORAD's Natural Resources and Agriculture Division will be the NRMP Program Officer, assisted as required by one U.S. direct hire employee, a personal services contractor or Participating Agency Service Agreement (PASA) employee (to monitor policy implementation and advise USAID on natural resources policy development) and several Foreign Service National (FSN) program specialists. Other USAID offices, including the Offices of Development Resources Management, Financial Management, Contract Services, the Program Economist and the Legal Advisor, will be called upon to assist as needed with implementation issues specific to their areas of responsibility.

2. Role of DENR and Other GOP Agencies

DENR will be the GOP's lead implementing body. Implementation of the program's policy reforms will require analyses and administrative initiatives of senior DENR officials, with recommendations from DENR's Regional Executive Directors, Provincial Environment and Natural Resource Officers (PENROs), and Community Environment and Natural Resource Officers (CENROs). DENR will interact with the Departments of Finance and Budget and Management, as well as with NEDA in the implementation of policies that affect national revenue and finance. These agencies have authority in matters pertaining to the disbursement of NRMP program funds for the retiring of official foreign debt and in matters affecting DENR's budget. Other implementation issues that will require intragovernmental coordination are:

-- The management of the Resources Protection component. Although DENR will not manage the component's activities, it will be involved in program planning.

-- Proposed policy changes on tenure and property rights, which will require collaboration with the Departments of Agriculture (DA) and Agrarian Reform (DAR) for areas covered by CARP, the judiciary system, the Offices for Northern and Southern Cultural Communities (ONCC and OSCC), and the Office of Muslim Affairs (OMA).

-- Proposed policy changes on trade liberalization for forest products, which will need to mesh with the Philippines' national trade policies. This will involve liaison with the Bureau of Customs, the Economic Intelligence and Investigation Bureau, the Fiscal Incentives Review Board, the Tariff Commission, the Board of Investments and NEDA.

-- GOP divestiture of firms in the forest products industries and agro-forestry industries, which will require collaboration with the APT and the PCGG.

-- New R&D policies and initiatives for the forests products industries, which depend on collaboration with the DOST and DTI.

-- Institutional reforms to tighten control of illegal logging, which must be accomplished through joint initiatives between DENR and the various bodies responsible for law enforcement.

B. Policy Action Plan

The actions to implement the program's policy component begin with careful weighing of policy trade-offs using rigorous analytical tools, supported by extensive consultation with those likely to be affected by the policy changes. The policy strategies embody concrete implementation actions, each of which has consequences that will be monitored and evaluated for effectiveness and the possibility of negative environmental impact. As the program progresses, program performance shifts from the initial focus on policy analysis to an emphasis on verifiable indicators of economic growth and improved forest management.

The policy strategies in NRMP are classified according to a broad division between forest management and forest products industries. Implementation will proceed on both fronts simultaneously, and the program's success depends on balancing and integrating the two, since forest protection policies in a developing country such as the Philippines are not rationalized without concomitant production policies to improve economic growth. Conversely, production of forest-based commodities is not sustainable without primary forest protection and improved management of second-growth forests. USAID and DENR will reaffirm this understanding throughout the implementation of the program in order to avoid extreme or unsustainable views from either the production or the protection side.

Policy objectives and performance benchmarks for the first and second performance-based disbursements have been developed and agreed upon by USAID and DENR. Proposed implementation actions and benchmarks for subsequent program disbursements have been determined and included in the policy agenda (Section IV), but are subject to review and revision based on program monitoring, environmental assessments and the program's midterm evaluation. Policy strategies will remain fixed over the five-year life of the program, but implementation actions and benchmarks will be updated annually to accommodate sectoral changes.

1. Policy Implementation

Tenure. Forest land is generally public- (GOP-) held, although from eight to 18 million individuals are estimated to reside there. As much as 70 percent are indigenous people who are pursuing ancestral domain rights. Tranching of funds for the first disbursement will be based on the GOP's agreement to a scope of work for a study to analyze major factors that affect tenure security, such as ancestral domain and public vs. private ownership. Prior to the second disbursement, the GOP will have issued an administrative order providing for compensation for investments made by concessionaires whose agreements were cancelled for reasons other than non-compliance.

The mid-program evaluation and subsequent decisions will directly influence the determination of the performance indicators for the third and fourth disbursements. In general, the third disbursement is expected to relate to formal GOP action taken to implement agreed-upon study recommendations for increased tenure security.

Timber Pricing. The GOP's policy of collecting forest charges equal to 20 percent or more of the log selling price is a major departure from past low fees of 30 pesos per cu.m. Administrative Order No. 62 dated June 1990 instructs that an environmental fee of 500 pesos per cu.m. be levied for the period July to December 1990, and that the amount of this fee be studied and possibly revised every six months thereafter. Using services funded by NRMP's Support Services component, the program will evaluate the welfare implications of this new pricing policy through DENR's Price Monitoring Committee established by A.O. 62, as well as through independent means. These analyses will form the basis for evaluating the GOP's performance in further adjusting the timber pricing policy. The program's third and fourth disbursements will be released after the GOP meets quantitative benchmarks on the amounts of revenue collected and shows evidence of legal institutional mechanisms to channel forest charges back into forest management.

Entry, Exit, and Competition. The reduction of barriers to entry and exit of forest-based enterprises will require a baseline analysis of administrative orders, presidential decrees, and rules and regulations that distort efficiency and discourage investment and modernization. TA provided by the program's Support Services component will provide this baseline analysis, which will outline a five-year phased program for deregulation, specify objective indicators against which deregulation performance will be monitored, and define a method for monitoring progress. The mid-program evaluation will be used to help determine the performance indicators for the third and fourth disbursements.

Divestiture: The GOP's divestiture of the parastatal PICOP, plus several other forest products firms and agro-forestry firms now under GOP control, requires a strategic plan, timetable, and evaluation of projected benefits and costs, including measures and technology for pollution reduction, control or treatment. Beginning with the third disbursement, NRMP's performance benchmarks are pegged to progressive amounts of GOP equity divested.

Preserving Old Growth Forests. In order to implement current policy, program-funded TA will advance the development, testing and full-scale use of a system that stops logging on slopes with grades of over 50 percent. This will be followed or accompanied by an administrative order or other policy instrument that bans logging in all old growth dipterocarp forests. Concurrently, program-funded TA and other inputs will be used to mark old growth boundaries and for mobilization and organization of forest communities to help with forest protection.

Management of Residual Forests. Policy actions toward forest management rely on improving the institutional framework for management and changing to independent private sector contractor services. DENR's agreement to issue an Administrative Order to provide the authority for forest mapping and typing

will be required prior to the first disbursement. The second through fourth tranches will be released depending upon the availability of GOP funds to meet the targets of the Administrative Order. Program-funded support services will assist the development and testing of the orders so that sufficient funds can be requested for DENR's budget.

Technology Development and Transfer. While many lists exist of forest management, preservation and wood processing research and development topics, establishment of priorities with strong private and public sector support will depend on agreement on plans and budgets. Funding provided under the Support Services component will assist this effort.

Local Community and NGO Participation. Administrative and possible legislative guidelines project a significant increase in local community and NGO responsibilities in order to improve the management of natural resources. Prior to the first disbursement, an Administrative Order will be issued providing guidelines for NGO participation in community forestry programs. The second and fourth disbursements will be contingent upon DENR's finalization of community forestry management agreements that utilize NGOs to provide services.

C. Resources Protection Plan

The Resources Protection component will be implemented in two steps. The first phase will provide support to an existing NGO-implemented nature reserve management program, through the U.S. World Wildlife Fund debt-for-environment swap, and to prepare a detailed implementation plan for the remaining activities, which will be implemented during the second phase.

USAID will provide a grant to the World Wildlife Fund to enable them to retire approximately $700,000 in GOP debt to complete its existing $2 million debt-for-environment swap. Proceeds from the debt swap will be used for the improved management of two nature reserves on the island of Palawan. The World Wildlife Fund will be expected to contribute its own funds to pay for any foreign technical assistance required in conjunction with this program. Other funds from the Resources Protection component may be used to provide grants to other NGOs for activities consistent with NRMP.

An analysis to more fully define the specific scope of activities to be supported under the Resources Protection component, and the financial and organizational mechanisms to be used, will also be funded under phase one. Expertise required for this analysis will include specialists in protected areas management linked with local community development; financial instruments and debt-equity swaps; trust/foundation establishment and fiscal management; environmental education; and NGO capacity building. A detailed plan produced as a result of the analysis will be implemented during the second phase of this component.

With the exception of the grant to the World Wildlife Fund, funds available under the Resources Protection component will be administered via a debt-for-environment swap used to endow a new environmental foundation, or through an NGO grants program. Under the first option, the new foundation would serve as a grant-making organization that evaluates and funds proposals responsive to a program framework established by a board of directors. This arrangement would allow for considerable economies of scale, with the

foundation facilitating access to needed expertise, serving as a point of contact with the international donor and NGO community, and helping to raise funds. If the activities of the component are to be implemented through a grants program instead of a foundation, the grants program will most likely be overseen by a committee with membership from USAID, DENR and the NGO community.

Phase One will occur during the first six months of program implementation. USAID will arrange the buy-in to the World Wildlife Fund's Cooperative Agreement, with DENR acting on behalf of the GOP. An AID-direct contract will be awarded early in the program's life for the preparation of the Resources Protection component's detailed implementation plan.

D. Support Services Plan

Prompt implementation of the program's policy agenda will require the following resources:

-- Use of TA for policy analysis, resource inventory and management planning, development of management competence in the regional and provincial DENR offices, training of NGOs and communities, and technology transfer to the forest products industries.

-- Development and implementation of communication, information, training and education activities.

-- Research to develop practical methods for sustaining the productivity of forests for present and future generations; and

-- Support for immediate improvements in forest protection.

These subcomponents will be administered primarily through two main contracts and several subcontracts, with the organizations selected through AID's standard competitive procedures. The steps required to implement activities of the Support Services component will include the following:

-- USAID's preparation and issuance of requests for proposals (RFPs) for administering the two main contracts, and selection of the contractors in consultation with DENR.

-- The contractors prepare annual work plans and scopes of work (SOW) for sub-contractors who will provide technical assistance and carry out baseline analyses and other technical assignments. The scopes of work will follow guidelines outlined in Annex K to the PAAD.

-- All work plans and SOWs (above) will be approved by USAID and DENR prior to sub-contractors beginning work.

-- The prime contractors will supervise and administer the sub-contracts and coordinate the timely provision of outputs.

The sequence for activating sub-contracts will be synchronized with the schedule for tranche releases and overall program implementation. Estimates of the number of person months, types of expertise, and funds required for the various subcomponents are found in Annex K.

E. Sustainability

NRMP directly supports the GOP's policy reform efforts to bring about positive changes in the protection and management of the country's natural forests. The GOP has begun major policy reforms that impact on the performance of the natural resources sectors, including decentralization of DENR, stricter enforcement of the terms of TLAs, reduction of the tariff on imported logs, increased confiscation of illegal logs, use of social forestry and other upland development techniques to lessen deforestation, and assignment of forest use rights to rural communities. USAID expects that as these and other reforms are fully implemented, many of the causes of deforestation and forest degradation will be eliminated.

The sustainability of program efforts includes the following concerns:

Required resources. How will the GOP be able to afford the budgets that will be needed to support intensified forest management and protection? The policy of increasing forest charges is expected to generate sufficient revenue to pay for intensified forest management. However, this depends on the volumes of commercially valuable timber to be extracted on a sustained yield basis from the residual forests. The best preliminary estimates, as presented in the draft Master Plan for Forestry Development, indicate that sufficient areas of residual forests are adequately stocked to make forest protection and management economically sustainable.

A related concern is whether the forest charges will be collected on a large proportion of the timber extracted. This depends on how well DENR is able to limit evasions and exemptions and on whether illegal logging can be controlled. The extent to which the GOP can limit evasions and exemptions depends largely on efficient interaction between DENR, law enforcement agencies and the judicial system.

In the past, forest charges accrued to the general revenues of the GOP. Will the executive and legislative branches assign budget increases to DENR commensurate with increased revenues from forest charges? This will determine whether funding for forest protection and management will be sufficient to sustain the intensified operations needed. The impact of NRMP's $75 million in performance-based disbursements is expected to encourage the GOP to support budget increases for DENR.

The Resources Protection component has the potential to provide continuing funding for conservation long after the program's completion date. This could include an endowment, whose income is divided between resources protection activities and reinvestment. The endowment could be administered by a foundation that also seeks support from other donors, which would not only permit sustainability in the long run, but would allow growth in foundation's scope and scale of achievements.

Ecological sustainability. Will the new approach to forest management be ecologically sustainable? The answer is affirmative if the following conditions are met:

-- The rate at which timber is cut is less than its growth.

-- Regeneration keeps new cohorts of trees coming into the system.

-- The problems of forest disease, pests, fires, and human encroachment can be contained; and

-- Soil fertility can be maintained even as logging leads to some measure of compaction, leaching, erosion and soil heating.

Currently, technical information on these issues is scant and conflicting. NRMP will support, and GOP policies and budgets should continue, increased research and development for logging and forest management methods to assure that conditions of ecological sustainability are met. The program's emphasis on community forestry will play a significant role. DENR's Community Forestry Program prescribes labor-based extraction methods that, when compared with mechanized logging, substantially reduce environmental damage.

Some of the required knowledge will take years to develop. Long-term support for research and development initiatives might logically derive from two sources: the endowment to be established under the program and revenues from the newly increased forest charges. The creativity of NGO leaders and the scientific community will be needed to assure that research is responsive to the needs of field personnel and that it is adequately translated into applied results.

In addition, program assistance to implement the CFP is expected to decrease significantly the incidence of forest destruction due to kaingin, by providing a more financially attractive alternative, i.e., wood production, to kaingin farmers.

Social sustainability. Will the new approach to forest resource management be socially sustainable? The empowerment of communities living in and around forests is an important aspect of NRMP's policy reforms. The use of NGOs as intermediaries between DENR and the communities seems likely to lead to approaches that are socially and culturally acceptable in the communities.

A related concern is whether the program's policy changes will be overturned or subverted by those who lose their preferred status. Logging firms can be expected to resist the logging ban in old growth forests. On the other hand, timber production under the CFP is expected to provide raw material at lower costs than mechanized cutting. Logging companies may find a new and more profitable role as processors of this lower-cost raw material rather than continue as loggers. Persons who now profit by illegal logging will resist the protection efforts, and furniture makers and other manufacturers may resist liberalization of trade in lumber. Resistance from these groups will test the GOP's political will.

Economical sustainability. Will the restructured forest products industries be economically sustainable? The restructuring will be difficult. If the GOP is successful in reducing the supply of illegal logs, and if the

increased forest charges have the anticipated effect of making it unprofitable to process wood inefficiently, numerous firms are likely to leave the industry. The economic sustainability of the remaining firms will be determined by:

-- Production costs, which will depend partly on the efficiency gains achieved.

-- The quantity, quality, and sustainability of the flow of logs from the second growth forests.

-- The prices paid for forest products as determined by the strength of the Philippine economy, demand from the Philippines' trading partners, and reduction of export barriers; and

-- The availability and price of imported logs and other raw and semi-processed forest products as determined by exogenous factors and the maintenance of minimal import barriers.

The Natural Resources Management Program is expected to have a positive impact on each of these factors.

F. Management Responsibility

The need for continued effective forest management implies that NRMP's objectives must be sustained beyond the program's expected five-year life. USAID's management responsibility is to determine whether management skills, GOP political will, economic impacts and estimated program costs will permit or require a second phase of funding. Alternatively, USAID may prefer a more indirect role of monitoring and coordinating future developments in this sector.

USAID program management will rely on reports, meetings, and communications with the GOP, particularly DENR, and with contractors and individuals funded through the program to draw conclusions on the ability of the GOP to implement the program. USAID will follow the economic and political risks of the program, assessing the advantages and disadvantages of the procedural systems it employs for program management.

The primary responsibility for USAID management of this program will reside with ORAD and the USAID Program Committee. Program status will be included in quarterly progress status reports and in periodic reviews of program implementation.

G. Environmental Assessment Requirements

The Natural Resources Management Program consists of four components: (1) the implementation of policy reforms to improve forest conservation and management and increase the efficiency and productivity of the woods products industries; (2) technical assistance; (3) resources protection; and (4) monitoring, evaluation, and audit services. Technically, under the requirements of 22 CFR 216, Agency Environmental Procedures, this program

would qualify for a categorical exclusion, as there is no significant direct (i.e., negative) impact on the physical or biological environment.

However, due to the complex nature of the program, the uncertainty associated with anticipating the response to policy changes, and the evolving science of tropical forest management, there is considerable potential for indirect environmental effects due to the implementation of policy reforms and technical assistance, which could affect the conservation and management of primary and second growth forests. Therefore, USAID has determined that, as a matter of policy, Environmental Assessments (EAs) will be prepared on the implementation of selected policy reforms and on forest management and protection plans. The EAs on forest policies will be prepared during implementation of reforms in order to guide USAID and GOP decision making related to unanticipated environmental effects and to permit adjustments to the reform process during the program life. EAs on forest management and protection plans will be prepared prior to their implementation.

The following is a preliminary list of the EAs to be prepared:

-- The economic, environmental and social effects of the newly imposed "environmental fee" (DENR Administrative Order 62 of June 1990) and the logging ban in old growth forests.

-- The effects of lowering barriers to importation of logs and semi-processed wood, and the unrestricted export of processed and semi-processed forest products on maintenance of forest cover.

-- The effects of more secure tenure rights on the management and conservation of forest lands; and

-- An analysis of alternative options for the management of second growth forests, i.e., separation of production from protection areas, length of cutting cycles, harvests of timber vs. non-timber forest products; and different silviculture and harvesting methods.

Using funds from the Support Services component, the EAs will be prepared prior to the implementation of the specified policy change(s). Follow-up review of the environmental impact of the policy change(s) will be accomplished under the Monitoring, Evaluation and Audit component by a contractor(s) not directly involved in the policy work or in the preparation of management plans. The EAs will be circulated for review in draft to the Environmental Management Bureau of DENR and to the ANE Bureau Environmental Coordinator. The need for additional technical review will be determined by the Mission Environmental Officer on a case-by-case basis.

VI. PROGRAM COSTS AND FINANCIAL PLAN

A. Cost Estimates and Financial Plan

The program will provide approximately $125 million in grant funds to the GOP over the five-year life of the program, subject to the availability of funds and to the tranching requirements set forth later in this section. Approximately $75 million will be made available for performance-based disbursements directly to the GOP for the implementation of agreed policy reforms; $25 million will be made available for the Natural Resources Protection component (i.e., debt-for-environment swap); $20 million will be allocated for support services (technical assistance, training, research and limited commodities); and $5 million will be made available to cover the costs of monitoring, evaluation and non-federal audit. Table VI-1 shows the program's summary cost estimates.

Table VI-1 also shows that the approximately $20 million for the Support Services component will be used to finance AID-direct contracts with U.S. organizations or U.S.-Philippine joint ventures for long- and short-term advisory services. Costs for the Support Services component, by support activity, are shown in Table VI-2.

In addition to agreements for advisory services, USAID will contract for progress reviews, financial monitoring and evaluation services, as outlined in Section V. Some $5 million will be set aside for: (1) progress reviews to determine releases of subsequent tranches; (2) midterm and final evaluations; (3) financial study, monitoring and possible audit requirements. Of this $5 million, the amount of $2.5 million will be reserved for financial study, monitoring and non-federal audits. Monies unused for Natural Resources Protection, Support Services, and Monitoring, Evaluation and Audit services will revert to performance-based disbursements for policy reform.

Projected annual program expenditures by component are shown in Table VI-3; the method of implementation and financing for each component is presented in Table VI-4; and planned yearly obligations are shown in Table VI-5.

B. Program Disbursements and Controls

1. Dollars

Upon the GOP's satisfaction of legal and administrative conditions precedent to initial and subsequent disbursement of dollars, AID will disburse grant funds, through the electronic funds transfer system, for deposit in a separate NRMP Dollar Special Account with a GOP-designated bank. In accordance with mutually agreed-upon implementation plans, dollar funds provided for this purpose may be used by the GOP for debt servicing to the IMF, the World Bank and ADB, or for other purposes agreed to by USAID. These funds may not be commingled with other funds owned by the GOP.

2. Pesos

Within one business day of a dollar transfer, the GOP will deposit into a Peso Special Account an amount of local currency equivalent to the dollar transfer. In determining the total amount of pesos required to be deposited into the NRMP Peso Special Account in connection with each such dollar deposit, dollars shall be converted into Philippine pesos at the prevailing rate of exchange of the Central Bank of the Philippines for the purchase of U.S. dollars on the date of such conversion; provided that if at the time of such conversion there shall be more than one lawful rate of exchange in the Republic of the Philippines, the GOP shall make such arrangements as may be necessary so that funds provided under the Grant may be converted at the highest rate of exchange which is not unlawful in the Philippines on the date of each such conversion.

The peso proceeds will be for GOP disbursement for costs incurred in mutually-agreed budget categories and programs. Any amount of pesos mutually determined by the GOP and AID to be in excess of the budget category requirements will be returned to the Peso Special Account and re-programmed for agreed-upon budget categories.

Funds deposited in the Peso Special Account shall not be commingled with funds from any other source. Any interest earned from both the Dollar and Peso Special Accounts will be programmed as though it were principal and for the same agreed-upon purposes. Other dollar and peso uses may also be agreed upon.

3. GOP Counterpart Contribution

The GOP shall provide counterpart contributions having a value of not less than $33,400,000 or 25 percent of the total program cost excluding the cost of the Resources Protection component. The GOP counterpart contribution shall be provided to DENR in furtherance of NRMP objectives. Specific budget line items or other agreed-upon budget line items shall be funded out of counterpart contributions.

4. Transfers to GOP's General Fund

Once the GOP and AID have agreed to a list of acceptable budget categories and the minimum peso amount to be disbursed in total by the GOP for the budget categories eligible for assistance, pesos will be transferred from the NRMP Peso Special Account to the GOP General Fund Account based on GOP-anticipated needs for an agreed-upon period. The GOP will undertake disbursements for the selected budget categories from the General Fund under its regular rules and procedures.

5. Monitoring Plan (GOP Disbursement Reports)

NRMP implementation will be monitored through GOP certified quarterly disbursement reports, duly certified by the Agency Accountant, and the annual audited disbursement report. Quarterly disbursement reports will contain at least the following information:

NRMP Dollar Special Account: Each disbursement from the dollar special account with specification for each disbursement of the payee and the amount and date of payment, together with a certification that the GOP has obtained and is maintaining documentation for each disbursement.

NRMP Peso Special Account: Cumulative actual disbursements by specific budget category through the end of the period reported upon for costs incurred in the GOP's budget year, for the period on or after January 1, 1990 in the case of the 1990 Budget Year in the agreed-upon budget categories; on or after January 1, 1991 in the case of the 1991 Budget Year in the agreed-upon budget categories; on or after January 1, 1992 in the case of the 1992 Budget Year in the agreed-upon budget categories; and so on up to 1994.

NRMP Counterpart Contribution: Cumulative actual disbursements by specific DENR budget category through the end of the period reported upon for costs incurred in the DENR's budget year, for the period on or after January 1, 1990 in the case of the 1990 Budget Year in the agreed-upon DENR budget categories; on or after January 1, 1991 in the case of the 1991 Budget Year in the agreed-upon DENR budget categories; on or after January 1, 1992 in the case of the 1992 Budget Year in the agreed-upon DENR budget categories; and so on up to 1994.

The GOP will provide the required quarterly and annual reports of disbursements, beginning with the period commencing January 1, 1990, on: (1) the use of dollars disbursed from the NRMP Dollar Special Account; (2) use of pesos for budget support disbursements for costs incurred in the GOP's 1990 Budget Year in the 1990 eligible budget categories, in the 1991 Budget Year in the 1991 eligible budget categories, and subsequent Budget Years in each year's eligible budget categories; and (3) use of counterpart contributions for NRMP support disbursements for costs incurred in the DENR's 1990 Budget Year in the 1990 eligible budget categories, in the DENR's 1991 Budget Year in the 1991 eligible budget categories, and subsequent DENR Budget Years in each year's eligible budget categories.

Quarterly certified disbursement reports will be due by the end of the succeeding quarter, while annual audited reports of each year will be due by September 30 of the following year. The GOP will also furnish accompanying certifications for all reports that all funds disbursed from the Dollar Special Account, the Peso Special Account for budget support, and the GOP counterpart contributions have been in accordance with the terms of the NRMP Grant Agreement. For each of the annual disbursement reports, the GOP's Department of Budget and Management shall furnish to AID in form and substance satisfactory to AID, a certification that (1) an amount at least equal to the amount of pesos transferred from the Peso Special Account to the GOP's General Fund Account and (2) counterpart contributions have not been reported against other external assistance available to the GOP for disbursements for costs incurred in the GOP's 1990 Budget Year in the eligible 1990 budget categories, and for costs incurred in the GOP's 1991 budget year in the eligible 1991 budget categories, and all subsequent budget years up to 1994.

6. Tranching Arrangements

Tranche releases will be made according to the following arrangements:

First Tranche: The criteria against which the initial disbursement will be made are:

-- The GOP's acceptance of the Policy Agenda as shown in Section IV of the PAAD, subject to minor revisions or clarifications.

-- DENR's achievement of the policy benchmarks indicated in the Policy Agenda for the first tranche.

-- A peso implementation plan specifying the eligible budget categories and programs in CY 90 based on the Philippines General Appropriation Act (GAA) for the year.

-- Appropriate GOP signature(s) on necessary PIO/Ts or Program Implementation Letters (PILs).

Second and Subsequent Tranches: As the program proceeds, there will be external reviews of progress as measured against implementation actions and performance benchmarks. Disbursement releases will be based on progress toward the benchmarks. Implementation actions and benchmarks will be revised, as necessary, as a guide to future performance and therefore to future disbursements.

The $25 million proposed for the Natural Resources Protection component will support activities of the Philippine National Conservation Action Plan for the Environment. USAID has several financial options for funding this component (see Annex J), including varying combinations of grants and/or debt swaps. Funds for support services and for monitoring, evaluation and audit services will be disbursed directly by USAID to the contractors.

Financial Controls: Prior to each disbursement of dollars for Policy Reform, the GOP will provide the following to USAID:

-- An implementation plan showing how policy actions to meet the tranches are to be carried out.

-- A schedule of payments identifying payees, amounts of principal and interest accrued thereon, and due dates of loans to be repaid by the GOP using the dollars (and interest earned) on funds held in the dollar Special Account.

-- A statement of the names, branches, and U.S. Federal Reserve Bank Branch numbers of each bank to receive dollar deposits through NRMP disbursements (with the respective amount of dollars to be deposited in each account).

-- A peso implementation plan specifying the eligible budget categories and programs based on the GAA for the current year and the DBM-certified actual disbursement report of the prior year; and

-- The type of documentation to be obtained and maintained by or on behalf of the Grantee evidencing the use of U.S. dollars and local currency generation from funds provided through NRMP.

Submissions of the implementation plan and schedule of payments are conditions precedent for each tranche release. This will ensure that uses of the dollars are agreed upon before tranche releases are made.

TABLE VI-1. NATURAL RESOURCES MANAGEMENT PROGRAM:
SUMMARY COST ESTIMATE (ALL YEARS)
($000)

Program Component	Total
A. Policy Reform	75,000
B. Resources Protection	25,000
C. Support Services	20,000
D. Monitoring, Evaluation and Audit:	
1. Program Monitoring*	2,500
2. Evaluations**	500
3. Financial Monitoring and Non-Federal Audit	2,500
SUBTOTAL	5,000
TOTAL	125,000

* Includes the services of a Personal Services Contractor or a PASA employee to advise USAID on the impact of policy reform on the sector.

** Four reviews at $80,000 each.

TABLE VI-2. NATURAL RESOURCES MANAGEMENT PROGRAM: SUMMARY OF COST ESTIMATES FOR SUPPORT SERVICES

Activity	Amount ($000)
1. Technical Assistance:	
a. Policy Formulation, Analyses and Implementation	$6,605
b. Management Planning for Second Growth Forests	3,200
c. Regional and Provincial Planning, Programming and Financial Management	445
d. Management Units for Community Forestry	2,915
e. Services to Private Sector Investors	350
f. Bridging Activity for Proposed Environmental Project	540
g. Establishment of Debt-for-Nature Foundation	165
SUBTOTAL, Technical Assistance	14,220
2. Communications, Information, Training and Education	2,670
3. Research and Development	1,800
4. Old Growth Forest Preservation	1,310
TOTAL COSTS	20,000

TABLE VI-3. NATURAL RESOURCES MANAGEMENT PROGRAM:
PLANNED YEARLY EXPENDITURES BY PROGRAM COMPONENT ($000)

Program Component	Fiscal Year 1991	1992	1993	1994	1995	Total
A. Policy Reform	15,000	20,000	20,000	20,000	-	75,000
B. Resources Protection	2,000	4,000	10,000	6,000	3,000	25,000
C. Support Services	2,560	5,430	5,360	4,490	2,160	20,000
D. Monitoring, Evaluation and Audit	800	700	1,150	1,100	1,250	5,000
TOTALS	20,360	30,130	36,510	31,590	6,410	125,000

TABLE VI-4. NATURAL RESOURCES MANAGEMENT PROGRAM:
METHODS OF IMPLEMENTATION AND FINANCING

Program Component	Method of Implementation	Method of Financing	Amount ($000)
A. Policy Reform	Tranche Release	Direct Payment*	75,000
B. Resources Protection	AID Grant	Direct Payment	25,000
C. Support Services	AID Contract	Direct Payment	20,000
D. Monitoring, Evaluation and Audit	AID Contract	Direct Payment	5,000
TOTAL COST			125,000

* Electronic Funds Transfer.

TABLE VI-5. NATURAL RESOURCES MANAGEMENT PROGRAM:
PLANNED YEARLY OBLIGATIONS BY PROGRAM COMPONENT ($000)

Program Component	Fiscal Year 1990	1991	1992	Total
A. Policy Reform	15,000	30,000	30,000	75,000
B. Resources Protection	5,000	8,000	12,000	25,000
C. Support Services	9,000	11,000	-	20,000
D. Monitoring, Evaluation and Audit	1,000	1,000	3,000	5,000
TOTAL COSTS	30,000	50,000	45,000	125,000

VII. SUMMARIES OF ANALYSES

A. Economic Analysis

Benefits and costs of NRMP are not fully specified due to the complexity of the program's policy issues and the multiple dimensions in which they are defined. A typical project analysis deals with marginal changes in particular outputs and inputs within the more-or-less fixed parameters of the economy. Due to the implementation of policy actions, NRMP program benefits result from major market and non-market reforms, and are likely to have significant impact on prices and resource allocation in the forestry, forest products and related industries. Policy effects are not necessarily additive, and most estimates of policy consequences are preliminary.

Timber Pricing Policy: Under the 20 percent pricing policy supported by the program, forest charges will increase from the current 30 pesos per cu.m. to 530 pesos per cu.m. Projected over future sustainable timber cut in second-growth forests, the gain is $196 to $393 million in terms of 1990 present value.

-- GOP collection of these charges represents a transfer payment from private logging companies to the government. No new income is generated; it is redistributed progressively from a rent-seeking logging oligopsony to the general Philippine population.

-- In the short run, inefficient logging companies will be squeezed out of the industry, causing reductions in output and employment. Over the long term, output and employment will grow, as logging becomes more efficient through reallocation of harvesting rights to those who can pay the highest prices for the scarce raw material.

Tenure Policy: Security of rights in lands and trees encourages greater willingness to protect and manage them. The economic implications of tenure are not easily described and estimated. New tenure agreements in the Philippines granting community rights in forests are not yet adequately evaluated for their economic content. The Central Visayas Regional Project (CVRP) on Negros Island is an example of community forestry stewardship agreements that might be achieved elsewhere.

-- If NRMP's policies on tenure lead to two new successful community forestry projects per year over the five year life of the program, each of which has a present net value equivalent to that of CVRP, then the combined 1990 present value of the ten projects is $25 million. This is not a planning figure, but an order of magnitude.

-- Environmental benefits arise even when communities are unable to generate significant flows of forest outputs for sale or direct consumption, but are able to stop open access and illegal encroachment.

Enterprise Entry, Exit and Competition Policy: Reforms of GOP regulations which currently discourage enterprise entry and exit in forest products industries can be assessed in terms of progress towards sectoral revitalization and modernization.

-- Targets for revitalization and modernization are laid out by a new comprehensive analysis for the entire Philippine forest products sector (GOPA 1990). If relaxation of regulatory controls contributes as little as 10 percent toward these targets, this amounts to an estimated 1990 present value of $97 million (not including inter-industry linkages) of increased sectoral value added for the period 1990-2000.

-- Progress toward GOP divestiture of the country's pulp and paper semi-governmental company, plus release of other sequestered companies, should lead to restructuring that would make the forest products industries more competitive.

Trade Liberalization Policy: Low barriers to importation of logs and semi-processed wood mitigate hardships on wood-processing firms due to the ban on old growth logging, and to tightened controls of illegal logging. Unrestricted export of processed and semi-processed forest products keeps producers from closing, and in the long run encourages more investment in both forestry and the processing industries.

-- Implementing policies to keep open imports of logs and semi-processed wood, should log prices rise substantially following implementation of other program policies, will help moderate upward price pressures. Without imports, annual consumption losses in the Philippine economy are $317-724 million under extreme scenarios of log price increases.

-- The lumber export ban is an example of losses in the Philippine economy from restricted exports. Repeal of the ban increases Philippine GDP by 0.40 percent and salaries and wages by 1.27 percent. This amounts to annual gains of $179 million in GDP and $95 million in wages and salaries.

Old Growth Logging Ban Policy: Benefits include preservation of biological diversity, educational and scientific value and the cultural significance of relatively undisturbed forests. Opportunity costs consist of lost national income if alternative timber sources produce lower forest rents.

-- Preservation of old growth forests produces existence values, option values and bequest values, and serendipity values.

-- The prohibition of old growth logging appears to have negligible opportunity costs if the comparison is with second growth dipterocarp forests as the alternative source of logs.

Forest Management Policy: The removal of institutional constraints to forest mapping, classification and inventory provides an investment framework that supports the other program components.

-- If NRMP policies to implement forest management expand resource rents by 15 percent above the levels projected without NRMP, a 1990 present value of $42 to $360 million results when sustained in perpetuity.

Though the changes in value added estimated for each of NRMP's major policy initiatives are not strictly additive, a useful perspective may be provided by attempting an aggregation of program benefits. To do so first requires that the estimates have a common definition; the most useful for this purpose is the 1990 discounted present value, which has already been used as a measure of economic change for implementation of several of the policies.

The economic impacts of trade liberalization (import and export) and forest protection were estimated from a 24-sector Input-Output (I-O) model of the Philippine economy and are expressed in annual terms (see Annex F to the PAAD). The results of the I-O analyses do not permit the demand adjustments by consumers or resource or technology substitutions by entrepreneurs that would be expected in the real world. Thus they are extreme, short-run estimates of what to expect from the policy "shock," and would dissipate over a short time.

To allow for these adjustments in the conversion to present values, annual amounts were discounted for only ten years (1991-2000) at NEDA's social discount rate of fifteen percent. The outcomes are shown as follows:

Policy Initiative	Estimated Impact	
	Annual Value ($000)	Present Value ($000)
Trade Liberalization:		
Import: High	724,000	3,634,000
Low	317,000	1,591,000
Export	179,000	898,000

The present value estimates of all six sets of policy actions are summarized in Table VII-1. The economic effects are not strictly additive, due to the complexity of interactions within the economy. Nonetheless, their aggregation, ranging from a low of $2.653 billion to a maximum of $5.014 billion (excluding the impact of timber pricing policy, which is a transfer payment), provides a useful perspective on the potential benefits of the program. In addition to the economic benefits of the six sets of policy reforms, economic costs estimated at $1.265 billion will be incurred through DENR's implementation of policy reforms in the area of forest protection. However, since implementation of the forest protection reforms are important to ensure the sustainability of the reforms in the other policy areas, the economic costs are offset by the overall economic benefits. Including the forest protection costs, the program's economic impact is estimated at $1.39 to $3.75 billion. Program costs, $125 million in AID funds and an estimated $184 million from the GOP and other donors (see Annex F, Table F-2), are dwarfed by any reasonable fraction of the program's benefits.

TABLE VII-1. NATURAL RESOURCES MANAGEMENT PROGRAM: SUMMARY OF ECONOMIC BENEFITS

Policy Element	1990 Present Value of Estimated Benefits ($000,000)		
	Single Value	Range Low	Range High
TRANSFER PAYMENT (a):			
1. Timber Pricing	--	196	393
CHANGE IN VALUE ADDED (b):			
2. Tenure Security	25	--	--
3. Free Entry/Exit, Competition	97	--	--
4. Trade Liberalization:			
-- Low import barriers	--	1,591	3,634
-- Open lumber export	898	--	--
5. Old Growth Logging Ban	--	--	--
6. Improved Forest Management	--	42	360
SUBTOTALS (c)	1,020	1,633	3,994
HIGH AND LOW TOTALS, INCLUDING SINGLE VALUE ESTIMATES		2,653	5,014

(a) Transfer payments are not economic benefits in that they are not net additions to the nation's output. The amounts shown are the estimates of the economic rental value of publicly-owned timber land to be captured by the public, as a result of the change in policy, instead of being retained by the private timber firms.

(b) Changes in value added are economic benefits, positive or negative, in that they represent net additions to the nation's output.

(c) Totals do not include estimated transfer payments.

B. Financial Analysis

1. Budgetary and Financial Outlook

From 1986 to 1990, DENR's annual budget increased over 500 percent (from $49 million to $312 million) -- an indication of the GOP's recognition and commitment to natural resources management. DENR projects an increase in real terms of 10 percent per annum in its budget over the next five years. Current indications are that the political support that DENR has enjoyed since 1986 will continue through 1992 and probably beyond.

Further, the donor community has shown an increased commitment to the sector. With the participation of four principal donors (ADB, Japan, the World Bank and AID), life-of-project funding for major foreign-assisted natural resources projects from 1980 to 1985 totaled approximately $73 million. Since 1986, ten donors have committed resources to 20 major projects with combined funding of over $460 million, an increase of nearly 500 percent.

The GOP and the donor community have a strong commitment to continue their support of the Philippine Strategy for Sustainable Development and the Master Plan for Forestry Development. Therefore, it is likely that the financial support needed by DENR to accomplish NRMP's policy objectives will be made available.

2. Need for and Impact of USAID Program Assistance

The public investment needs of the sector are estimated to be $2.91 billion to fund 129 programs and projects intended to restore the Philippine environment and natural resource base over the next several years. Present donor commitments are less than $500 million. The USAID program assistance of $125 million is the minimum needed to complete the policy changes proposed over the five year life of the program.

GOP budgetary contributions to NRMP cannot be accurately quantified as the implementation actions ranging from administrative decisions to discrete programs and activities will be undertaken by a variety of GOP units for varying periods of time. Some of these activities will draw heavily on the GOP's resources, others will not; and some activities have yet to be identified.

C. Institutional and Administrative Analysis

1. Current Capabilities for Natural Resources Management

Sufficient institutional instruments exist in the Philippines to support most of the GOP's environment and natural resources policies and to implement the program's proposed policy changes. These institutions include GOP departments and agencies, non-government organizations and the for-profit private sector. DENR is the key GOP organization for implementation of NRMP.

The current DENR leadership has injected a sense of purpose and commitment previously absent in the GOP's management of natural resources. Most of DENR's reorganization and decentralization activities have been accomplished, and most of the confusion over roles, responsibilities and direction has been resolved. DENR's need to transform itself from an almost exclusively regulatory body into a development agency has been recognized, and attention is now being devoted to planning and implementing this transformation.

2. Plans for Strengthening Natural Resources Management

Based on the GOP's broad institutional reforms as outlined in the Philippine Strategy for Sustainable Development, DENR anticipates moving in the following directions:

-- Inter-agency coordination in the implementation of PSSD.

-- Private sector participation and cooperation in managing the environmental and natural resources of the country.

-- Establishment of upland communities that actively support the management of natural resources.

-- Installation of a natural resources data base that is accessible to internal and external users, and a management information system that is supportive of the socio-economic and environmental concerns of DENR; and

-- Greater DENR field office competence.

3. Implementation Actions

The institutional implementation actions suggested above assume that DENR will continue to pursue its current institutional strengthening agenda, with particular attention to further training of DENR personnel in project preparation and management; institutionalizing linkages among key GOP oversight agencies and donor institutions through regular meetings and consultations; and further improvements in administrative procedures and systems.

It is expected that DENR's Undersecretary for Planning, Policy and Project Management will be responsible for the administration of the program. A small secretariat may be needed to coordinate and monitor program implementation among the DENR units and other program implementation entities. This would help ensure that AID and GOP inputs are made available in a timely manner and that appropriate coordination mechanisms and monitoring systems are employed.

Key institutional implementation actions, including areas requiring assistance from NRMP's Support Services component, that should contribute to the attainment of the policy objectives have been identified for each of the program's policy areas. Implementation of these actions should ensure that the program's purposes are achieved.

D. Social Soundness Analysis

The socio-economic and political costs of deforestation are of central concern to the Philippines, as evidenced by the proliferation of media reports, draft forestry and conservation legislation, and the rapid emergence of an NGO environmental community. Forest resources play a crucial role by providing basic household needs and income for the millions of Filipinos residing in the uplands. Indeed, forestry offers one of the few immediate opportunities in some upland areas for improving rural livelihoods. The pervasive disaffection by cultural minorities and tribal groups with the government because their traditional land occupancy and forest uses ("ancestral domains") have not been protected against lowland migrants, miners, and loggers is of special concern. In addition, problems with peace and order and insurgency are prevalent in the forested areas of the country.

1. Compatibility With Socio-Economic and Cultural Conditions

The policy changes envisaged under NRMP address the major forces that constrain the substantial contribution of forest resources to rural economic growth, employment and income generation. The implementation of policy reforms under NRMP will transfer more responsibilities for forest management to private entities and will help control illegal logging and improve investment incentives for sustainable natural resources management. The strategy includes allocating more property rights and responsibilities to rural communities, local government units, and private forestry professionals for the sustainable management of natural forests. At the same time, activities implemented under the Resources Protection component will strengthen and expand the role of NGOs for promoting the conservation of biological diversity and community-based resource management.

DENR's policy objective of property rights reform relies on various instruments to assign secure land tenure and forest use rights to rural upland communities, organizations, and individual families. These are summarized in Table VII-2.

DENR's Community Forestry Program is the primary vehicle for shifting forest protection and management responsibilities; the pilot phase began in 1990. In addition, DENR has started to identify and delineate ancestral domain claims in certain areas of the Cordillera region. NRMP will encourage further refinement of the range of tenure instruments to ensure that they are compatible with local socio-cultural conditions and that they stimulate sustainable forest use.

An underlying premise of the program is that secure tenure is a prerequisite for long-term investments in forest conservation by households, communities, LGUs and for-profit enterprises, and evidence from the Integrated Social Forestry program and from NGO initiatives supports this premise. The major program issues for NRMP related to tenure are: (1) developing a forest stewardship agreement process that has sufficient flexibility to be sensitive to local systems of tenure; (2) ensuring that indigenous patterns of occupancy by cultural minorities ("ancestral domains") are protected; (3) establishing procedures for minimizing the misuse of stewardship agreements and for

resolving land claim conflicts; and (4) allocating forest use rights that are compatible with the ecological functions of a forest area.

TABLE VII-2. NATURAL RESOURCES MANAGEMENT PROGRAM: DENR ACTIONS TO INCREASE TENURE SECURITY AMONG FOREST-RESIDENT COMMUNITIES

Name of Agreement	Land Type	Area Covered	Number of Agreements Issued, as of 1988	Total Area, 1988
		(ha)		(ha)
Certificate of Stewardship Contract	Farmed lands Cogon grass	3 to 7	93,070	227,460
Community Forestry Stewardship Contract	Forest lands Farmed lands	"variable"	12	12,433
Forest Land Management Agreement (Same as Woodlot Lease Agreement)	Reforested degraded lands	"variable"		
Community Timber Utilization Agreement	Residual forest		(pilot)	4,000
Community-Based Forest Management	Residual forest	100-1,000	10 (pilots)	
Watershed Protection Contract	Critical watersheds		(pilot)	

Security of tenure also affects the forest products industries. Despite the timber license agreement time frame of 25 years renewable for another 25 years, the licenses are frequently withdrawn by the GOP for political reasons. From 1978 to present, 43 TLAs were suspended, with an average operating time of only nine years.

Although DENR must retain the power to enforce forestry regulations by revoking or suspending licenses and agreements, the forest products industries must have sufficient confidence to invest in forest regrowth that can take 40 or more years to reach harvestable size. NRMP addresses this issue by encouraging the establishment of a well-defined procedure for just compensation

for enrichment planting, timber stand improvement and reforestation if a forest agreement is revoked for reasons other than non-compliance with the approved management plan. This is viewed as more pragmatic than extension of the time frame beyond 25 years, which would require constitutional amendment.

2. Program Beneficiaries

The direct beneficiaries of NRMP will be the forest products industries, which will be restructured and invigorated, and the upland communities, which attain greater access and control over forest resources.

The forest products industries employ roughly 215,000 people (see Table VII-3). This figure does not include the informal sector and its multitude of cottage industries that use wood products, nor does it include the fuelwood and charcoal trade, or employment associated with non-timber products other than rattan.

TABLE VII-3. NATURAL RESOURCES MANAGEMENT PROGRAM: DIRECT EMPLOYMENT IN FOREST INDUSTRIES, 1990

Industry	Number Employed
Mechanical Logging	50,600
Saw milling	9,700
Plywood/board production	9,200
Pulp processing	200
Plantations	54,000
Downstream wood processing	30,000
Rattan collecting (1989)	2,200
Rattan handicrafts (1989)	15,000
Furniture Manufacturers (1987)	44,600
Total Person Years:	215,500

A prohibition on logging in old growth forests will cause displacement of workers. Yet DENR's Master Plan for Forestry Development estimates that if its proposals are implemented, employment in logging alone will increase by 5,500 person years by 1995 due to the greater emphasis on community-based, labor-intensive methods.

The MPFD projects an employment level of 376,500 person years in primary wood-based industries by 2015, an increase of 161,000 over the 1989 level. The formal sector of the forest products industries will represent a direct contribution to the livelihoods of approximately 2.6 million persons by the year 2015. In addition, the restructuring of the forest products industries should foster informal sector employment of approximately 250,000 jobs by the year 2000. Employment opportunities for women will increase significantly due

to the preference for female laborers in wood-processing and certain stages of furniture manufacture.

Between 6.0 and 8.5 million people reside on "public" forest lands. Tribal groups and cultural minorities comprise about 70 percent of this population, with the remainder migrants from the lowlands. The distribution of cultural minorities is presented in Figure VII-1, which indicates the extraordinary diversity of societies living in forest areas. The protection of the remaining old growth forests and the sustained management of the residual forests will have a profound impact on the livelihoods of these communities, where at least 15-25 percent of basic needs and income are derived from forest resources. If DENR adopts the Master Plan recommendations, approximately 36,000 families will be involved in community-based management of 255,000 hectares of residual dipterocarp forest by 1995. By 2005, 214,300 families will be responsible for managing more than 50 percent of the residual forests.

The employment effects of the policy actions and other components of NRMP are even more difficult to estimate than are the dollar measures of economic impact. The direct and indirect (economy-wide) effects of removing the ban on lumber exports is estimated to increase employment by 90,600 person years (see Annex F). This is consistent with and supports the MPFD projection of a 161,000 person year increase in formal forestry sector employment by 2015.

Another projection of employment change due to the program was made using industry- and project-specific timber production and labor use parameters (Table VII-4). This projection estimated employment in the forestry and wood products sectors of 846,000 person years annually by the year 2020.

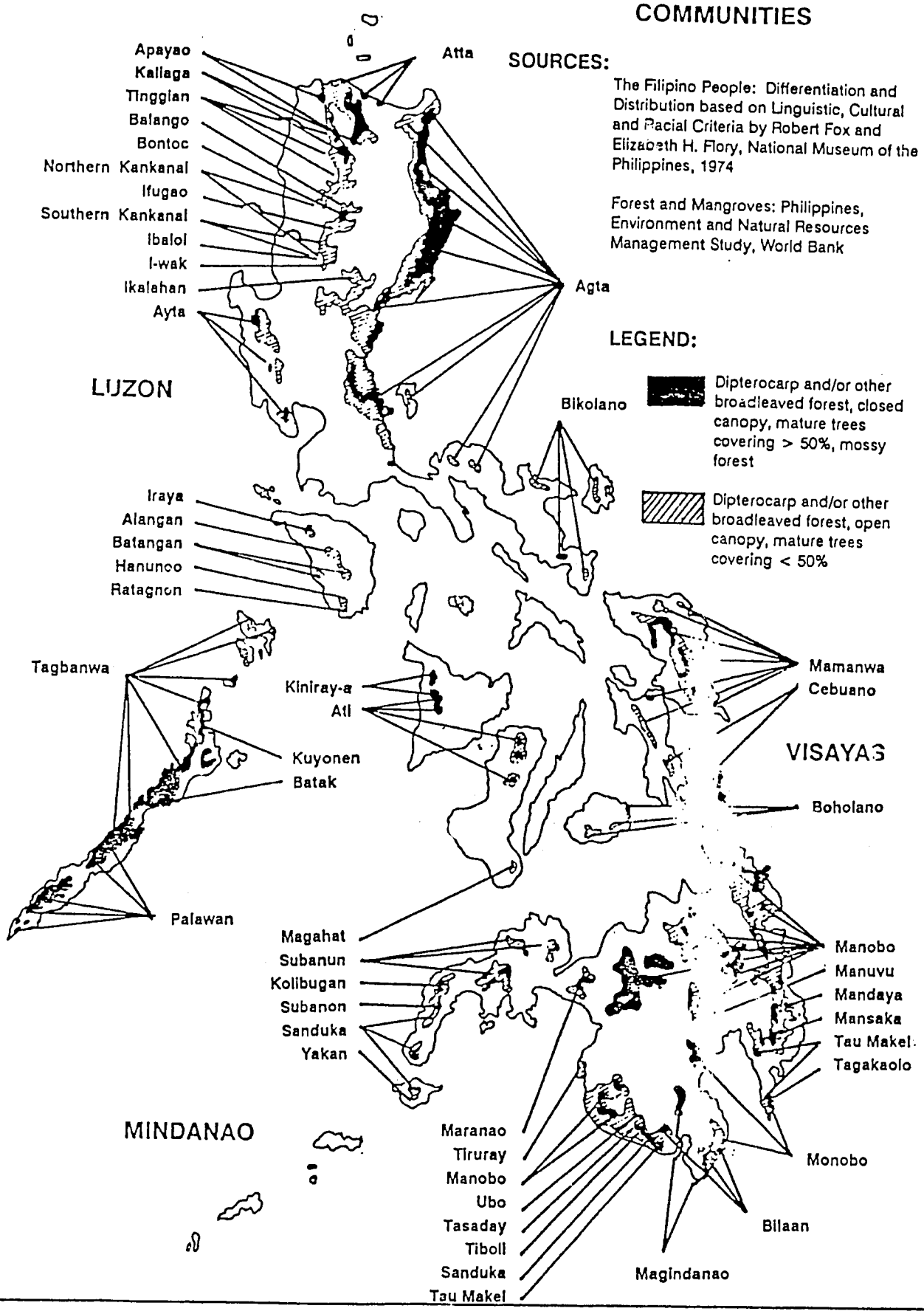
3. Role of NGOs and Their Capabilities

The NGO community acquired a powerful mandate under the 1987 Constitution to play an active role in terms of: (1) grassroots development initiatives; (2) acting as intermediaries between citizens and the government, particularly on behalf of the poor; and (3) promoting innovative approaches to community self-reliance. This mandate, reiterated in the Medium-Term Development Plan and the PSSD, provides a unique opportunity for NGOs to play a major role for achieving some of the policy objectives of NRMP. The Resources Protection component will support and strengthen initiatives by people's organizations, NGOs, and academic groups.

A large, vibrant NGO community has emerged in the Philippines with particular strengths in health programs, grassroots community development and advocacy. Registered NGOs, which number in the tens of thousands, pursue a wide array of objectives. With growing public awareness of environmental degradation, many organizations are turning their attention to environmental quality, biological diversity, and natural resources management.

A recent analysis of NGOs involved in community forestry and environment shows that 527 groups identify themselves as concerned with these topics, of which 122 are directly involved. Two weaknesses evident in the environmental

Figure VII-1. PHILIPPINE CULTURAL COMMUNITIES



community are poor community development skills and inadequate coordination and collaboration among different groups. The NRMP Resources Protection component will facilitate the cross-fertilization of NGOs devoted to grassroots development, advocacy, participatory research, and training.

4. Social Soundness Statement

The goal, purpose and general design of NRMP are based on sound social principles and assumptions. The program responds to the socio-economic and political need to rectify the policy environment that fostered deforestation, upland impoverishment and political disaffection. The design reflects the experience that DENR has developed with property rights reform and natural resources management. The selection of appropriate policy changes and the conceptual approach of the Resources Protection component reflect analysis of socio-economic and cultural issues. These concerns are incorporated into the design and are addressed by the Support Services component. On this basis, the program as designed is socially sound.

E. Policy Development and Reform Process

1. The Philippine Constitution and Natural Resources

The State's policy framework on environment and natural resources is embodied in the 1987 Philippine Constitution. The Constitution declares as state policy that all lands of the public domain, waters, minerals, coal, petroleum and other mineral oils, all forces of potential energy, fisheries, forests or timber, wildlife, flora and fauna and other natural resources are owned by the State. This principle of State ownership is known as the Regalian Doctrine.

The Constitution classifies land of the public domain into agricultural, forest or timber, mineral lands and national parks. It mandates Congress to determine the specific limits of forest lands and national parks, clearly marking their boundaries on the ground. Thereafter, such forest lands and national parks are to be conserved and may not be increased or diminished, except by law. Congress also is mandated to adopt measures to prohibit logging in endangered forests and watershed areas.

As the key to raising the quality of life for all, especially the underprivileged, the 1987 Constitution also calls for: the protection and advancement of the people's right to a balanced and healthful ecology; rural development and agrarian reform; promotion of the rights of indigenous cultural communities; and the encouragement of non-government, community-based organizations that promote the welfare of the nation.

2. Forestry Laws and Regulations

The basic law regulating forestry activities in the Philippines is P.D. 705, otherwise known as the Forestry Reform Code. Passed in 1975, it was the codification of all the existing forestry laws at the time. The decree attempted to introduce needed reforms in the forestry sector, especially in

the areas of social forestry and trade policy. P.D. 705 has been amended several times. A draft bill that ostensibly would fully supplant P.D. 705 and integrate other forestry laws has been pending in Congress since 1987.

Other important laws on forestry and natural resources include Executive Order 192 (Reorganizing the Department of Environment and Natural Resources); Letter of Instruction No. 1260 (Integrated Social Forestry); Executive Order No. 277 (Forest Protection); the law on Log Export Ban from Natural Forests; and many others. The Secretary of DENR is empowered to further redefine existing policies, make rulings on unprecedented matters, and issue rules and regulations through administrative orders, memorandum circulars, and other administrative instruments.

Policy thrusts of the government are reflected in GOP programs such as the National Reforestation Program, the Comprehensive Agrarian Reform Program and the Integrated Social Forestry Program. State policies also are formed or amplified in GOP commitments to international treaties and trade agreements such as those of ASEAN, the International Tropical Timber Organization, and the General Agreement on Trade and Tariffs (GATT).

3. Formation of a Policy Agenda

With funds from the Ford Foundation, former DENR Secretary Dominguez tasked a composite group of academicians, technocrats and NGOs to prepare a comprehensive policy agenda that sought to introduce meaningful reforms in the environment, energy, and natural resources sectors. Although his tenure ended before the final results were available, the resulting policy agenda proved indispensable to the incoming Secretary, Fulgencio S. Factoran, Jr. Many of the innovative policy reforms that Secretary Factoran has introduced are taken from that policy document.

Concerted external efforts to initiate policy reform can come from donor agencies. USAID's approach is reflected in the Natural Resources Management Program, which will help to motivate and enable policy change by rewarding GOP for investing political and financial capital in policy reforms.

Other external mechanisms or unofficial participants in the forestry policy-making process include interest groups such as the media, congressional lobbyists and pressure groups, political parties, and professional organizations. Still other agencies contribute to the process by using their internal resources and influences to fund, support, study and disseminate specific policy initiatives. Agencies that enjoy credibility and strong working relationships with various GOP departments are:

-- The University of the Philippines system
-- Ateneo de Manila University
-- Development Academy of the Philippines
-- Philippine Institute for Development Studies
-- The Haribon Foundation
-- World Wildlife Fund
-- Silliman University

Government agencies directly or indirectly affect the policy reform process by pursuing their own mandates. All of the following have contributed to policy changes in the environment and natural resources sector: the Department of Agriculture, through its policies in upland agriculture and the planning process initiated by the National Food and Fishery Council; the Department of Science and Technology, PCARRD and the National Agriculture and Resources Research System, through their research and development policies; the Department of Agrarian Reform, through its land reform policies; the sectoral thrusts embodied in the Medium Term Philippine Development Plan and the Medium Term Philippine Investment Plan; the Board of Investments' investment policies and priorities; the National Irrigation Administration and the National Power Corporation, through their water resources and energy policies; the population policies set by the Population Commission; and housing and human settlements policies pursued by the National Housing Authority.

Still, the bulk of policy reform in the natural resources sectors emanates from DENR itself. DENR has an office, the Planning and Policy Studies Office (PPSO), to handle policy matters. DENR's top-level policy officials include five undersecretaries, eight assistant secretaries, eight bureau directors, 14 regional executive directors, 68 assistant directors, and six department service chiefs. If properly coordinated, these individuals serve as a potent think tank that can churn out fruitful ideas from planning to operations.

4. Policy Formulation

Policy formulation is the sorting, curing, and packaging process by which the tasked agency discriminates between what is and is not feasible. This decision is made through "agency bias" and an assessment of agency resources and capabilities. The products at this stage are administrative instruments, such as administrative orders and memorandum circulars containing rules and regulations, or guidelines concerning a specific policy pronouncement.

When a particular policy is beyond the agency's administrative limits, it must be submitted to Congress for legislation in the form of a draft bill cleared through the Cabinet's legislative committee. In Congress, lobbyists and pressure groups may work for or against the measure. Unfortunately, many forestry bills in Congress have been pigeonholed since 1987 because of strong opposition from various pressure groups with vested interests and strong financial backing or influence.

5. Policy Adoption and Implementation

When a policy is adopted and implemented, it registers the commitment of resources, the creation of organizational structures, and their preparation for tackling implementation. Additional rules and regulations or implementing guidelines may have to be promulgated to properly institutionalize the policy adopted.

Often, policy implementation is through programs and projects that are designed to achieve specific policy thrusts. Thus, the policy of legitimizing

the existence of upland farmers inside the public domain finds its implementation in the Integrated Social Forestry Program, and environmental policy in the uplands is carried out by the National Forestation Program.

6. Policy Monitoring and Evaluation

Policy monitoring and evaluation is an internal function of DENR, which is the main reason for the existence of the Policy Studies Service of the PPSO. That office is tasked with the responsibility of tracking specific policy issuances, pronouncements, orders, bills, and for identifying proposals contrary to existing laws and the constitutional provisions. It also determines specific policy gaps or overlaps, and recommends corrective action. The PPSO also gathers specific policy indicators to evaluate policy successes and failures. Very often, output indicators are themselves the policy indicators, as the effects of policy are often directly reflected in physical accomplishments. In many cases, policy effects are better reflected in impact measures than in performance measures, such as in social forestry, when impact indicators measure the changes in real income or the quality of life of farmer beneficiaries.

F. Forest Sector Development Strategy

1. The Present Situation

As indicated earlier, the Philippine forestry sector is in less than robust health:

-- Fewer than one million hectares of primary growth dipterocarp forest remain, and the GOP seems ready to ban further logging of these forests.

-- Some 3.4 million hectares of productive or potentially productive residual dipterocarp forest remain. Of this area, about 1.9 million hectares can be considered production forests to supply the forest products industries until timber plantations can be established and mature. The remaining 1.5 million hectares cannot support further logging without major investment in planting and time for growth.

-- Forestry extraction and processing facilities were set up for the primary forests, and neither the industry nor the government is ready for transition to the residual forests. Forest inventories, on which to base investment and management decisions, are lacking. Currently, logging equipment cannot efficiently extract or use the logs that the residual forest can sustainably produce.

-- Current forest management methods, carryovers from Spanish and U.S. colonial times, discourage careful logging and investment of economic rents in forest renewal.

-- DENR lacks resources to protect and manage the forests, and security problems in the forest make protection especially difficult. DENR is thus forced to manage forests largely from the outside. Regulations aim at controlling log transportation and make hiding illegal logs difficult. Some development efforts in the uplands provide some farmers with alternatives to clearing land.

-- Regulatory and development measures are inadequate. The forests are disappearing, partly due to shifting cultivation practices. It is projected that in 1990, 84,000 hectares will be cleared, which is 2.5 percent of the 3.4 million hectares of residual forests.

-- Despite buoyant demand for wood, which forces lumber and plywood prices higher, the wood processing industries have low rates of investment in modern equipment. Present equipment is overaged and inefficient, resulting in higher-than-necessary costs and low rates of conversion of logs into products.

2. Necessary changes

To sustain its forest products industries and the environmental services that forests provide, the GOP must implement policies that will lead to protection and management of forests and to the development of industries that can operate with the logs that will be available. The fundamental measure required is to prohibit logging in the remaining old-growth forests. That implies first a political decision, and then effective programs to bring those forests under protection.

The next (simultaneous) requirement is to protect and manage the residual forest so that it will recover. This implies that DENR must abandon the old policy of putting logging firms with relatively short planning horizons in charge of management. Instead, DENR must take responsibility for the management of the logging concession lands, and must assign tenure rights and management responsibilities for the areas it cannot cover to communities that have a long-term interest in sustaining the forests.

The forest products industries need to adjust quickly, investing in new equipment and finding new sources of raw materials, if they are to be a positive force in the transition to sustainable forestry. This implies appropriate policies, technology transfer programs and incentives, rather than regulations, to guide the industry. Setting the price of timber closer to the true value of the trees as a natural resource is a policy that should lead to efficiency gains. Other changes are more difficult to implement, since many regulations currently intended to discourage illegal logging are the same regulations that reduce competition, thereby fostering inefficiency and discouraging industry investment.

TABLE VII-4. NATURAL RESOURCES MANAGEMENT PROGRAM:
Forestry and Forest Products Sector Employment in 2020

Activity	Person Days per cu.m.	Million cu.m. per year (1)	Total Annual Employment (million person-days)
Primary Extraction:			
Labor-based	26.24 (2)	2.5 (3)	65.6
Machine-based	1.64 (4)	2.7 (5)	4.4
Sawmilling and Plywood:	2.50 (6)	2.2 (7)	5.5
Pulp and Paper	1.25 (8)	1.0 (9)	1.2
Tertiary Processing (10)	12.50 (11)	3.0 (12)	37.5
Rattan Industries	n.a.	n.a.	25.0 (13)
SUBTOTAL			139.2
EMPLOYMENT IN PERSON-YEARS:			
Person-years, at 200 work days per year			696,000
Additional from reforestation (13)			150,000
TOTAL PROJECTED EMPLOYMENT (PERSON-YEARS)			846,000

NOTES:

(1) Projection for the year 2020.
(2) Based on experience in the World Bank-assisted Central Visayas Regional Project.
(3) 1.4 million hectares programmed for community management using labor-based systems. Mean annual growth increment (m.a.i.) is 3.0 cu.m./hectare/year and average allowable cut will be 60 percent of m.a.i. Thus, 1.4 x 3.0 x 0.60 = 2.5.
(4) Industry average as verified in field studies at Aras-asan Timber Co., PICOP and other TLA operations.
(5) Assumes 1.5 million hectares managed by corporations using machine-based extraction systems and the same m.a.i. as in note 3. Thus, 1.5 x 3.0 x 0.6 = 2.7.
(6) Industry average.
(7) Assumes 80 percent of corporate production (2.7 million cu.m.) will be processed into lumber and plywood.
(8) Based on PICOP data.
(9) Mostly from plantations; also includes milling waste from sawmilling and plywood production.
(10) Furniture, handicrafts and small shops.
(11) Data from furniture industries and small-scale woodworking shops.
(12) 100 percent of output of labor-based extraction and 20 percent of output of machine-based extraction.
(13) Current employment in the rattan industry.
(14) 150,000 hectares per year; one person-year per hectare.

VIII. CONDITIONS PRECEDENT AND COVENANTS

A. Conditions Precedent to Disbursement

1. Initial Disbursement

a. A written opinion of counsel acceptable to AID that the Grant Agreement has been duly authorized and/or ratified by, and executed on behalf of the Grantee, and that it constitutes a valid and legally binding obligation of the Grantee in accordance with all of its terms.

b. A written statement setting forth the names and titles of persons holding or acting in the Office of the Grantee and of any additional representatives, and representing that the named person or persons have the authority to act as the representatives of the Grantee, together with a specimen signature of each such person certified as to its authenticity.

2. Initial Performance-Based Disbursement for Policy Reform

a. Evidence of performance in meeting the performance indicators for the first performance-based disbursement of the Program.

b. An implementation plan specifying: (1) the responsibilities and interrelationships of the entities involved in the receipt and disbursement of U.S. dollar funds; (2) a schedule of payments proposed to be made by the Grantee using U.S. dollars provided in the tranche release and any interest earned thereon, identifying payees, amounts and due dates of the loans; and (3) the type of documentation to be obtained and maintained by or on behalf of the Grantee evidencing the use of U.S. dollars disbursed from funds provided through the Program.

c. A statement of the name, branch and U.S. Federal Reserve Bank branch number of each bank with which the U.S. dollars to be disbursed will be deposited, with the respective amount of U.S. dollars to be deposited in each special account.

d. An implementation plan specifying: (1) the responsibilities and interrelationships of the entities involved in the receipt and disbursement of funds held in the NRMP Peso Special Account; (2) the budget categories and eligible programs within those budget categories, against which disbursements will be reported for purposes of this Agreement; and (3) a schedule for disbursement of funds from said Account.

e. Written agreement to AID Project Implementation Orders/ Technical Services (PIO/Ts) for technical assistance as described in the Amplified Program Description (Annex I to the Program Grant Agreement).

f. Documentation evidencing that the Grantee has established a separate peso account to which peso deposits shall be made equivalent to the dollars transferred to the Grantee as performance-based disbursements for policy reform, which shall be referred to as the "NRMP Peso Special Account;" and

g. Written evidence of the Grantee's undertaking to take the necessary steps to allow AID to provide program funds to NGOs for debt-for-environment swaps, and the terms and conditions thereof, up to $5,000,000. The amount actually programmed will depend on the availability of funds, mutually-agreed program activities, availability of appropriate debt instruments and the overall monetary program of the Grantee.

3. Each Subsequent Performance-Based Disbursement

a. Written evidence of performance in meeting the performance indicators for the performance-based disbursement as agreed upon with AID.

b. A written agreement on modifications, as appropriate, to the policy implementation matrix which includes the policy objectives and performance benchmarks for the ensuing performance-based disbursement.

c. An implementation plan specifying: (1) the responsibilities and interrelationships of the entities involved in the receipt and disbursement of U.S. dollar funds; (2) a schedule of payments proposed to be made by the Grantee using U.S. dollars provided in the tranche release and any interest earned thereon, identifying payees, amounts and due dates of the loans; and (3) the type of documentation to be obtained and maintained on or behalf of the Grantee evidencing the use of U.S. dollars disbursed from funds provided through the Program.

d. A statement of name, branch, and U.S. Federal Reserve Bank Branch number of each bank with which the U.S. dollars to be disbursed will be deposited, with the respective amount of U.S. dollars to be deposited in each account.

e. An implementation plan specifying: (1) the responsibilities and interrelationships of the entities involved in the receipt and disbursement of funds held in the NRMP Peso Special Account; (2) the budget categories and eligible programs within those budget categories, against which disbursements will be reported for purposes of this Agreement; and (3) a schedule for disbursement of funds from said Account.

f. Written evidence that the payments made pursuant to paragraph (c) above in connection with any prior disbursement of U.S. dollars have been made in accordance with Section 5.2 of the Grant Agreement ("Disbursements from the U.S. Dollar Special Account"); and

g. Written evidence of the Grantee's undertaking to take the necessary steps to allow AID to provide program funds to NGOs for debt-for-environment swaps, and the terms and conditions thereof, up to the total amount made available under the Agreement for the Natural Resources Protection component of the program. The amount actually programmed will depend on the availability of funds, mutually-agreed program activities, availability of appropriate debt instruments and the overall monetary program of the Grantee.

B. Special Covenants

1. U.S. Dollar Special Account

The separate bank account or accounts into which U.S. dollars disbursed pursuant to Sections 4.2(c) and 4.3(d) of the Grant Agreement shall be referred to collectively as the "NRMP Dollar Special Account." Funds so deposited into the NRMP Dollar Special Account shall not be commingled with funds from any other source, provided however that the NRMP Dollar Special Account shall include interest, if any, earned on funds held in said Account. The Grantee shall promptly furnish to AID in form and substance satisfactory to AID: (1) documentation evidencing deposits into said Account; and (2) periodic statements of balances held in said Account, including interest, if any, earned on funds held therein.

2. Disbursements from the U.S. Dollar Special Account

U.S. dollars held in the NRMP Dollar Special Account referred to above shall be disbursed by the Central Bank of the Philippines in accordance with the implementation plan submitted in satisfaction of Sections 4.2(b) and 4.3(c) of the Grant Agreement ("Conditions Precedent to Disbursement") to pay debt service obligations of the Grantee (other than obligations incurred for public corporations) and of the Central Bank of the Philippines to the IMF, the International Bank for Reconstruction and Development, the International Development Association, or the Asian Development Bank, in accordance with the schedules of payments provided pursuant to Sections 4.2(b) and 4.3(c) of the Grant Agreement. Funds held in said Account shall be used solely for the foregoing purpose, or for such other purposes as AID and the GOP may mutually agree upon, until all funds held in said Account from time to time have been disbursed for such purpose.

3. Peso Special Account

Pesos equivalent to the U.S. Dollar Performance-Based Disbursements shall be deposited in the NRMP Peso Special Account within one business day of the transfer of dollars to the Grantee. In determining the total amount of pesos required to be deposited in the NRMP Peso Special Account in connection with each such dollar deposit, dollars shall be converted at the maximum legal rate of exchange prevailing in the Philippines on the day of transfer. Funds so deposited into the NRMP Peso Special Account shall not be commingled with

funds from any other source, provided however, that the NRMP Peso Special Account shall include interest, if any, earned on funds held in said Account. The Grantee shall promptly furnish to AID in form and substance satisfactory to AID: (1) documentation evidencing deposits into said Account; and (2) periodic statements of balances held in said Account, including interest, if any, earned on funds held therein.

4. Disbursements from the Peso Special Account

Pesos held in the NRMP Peso Special Account referred to in Section 5.3 of the Grant Agreement ("Peso Special Account") shall be transferred to the General Fund in accordance with the implementation plan submitted in satisfaction of Sections 4.2(d) and 4.3(e) ("Conditions Precedent to Disbursement") to support the budget of the Department of Environment and Natural Resources, or other activities in support of the Program. An amount which is at least 125 percent of the amount transferred from the NRMP Peso Special Account shall be disbursed by the Grantee in the budget categories and eligible programs agreed upon pursuant to Sections 4.2(d) and 4.3(e) of the Grant Agreement.

5. Budget Increases for the Department of Environment and Natural Resources

Budget increases for the Department of Environment and Natural Resources, agreed upon as performance indicators pursuant to the Grant Agreement, shall be in addition to the peso funds generated by performance-based disbursements under the Agreement.

6. Review of Progress in Program

Reviews of progress of policy reforms to be implemented by the Grantee, as set forth in the Program Description annexed to the Grant Agreement, shall be conducted in a timely fashion twice each year. The Grantee agrees to cooperate with the monitoring contractor in carrying out the analytical work for this review.

7. Program Evaluation

A mid-term and final evaluation shall be conducted as part of the Program. Except as AID and the GOP may otherwise agree in writing, the evaluations will include the elements of the evaluation component as set forth in the Program Description annexed to the Grant Agreement.

GLOSSARY OF TERMS

Agroforestry	Land management that combines agricultural crops with tree crops and forest plants and/or animals simultaneously or sequentially and applies management practices that are compatible with the cultural patterns of the local population.
Agro-Industrial Forest Estates	Industrial forest plantations devoted to high-value perennials.
Allowable Cut	The volume of wood and other forest products that is authorized to be cut regularly from a forest.
Almaciga Resin	Resin from Agathis alba, better known as Manila copal.
Biological Diversity	Diversity in nature conservation focuses on the objectives of maintaining a desired range of indigenous plant and animal species and habitats and their genetic resources.
Commercial Forest	Forest of commercial tree species in which the volume of trees 15 cm. and over in diameter at breast height and with merchantable height of at least 5 meters is 40 cubic meters or more per hectare.
Community Forestry Stewardship Agreement	Leasehold of tenanted public forest lands to communities or community organizations.
Cultural Minorities	Tribal minorities or aboriginal peoples.
Decentralization	Devolution of political/administrative powers to lower political/administrative structures.
Dipterocarp Forest	Forest stand dominated by trees of dipterocarp species such as red and white lauan, tanguile, tiaong, almon, bagtikan, and mayapis of the Philippine mahogany group, apitong and yakal.
Environmental Fee	A "penalty fee" to replenish lost environmental benefits from resource exploitation (e.g., environmental fee for logging as mandated in DENR A.O. 62 of June 1990).
Firewood or Fuelwood	Wood used as fuel for household cooking and industrial purposes (boiler fuel).
Forest Charges	Royalty or flat tax.

Forest Concession	Refers to any tract of forest land under license agreement, lease or permit.
Forest Estate	Implied to be the "public forest estate" or the public domain devoted to forest uses.
Forest Growth	All trees and other plants on forest lands.
Forest Reservation	Refers to forest lands which have been reserved by the President of the Philippines for any specific purpose or purposes (PD 1559).
Industrial Forest Plantation	Commercial forest or tree plantation in leased forest areas (e.g., though the Industrial Tree Plantations program of DENR).
Industrial Tree Plantation	Refers to any forest land extensively planted to tree crops primarily to supply the raw material requirements of existing or proposed wood processing and related industries (PD 1559).
Kaingin	A portion of the forest lands, whether occupied or not, that is subjected to shifting and/or permanent slash-and-burn cultivation having little or no provision to prevent soil erosion.
Laissez faire	In economics, refers to free trade; open market; competitive market.
Lease	A privilege granted by the state to a legal person to occupy and possess in consideration of a specified rental any forest land of the public domain in order to undertake any authorized activity therein.
License	A privilege granted by the state to a legal person to utilize forest resources within forest land, without any right of occupation and possession over the same, to the exclusion of others, to establish and operate a wood processing plant or conduct any activity involving the utilization of any forest resources.
License Agreement	A privilege granted by the state to a legal person to utilize forest resources within any forest land with the right of possession and occupation thereof to the exclusion of others, except the government, but with the corresponding obligation to develop, protect, and rehabilitate the same in accordance with the terms and conditions set forth in said agreement.
Logs	Felled trees bucked into convenient length of at least 1.5 meters and at least 15 cm. in diameter.

Lumber	Solid wood not further manufactured other than sawing, resawing, and passing lengthwise through a stand and planing machine cross-cut to length.
Mangrove Forest	The type of forest occurring on tidal flats along the sea coast extending along the streams where the water is brackish, and composed mainly of bakawan, pototan, langarai, api-api, nipa palm and the like.
Mossy forest or Mid-Mountain Forest	Forest stand found principally on high and very rough mountainous regions, characterized by steep ridges rising to peaks, with sides cut into smaller ridges. The trees are mostly dwarf with stems and branches usually covered by moss.
National Park	Refers to a forest land reservation, essentially of a primitive or wilderness character, which has been withdrawn from settlement or occupancy and set aside exclusively to preserve the scenery, natural and historic objects and wild animals or plants therein, and to provide enjoyment of these features in such a manner as will leave them unimpaired for future generations.
Non-Production Forest (Protected Forest)	Shall be incorporated into a national protected area system for ecological and generic reasons. It consists of forests or slopes above 50 percent; forests above an elevation limit of 1,000 meters in Luzon and Visayas, and 1,200 meters in Mindanao; dipterocarp ("old-growth") forests of more than 100 hectares in size, Mindoro pine forest in the province of Mindoro Occidental, and the mossy forests, sub-marginal forests and the mangroves. (GOPA)
Non-Timber Forest Products	Includes all forest products except timber.
Old Growth Dipterocarp Forest	Tropical rain forest dominated by Dipterocarpaceae, without traces of commercial logging.
Plantation	An area, established by the private sector, in which trees and/or other forest species are planted and under cultivation. Formal institutional arrangements for such plantations on public lands in the Philippines include TLA, ITP, ITF, AFF, PD 1153 and others.
Poles and Piles	Logs for use as electric posts, piers, pilings, railroad ties, sleepers and the like.
Primary Forest	Also called "old growth forest" or "virgin forest."

Production Forest	Includes the dipterocarp forests, natural Benguet pine forests in Regions 1 and 2, natural Mindoro pine forests in Region 3, and timber plantations of the private sector (TLA, ITP).
Pulpwood	Any wood commercially used for the manufacture of any type of pulp.
Rattan	Refers to a group of cane-like climbing palm species such as the palasan and limuran belonging to the family Palmae generally found in moist tropical rain forests.
Reforestation	The act of planting trees on bare or open land which used to be covered with forest growth.
Residual Dipterocarp Forest	Tropical rain forest dominated by Dipterocarpaceae with traces of commercial logging.
Residual Inventory	Activity performed after logging to assess the adequacy of uninjured residual trees.
Roundwood	Wood in its natural state as felled or otherwise harvested, with or without bark, round, split roughly squared or other forms (e.g., roots, stumps). It comprises all wood obtained from the forest such as sawlogs/veneer logs, pulpwood, fuelwood, and other industrial roundwood.
Sawtimber	Trees having a diameter at breast height of 35 cm. or larger.
Selective Logging	The systematic removal of the mature, overmature and defective trees in such a manner as to leave adequate number and volume of healthy residual trees of the desired species necessary to assure a future crop of timber and forest cover for the protection and conservation of soil, water and wildlife.
Shifting Agriculture	Shifting cultivation, or the practice of "shifting" to other upland areas for agricultural production as soon as soil fertility is depleted.
Silviculture	The science and practice of the development and care of forests.
Sustainable Development	As defined by the World Commission on Environment and Development, "meeting the needs and aspirations of the people without compromising the ability of future generations to meet theirs."

Sustainable Forest Management	System of forest management that considers the capability of forests to meet people's needs in the present and in the future.
Sustained (Forest) Management	System of (forest) management that attempts to generate a perpetual series of periodic benefits, e.g., timber and water.
Timber	The major product of the forest, the standing tree.
Timber or Forest Concessionaires	Holders of a license to cut timber or operate a forest-based enterprise (e.g., TLA, Agro-forestry License Agreement).
Timber Stand Improvement	A continuing activity designed to provide optimum favorable conditions for the residual trees to develop.
Tranche	Disbursement.
Tree Marking	The identification and marking of trees to be cut and those to be left as residuals that will form the future crop of timber.
Upland	Highland; ground elevation above the lowlands along rivers or between hills.
Veneer	Thin sheets of wood of uniform thickness, rotary cut, sliced or sawn for use in the manufacture of plywood.
Woodwaste	By-products of logging, sawmilling and manufacturing operations in the form of slabs, trimmings, log cover and tree tops.

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ANNEX A

GOP REQUEST FOR ASSISTANCE

ANNEX A

REPUBLIC OF THE PHILIPPINES
NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY
NEDA sa Pasig, Amber Avenue, Pasig, Metro Manila

Cable Address: NEDAPHIL
P.O. Box 410, Greenhills
Tel. 673-50-31 to 2

RECEIVED AUG 31 1990 USAID RECEPTION DESK

Mr. Richard A. Johnson
Acting Mission Director
USAID Manila
Ramon Magsaysay Center Bldg.
Roxas Blvd., Manila

DIV	ACT	INF
OD		✓
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8-10-90		

Dear Acting Director Johnson:

We wish to convey the request of the Government of the Philippines (GOP) for grant assistance in the amount of $125 million from the Multilateral Assistance Initiative (MAI) for the Philippines to finance the proposed Natural Resources Management Program (NRMP). The NRMP is envisioned to support GOP efforts to initiate sustainable natural resources management and to help increase the economic efficiency in the forest products and wood processing industries.

The GOP is coordinating with USAID on the formulation of the Policy Implementation Matrix (PIM) required for the performance-based disbursementss under the Program. Final negotiation on the proposed Program will be undertaken with USAID once appropriate GOP clearances on the proposed PIM and detailed program design are secured.

In view of the importance of promoting sustainable natural resources management to the attainment of national economic growth, we will highly appreciate USAID's favorable consideration of this request for assistance.

Thank you and best regards.

Very truly yours,

ACTION TAKEN
MAN ✓ Other will be attached to PAAD.
Type ____ No. ____
Date 8/2/90 Initials ____

CAYETANO W. PADERANGA, JR.
Director-General

cc: Secretary Fulgencio Factoran, DENR
Undersecretary Celso Roque, DENR

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DEPARTMENT OF
ENVIRONMENT AND
NATURAL RESOURCES

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PIS - NEDA
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BY:
DATE: 7/16/90
TIME: 9:30 am
REF NO. 62-3

July 11, 1990

Honorable Cayetano Paderanga
Director-General
National Economic and Development
Authority
Amber Avenue, Pasig
Metro Manila

ATTENTION : The Director
Public Investment Staff

Dear Director-General Paderanga:

This is to request NEDA's endorsement of the attached Natural Resources Management Program for grant assistance from the United States Agency for International Development (USAID). The program basically aims to improve economic efficiency in forest products and wood processing industries as well as to promote the sustainable management of tropical rain forest. Total cost over a five-year period is estimated at US$125 million, with implementation targetted to commence during the last quarter of CY 1990.

We would greatly appreciate your favorable action and support concerning the herein request.

Thank you and best regards.

Very truly yours,

FULGENCIO S. FACTORAN, JR.
Secretary

185

ANNEX B

PAIP APPROVAL, PAAD GUIDANCE AND
REDELEGATION OF AUTHORITY CABLES

ANNEX B

ACTION: AID-6 INFO: AMB DCM AA ECON/10 D

VZCZCML0157
PP RUEHML
DE RUEHC #9978/01 1040612
ZNR UUUUU ZZH
P 140610Z APR 90
FM SECSTATE WASHDC
TO AMEMBASSY MANILA PRIORITY 7631
BT
UNCLAS SECTION 01 OF 02 STATE 119978

15-APR-90 TOR: 06:19
CN: 32372
CHRG: AID
DIST: AID
ADD: D

AIDAC

E.O. 12356: N/A
TAGS:
SUBJECT: NATURAL RESOURCES MANAGEMENT PROJECT

PAIP approval

1. AA/ANE HEREBY APPROVES MISSION PROPOSAL TO DEVELOP A PROGRAM IN NATURAL RESOURCES MANAGEMENT ALONG THE LINES DESCRIBED IN PAIP RECENTLY SUBMITTED TO WASHINGTON. AS WE AGREED PREVIOUSLY, WE SEE A CRUCIAL ROLE FOR AID ASSISTANCE TO NATURAL RESOURCES CONCERNS IN THE PHILIPPINES, AND WE COMPLIMENT THE MISSION ON AN INNOVATIVE PACKAGE OF INTERVENTIONS TO DEAL WITH AN IMPORTANT PROBLEM. WE DO HAVE A FEW COMMENTS AND QUESTIONS ABOUT THE DIRECTION OF THE PROGRAM, AND WE WILL APPROVE THE PAAD IN AID/W.

2. WE RECOGNIZE THAT THE MISSION HAS BEEN FULLY RESPONSIVE TO EARLIER GUIDANCE TO PRODUCE A SOUND NATURAL RESOURCES MANAGEMENT PROGRAM, AND THAT SUBSTANTIAL MOVEMENT HAS BEEN ACHIEVED TOWARD THE BUREAU'S EMERGING ENVIRONMENT/NATURAL RESOURCES STRATEGY. GIVEN THE SIZE AND NATURE OF THIS PROPOSED PROGRAM, THE BUREAU ENCOURAGES THE MISSION TO EXPAND BEYOND THE NATURAL RESOURCES MANAGEMENT AREA TO INCLUDE AREAS OF GREATER ECONOMIC AND DEVELOPMENT IMPORTANCE AS

ELL (I.E., AREAS CRITICAL TO ECONOMIC GROWTH WHICH THE PHILIPPINES IS LIKELY TO PURSUE OVER THE MEDIUM TERM) AND WITHIN THESE AREAS IDENTIFY THE MOST IMPORTANT ENVIRONMENTAL/NATURAL RESOURCES ISSUES THAT WILL LIKELY ARISE. THIS PROJECT CAN BEGIN TO BUILD A BRIDGE BETWEEN THE NATURAL RESOURCES MANAGEMENT PROGRAM, THE EVOLVING BUREAU STRATEGY, AND A SECOND ENVIRONMENTAL/NATURAL RESOURCES PROJECT WHICH CAN ROUND-OUT MISSION PROGRAM.

3. APPRECIATE IF MISSION WOULD FOCUS ON IDENTIFYING THOSE POINTS WHERE THE CORE GROWTH PATH OF THE HOST COUNTRY INTERSECTS WITH AN IMPORTANT ENVIRONMENTAL OR NATURAL RESOURCE CONSTRAINT. TO DETERMINE SUCH POINTS, ANALYSIS MUST FIRST DETERMINE WHAT ECONOMIC ACTIVITIES AND/OR PROBLEMS ARE GOING TO BE THE MOST SIGNIFICANT FOR FUTURE GROWTH AND THEN LOOK AT ENVIRONMENTAL/NATURAL RESOURCES ISSUES IN THOSE AREAS.

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ORAD	✓	
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RECEIVED 15 APR 1990 ORAD

4. MISSION'S PAIP ITSELF DESCRIBES FORESTRY AS A DECLINING PORTION OF THE NATIONAL ECONOMY. THIS IS NOT ONLY BECAUSE FORESTRY RESOURCES ARE BEING DEPLETED, BUT ALSO BECAUSE OTHER ASPECTS OF THE ECONOMY, NOTABLY INDUSTRY AND URBANIZATION, ARE ON THE RISE. IN ADDITION TO THE PLANNED IMPORTANT ACTIVITIES DIRECTED TOWARD FORESTRY, THE PAAD SHOULD PLAN ON A BRIDGE ACTIVITY THAT USES AN ANALYTIC APPROACH TO IDENTIFY A DOWNSTREAM ENVIRONMENTAL AGENDA FOR AID FINANCING AS WELL. EXAMPLES MIGHT INCLUDE WATER POLLUTION, TOXIC WASTE DISPOSAL, OR OTHERS THAT WILL BECOME MORE ACUTE PROBLEMS AS THE PHILIPPINES INDUSTRIALIZES.

5. PPC HAS OFFERED TO ASSIST WITH THE ECONOMIC ANALYSIS OF THE PAAD THROUGH ONE OF ITS CENTRAL PROJECTS; THE BUREAU OFFERS TDY ASSISTANCE OF AN ENVIRONMENTALIST AND AN ECONOMIST TO ASSIST THE MISSION TO DEVELOP THE BRIDGE ACTIVITY. BUREAU TDY TEAM WILL MAKE ITS BEST EFFORT TO ASSIST THE MISSION TO DEVELOP A BROADER ACTIVITY, CONSISTENT WITH THE BUREAU'S STRATEGY, TO BE FUNDED THIS YEAR. IF THIS IS NOT POSSIBLE, THE TDY TEAM WILL ASSIST YOU WITH THE PREPARATORY WORK TO ENSURE THAT A SOUND ENVIRONMENTAL/NATURAL RESOURCES FOLLOW-ON PROJECT IS DEVELOPED FOR FUTURE FUNDING.

6. ECONOMIC JUSTIFICATION: ALTHOUGH INTUITIVELY THE POLICY REFORMS IN THE FORESTRY SECTOR MIGHT WARRANT THE AMOUNT OF MONEY PROPOSED, THE PAIP DOES NOT CONTAIN A GOOD ANALYSIS OF COSTS AND BENEFITS. THIS IS NOT EXPECTED IN PIDS AND PAIPS, OF COURSE, BUT GOOD, SOLID

FINANCIAL AND ECONOMIC ANALYSIS SHOULD BE CONTAINED IN THE PAAD: IT CAN AND SHOULD LOOK AT MORE THAN FORESTRY AND WOOD PRODUCTS INDUSTRIES. BOTH THE FINANCIAL AND BROADER ECONOMIC RATES OF RETURN SHOULD BE DEVELOPED. AT THE SAME TIME THE MISSION SHOULD AVOID HEROIC ASSUMPTIONS ABOUT TURN AROUNDS IN THE SECTORAL COMPOSITION OF THE PHILIPPINES ECONOMY.

7. REGARDING THE NATURAL RESOURCES PAIP, THE BUREAU'S CONCERNS ABOUT THE POLICY FUND ARE TWOFOLD. FIRST, THE PROCESS BY WHICH THE MISSION ARRIVES AT DOLS 75 MILLION, OR SOME OTHER FIGURE, IN SUPPORT OF POLICY REFORM NEEDS TO BE CAREFULLY THOUGHT THROUGH AND DESCRIBED IN THE PAAD IN ORDER TO JUSTIFY THE AMOUNT OF MONEY PROPOSED. SECONDLY, MANY OF ANE'S CLIENT COUNTRIES, INCLUDING PHILIPPINES, SEEM SUCCESSFUL AT PUTTING THE CORRECT POLICY WORDS INTO PLACE, AND LESS SUCCESSFUL AT, OR INTERESTED IN, TRANSLATING THOSE WORDS INTO REAL POLICY CHANGES HAVING BENEFICIAL IMPACT UPON THE ECONOMY AND SOCIETY. MOREOVER, GOOD POLICY CHANGES PUT INTO EFFECT CAN BE NEGATED BY CORRUPTION, E.G. IN IMPROPER SALE OF BT

TIMBER CUTTING RIGHTS. WE ARE ACCORDINGLY VERY RELUCTANT TO RELEASE SIGNIFICANT SUMS OF MONEY WITHOUT CLEAR AND INESCAPABLE LINKAGE TO REAL POLICY REFORM, EFFECTIVE IMPLEMENTATION WITH MINIMAL LEAKAGE, AND TANGIBLE ECONOMIC AND ENVIRONMENTAL BENEFITS.

8. BECAUSE OF THESE CONCERNS, THE HIGH DEGREE OF CONGRESSIONAL AND OTHER INTEREST IN THIS PROJECT, AND ITS FIRST-OF-A-KIND NATURE, WE WILL BRING THE PAAD BACK TO WASHINGTON FOR APPROVAL. BECAUSE THE BUREAU'S OWN POLICY IS STILL EVOLVING, AND THE AGENCY AS A WHOLE HAS YET TO DEVELOP PROVEN MECHANISMS FOR LINKING SECTOR ASSISTANCE TO REAL POLICY REFORM, WE ARE ABLE TO PROVIDE ONLY THIS SKETCHY GUIDANCE AT THE PAIP STAGE AND, THUS, MUST ASK FOR THE PAAD. EAGLEBURGER
BT
#9978

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V UNCLASSIFIED STATE 288613

ACTION: AID-6 INFO: AMB DCM AA ECON RA/11

VZCZCML0936
PP RUEHML
DE RUEHC #8613 2392253 27-AUG-90 TOR: 22:55
ZNR UUUUU ZZH CHRG: AID
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FM SECSTATE WASHDC
TO AMEMBASSY MANILA PRIORITY 3137
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AIDAC FOR ORAD, PRUSSNER/RUSHING

E.O. 12356: N/A
TAGS:
SUBJECT: FOLLOW-UP ON NRMP IMPLEMENTATION

REFS. A) STATE 273917, B) RUSHING/KUX TELCON 8-23-90

IN REFERENCE TO DISCUSSIONS WITH ORAD DURING KUX TDY ON NRMP, SECTION 119 OF THE FAA, AND ADDITIONAL ASSISTANCE ON RESOURCE PROTECTION COMPONENT, ANE/PD HAS THE FOLLOWING INFORMATION.

1. WORLD WILDLIFE FUND WILL LOOK INTO PROVIDING SHORT-TERM TECHNICAL ASSISTANCE WITHIN THE NEXT FEW MONTHS FOR ADDITIONAL HELP ON SETTING UP A FOUNDATION AND INTERFACE WITH PHILIPPINE NGOS. WHILE CENTRAL FUNDS ARE AVAILABLE TO SUPPORT THIS, THEY WISH TO CHECK ON PERCEPTION OF CONFLICT OF INTEREST. ANOTHER OPTION WOULD BE TO USE WORLD RESOURCES INSTITUTE. WE WILL FAX OR CABLE FURTHER INFORMATION ASAP.

2. REGARDING LANGUAGE IN REF. A, PARA. 3A ON GUIDANCE REGARDING SANCTIONS AND LAW ENFORCEMENT, WE HAVE RE-EXAMINED THIS ISSUE AND FAA SECTION 119 LANGUAGE IN CONSULTATION WITH GC/ANE, GC/CP AND GC/LP AND WANT TO

ADVISE THE MISSION THAT A.I.D. IS AUTHORIZED TO SUPPORT PROTECTION OF ANY FOREST LANDS THAT INVOLVE CONSERVATION OF PLANT AND ANIMAL SPECIES INCLUDING PASSAGE AND ENFORCEMENT OF LAWS. PLEASE LET US KNOW IF ANY FURTHER INFORMATION IS NEEDED. EAGLEBURGER
BT
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NAN ✓ Other
Type No.
Date 8/28 Initials

ACTION: AID-6 INFO: AMB DCM AA ECON RA/11

VZCZCMLD968
PP RUEHML
DE RUEHC #3917/01 2282334 16-AUG-90 TOR: 23:41
ZNR UUUUU ZZH CHRG: AID
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UNCLAS SECTION 01 OF 02 STATE 273917

ACTION TAKEN
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USAID/C&R

E.O. 12356: N/A
TAGS:
SUBJECT: NATURAL RESOURCES MANAGEMENT PROGRAM (NRMP) (492-0444) -- APPROVAL AND REDELEGATION OF AUTHORITY

1. SUMMARY AND DECISION: AA/ANE APPROVES THE NRMP FOR AUTHORIZATION OF 125 MILLION DOLLARS AND HEREBY DELEGATES TO THE DIRECTOR, USAID/PHILIPPINES AUTHORITY TO APPROVE THE PROGRAM ASSISTANCE APPROVAL DOCUMENT (PAAD) FOR THAT AMOUNT. ALTHOUGH DELEGATION IS GRANTED FOR FULL LOP, BUREAU STILL BELIEVES THE PROPOSED POLICY AGENDA NEEDS FURTHER REFINEMENT AND FOCUS, AND WILL NEED TO SEE ANNUAL POLICY TRANCHES AS THEY ARE DEVELOPED. ANNUAL DISBURSEMENT AGAINST THE POLICY AGENDA WILL REQUIRE BUREAU APPROVAL BASED ON MISSION'S ANALYSIS OF PROGRESS OVER THE PRECEDING PERIOD.

AN EVALUATION AFTER TWO YEARS SHOULD APPRAISE: RESULTS TO DATE; WHETHER CHANGES IN THE POLICY AGENDA ARE NEEDED; AND HOW A DOWNSTREAM ENVIRONMENTAL AGENDA SHOULD BE SUPPORTED. ISSUES AND GUIDANCE FOLLOW BELOW. END SUMMARY.

DIV	ACT	INF
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2. ISSUES: THE PROJECT REVIEW COMMITTEE (PRC) REVIEW

AUGUST 6 FOUND THE DRAFT PAAD SUBMITTED BY THE MISSION AN INTERESTING APPROACH TO ADDRESSING IMPORTANT RESOURCE MANAGEMENT PROBLEMS AFFECTING SUSTAINABLE GROWTH IN THE PHILIPPINES. THE MISSION IS TO BE COMMENDED FOR A WELL-DESIGNED PROGRAM, A PROGRAM THAT TAKES INTO ACCOUNT THE DRAFT ANE/EUR STRATEGY EMPHASES AND BUREAU PRIORITIES.

- A. POLICY AGENDA: MISSION AND BUREAU NEED SOME EXPERIENCE WITH THE PROGRAM TO ESTABLISH THAT ALL THE NECESSARY PARTS OF THE POLICY AGENDA CAN COME TOGETHER TO ACHIEVE THE RESULTS PREDICTED IN THE PAAD. WE ARE IMPRESSED BY THE PARTS OF POLICY AGENDA EMPHASIZING ECONOMIC PRICING OF HARVESTING RIGHTS, SECURE TENURE FOR COMMUNITIES MANAGING THEIR RESOURCES, REDUCING TRADE AND INVESTMENT RESTRICTIONS, AND PRIVATIZATION. HOWEVER, KEY ITEM OF REFORM -- OWNERSHIP AND THE LONG-TERM CONTROL OF SUBSTANTIAL AREAS OF FOREST LAND -- IS

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MISSING. PRICING ALONE WILL NOT DEAL WITH ILLEGAL LOGGING OR CLEARCUTTING; ONLY IF THE LAND IS IN THE HANDS OF SELF-INTERESTED ENTITIES IS THERE HOPE OF INTRODUCING EFFECTIVE LONG-TERM FORESTRY MANAGEMENT.

WE ARE CONCERNED ABOUT THE LENGTH AND COMPLEXITY OF THE PROPOSED AGENDA. FOCUSING ON THE KEY ECONOMIC ELEMENTS OF OWNERSHIP, PRICING, TRADE REGULATIONS AND PRIVATIZATION WOULD SHORTEN THE AGENDA AND MAKE IT MORE IMPLEMENTABLE. (ONE SIMPLIFICATION SHOULD BE THE ELIMINATION OF ENFORCEMENT AGENDA ITEMS -- SEE PARA 3 B BELOW.)

AFTER THE STUDIES OUTLINED IN THE PAAD, THERE SHOULD BE A MUCH CLEARER PICTURE OF THE EFFECTIVENESS OF POLICY MEASURES IN ACHIEVING THE ECONOMIC AND ENVIRONMENTAL RESULTS WE SEEK. WE DO EXPECT TO SEE THE ISSUE OF OWNERSHIP ADDRESSED HEAD-ON BEFORE NEXT YEAR'S POLICY TRANCHE IS RELEASED.

B. DOWNSTREAM AGENDA: WHILE WE WANT TO MOVE AHEAD PROMPTLY WITH THE PRESENT REFORM AGENDA, WE ALSO WANT TIME FOR THE BRIDGE ACTIVITY TO IDENTIFY AND CLEARLY DEFINE A DOWNSTREAM ENVIRONMENTAL AGENDA IN SUCH AREAS AS WATER POLLUTION, TOXIC WASTE DISPOSAL OR OTHERS THAT MAY ARISE FROM INDUSTRIALIZATION. WE UNDERSTAND A PROJECT ALONG THIS LINE IS TO BE DESIGNED NEXT YEAR. BY THE TIME OF THE EVALUATION, ADDITIONAL ANALYSES,

INCLUDING THOSE UNDER THE BRIDGING ACTIVITIES, SHOULD HAVE IDENTIFIED MAJOR INDUSTRIAL/URBAN ENVIRONMENTAL CONSTRAINTS LEADING TO A CLEAR PICTURE OF WHERE MISSION RESOURCES SHOULD BE ALLOCATED TO BEST ACHIEVE THE MISSION'S BROAD-BASED SUSTAINABLE ECONOMIC GROWTH GOAL.

C. NGO COMPONENT: ALTHOUGH IT IS STILL NOT SETTLED WHETHER A FOUNDATION ENDOWED BY THE PROCEEDS OF DEBT-FOR-NATURE SWAPS WILL BE POSSIBLE, WE ARE STRONGLY IN FAVOR OF THE MAXIMUM USE OF PHILIPPINE AND U.S. NGO'S IN PROTECTIVE ACTIVITIES. ALSO, WE BELIEVE THE SWAP-ENDOWMENT MECHANISM WOULD GREATLY ENHANCE ON-THE-GROUND PROTECTIVE EFFECTIVENESS WHILE ATTRACTING ADDITIONAL RESOURCES FOR DEBT REDUCTION.

ON THE BASIS OF CONVERSATIONS AT THE UNDERSECRETARY LEVEL WITH THE DEPARTMENT OF FINANCE DURING THE TDY OF JOHN TENNANT OF ANE/EA, WE BELIEVE THERE IS SUPPORT WITHIN THE GOP FOR DEBT SWAPS TO REDUCE THE DEBT BURDEN. WE HOPE THE MISSION WILL CONTINUE TO PURSUE POSSIBILITIES FOR THE DEBT SWAP-ENDOWMENT ROUTE.

3. GUIDANCE:

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A. SANCTIONS AGAINST ILLEGAL LOGGING: THE "FOREST PROTECTION" SECTION OF THE POLICY AGENDA (PAGE 35 OF THE DRAFT PAAD) INCLUDES PERFORMANCE INDICATORS BASED ON ARRESTS, CONVICTIONS AND SEIZURES. THESE REPRESENT AID SUPPORT FOR LAW ENFORCEMENT. AS NOTED IN THE DRAFT PAAD (PAGE 49B), THESE REFERENCES MUST BE REMOVED.

AS DISCUSSED WITH MOLLY KUX IN TELECOM WITH ANE/PD/EA, WE HAVE EXPLORED THE EFFECTS OF THE FY 1990 APPROPRIATION ACT AMENDMENT OF FAA SECTION 119 (B) TO ADD A "NOTWITHSTANDING" SECTION 660 (THE PROHIBITION ON SUPPORTING POLICE) PROVISION. WE READ SECTION 119 (B) AS LIMITED TO SPECIFIED BIODIVERSITY PROTECTION (I.E., APPLICABLE TO NATURE RESERVES RATHER THAN THE BROAD PUBLIC FOREST LANDS OF THE PHILIPPINES). HENCE, WE DO NOT INTERPRET THIS AMENDMENT AS PERMITTING SUPPORT FOR THE BROADER LOGGING LAW ENFORCEMENT CONTEMPLATED IN THE POLICY AGENDA. IN CASE OF ANY DOUBT, WE WANT TO AVOID ANY APPEARANCE OF AID SUPPORT FOR LAW ENFORCEMENT NOT EXPLICITLY APPROVED BY THE CONGRESS.

FINALLY, AND MORE IMPORTANTLY, WE DO NOT BELIEVE THAT LASTING SOLUTIONS LIE IN LAW ENFORCEMENT. THE OTHER

POLICY ELEMENTS IN THE PAAD THAT AIM AT INCENTIVES FOR THE PEOPLE WITH ACTUAL AS DISTINCT FROM LEGAL ACCESS TO THE FOREST RESOURCES TO USE THEM MORE WISELY APPEAR TO BE THE MOST EFFECTIVE BASIS WE SEE FOR LASTING IMPROVEMENTS IN RESOURCE MANAGEMENT PRACTICES. AS STATED EARLIER, THIS BOILS DOWN TO OWNERSHIP ACCOMPANIED BY OTHER KEY ECONOMIC POLICIES THAT ENCOURAGE SUSTAINABLE RESOURCE MANAGEMENT..

- B. POLICY REFORM CONCENTRATION: APART FROM ELIMINATION OF THE ENFORCEMENT ITEMS, THE OVERALL AGENDA SHOULD BE CONCENTRATED ON AS FEW FIRM ACHIEVEMENTS AS ARE NECESSARY TO ASSURE PROGRESS IN THESE KEY AREAS: TRANSFER OF OWNERSHIP, PRICING HARVESTING RIGHTS AT ECONOMIC LEVELS, ENCOURAGING SECURE TENURE ON GOVERNMENT LANDS FOR COMMUNITY GROUPS AND PRIVATE OPERATORS WHO WILL PROTECT THE RESOURCES AND UTILIZE THEM SUSTAINABLY, REMOVAL OF TRADE AND INVESTMENT RESTRICTIONS ON THE SECTOR, AND PRIVATIZATION OF PICOP AND OTHER GOP HOLDINGS.

- C. INCENTIVES FOR REFORESTATION: WHILE PROPER PRICING, TENURE AND EFFICIENCY IN THE WOOD PROCESSING INDUSTRY ARE IMPORTANT REFORMS, THE MISSION ALSO NEEDS TO CONSIDER THE SPECIFIC STRUCTURE OF INCENTIVES FOR PRIVATE COMPANIES TO INVEST IN LONG-ROTATION REFORESTATION AS WELL AS THE IMPACT OF TREE FARMING AND SHORT-ROTATION FORESTRY ON REDUCING PRESSURE ON EXISTING FORESTS. APPROACHES TO ADDRESSING THIS ISSUE MIGHT BECOME FEASIBLE AS EXPERIENCE IS GAINED WITH THE INITIAL POLICY AGENDA AND INCORPORATED INTO NRMP AS ITS AGENDA EVOLVES. EAGLEBURGER
BT
#3917

ANNEX C

STATUTORY CHECKLIST

3(A)2 - NONPROJECT ASSISTANCE CHECKLIST

The criteria listed in Part A are applicable generally to FAA funds, and should be used irrespective of the program's funding source. In Part B a distinction is made between the criteria applicable to Economic Support Fund assistance and the criteria applicable to Development Assistance. Selection of the criteria will depend on the funding source for the program.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE? HAS STANDARD ITEM CHECKLIST BEEN REVIEWED?

Yes. The Country Checklist was included as Annex B to the Family Planning Assistance Project (492-0396), which was authorized on Feb. 16, 1990.
Yes.

A. GENERAL CRITERIA FOR NONPROJECT ASSISTANCE

1. FY 1990 Appropriations Act Sec. 523; FAA Sec. 634A. Describe how authorization and appropriations committees of Senate and House have been or will be notified concerning the project.

1. A Congressional Notification was submitted to the Congress on July 23, 1990; the waiting period expired without objection on August 7, 1990.

2. FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?

2. No further legislative action is required.

3. FAA Sec. 209. Is assistance more efficiently and effectively provided through regional or multilateral organizations? If so, why is assistance not so provided? Information and conclusions on whether assistance will encourage developing countries to cooperate in regional development programs.

3. No. The program, which will provide grant funds to the GOP primarily in exchange for policy reforms in natural resources management, is bilateral in nature. However, this program forms part of a larger comprehensive natural resources effort by the GOP, which has the participation of a number of international donors.

4. FAA Sec. 601(a). Information and conclusions on whether assistance will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture, and commerce; and (f) strengthen free labor unions.

4. (a) Yes, through the reduction of import/export trade barriers; (b) Yes, through the implementation of policy reforms that promote trade liberalization and the divestiture of GOP parastatals. (c) No; (d) Ye through the implementation of policy reforms that promote greater entry/exit of private sector firms; (e Yes, through promoting greater processing efficiency in the forest products industry; and (f) No.

5. FAA Sec. 601(b). Information and conclusions on how assistance will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).

5. Yes, through facilitatin greater interaction and networking between the Philippine private sector and the U.S. private sector in the forest products industries.

6. FAA Sec. 121(d). If assistance is being furnished under the Sahel Development Program, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of A.I.D. funds?

6. N/A.

B. FUNDING CRITERIA FOR NONPROJECT ASSISTANCE

1. Nonproject Criteria for Economic Support Fund

1. N/A.

a. FAA Sec. 531(a). Will this assistance promote economic and political stability? To the maximum extent feasible, is this assistance consistent with the policy directions, purposes, and programs of Part I of the FAA?

b. FAA Sec. 531(e). Will assistance under this chapter be used for military or paramilitary activities?

c. FAA Sec. 531(d). Will ESF funds made available for commodity import programs or other program assistance be used to generate local currencies? If so, will at least 50 percent of such local currencies be available to support activities consistent with the objectives of FAA sections 103 through 106?

d. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made?

e. FY 1990 Appropriations Act, Title II, under heading "Economic Support Fund," and Sec. 592. If assistance is in the form of a cash transfer: (a) Are all such cash payments to be maintained by the country in a separate account and not to be commingled with any other funds? (b) Will all local currencies that may be generated with funds provided as a cash transfer to such a country also be deposited in a special account, and has A.I.D. entered into an agreement with that government setting forth the amount of the local currencies to be generated, the terms and conditions under which they are to be used, and the responsibilities of A.I.D. and that government to monitor and account for deposits and disbursements? (c) Will all such local currencies also be used in accordance with FAA Section 609, which requires such local currencies to be made available to the U.S. government as the U.S. determines necessary for the requirements of the U.S. Government, and which requires the remainder to be used for programs agreed to by the U.S. Government to carry out the purposes for which new funds authorized by the FAA would themselves be available? (d) Has Congress received prior notification providing in detail how the funds will be used, including the U.S. interests that will be served by the assistance, and, as appropriate, the economic policy reforms that will be promoted by the cash transfer assistance?

2. Nonproject Criteria for Development Assistance — 2. N/A.

a. FAA Secs. 102(a), 111, 113, 281(a). Extent to which activity will: (1) effectively involve the poor in development, by expanding access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (2) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (3) support the self-help efforts of developing countries; (4) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (5) utilize and encourage regional cooperation by developing countries?

b. FAA Secs. 103, 103A, 104, 105, 106, 120-21. Is assistance being made available (include only applicable paragraph which corresponds to source of funds used; if more than one fund source is used for assistance, include relevant paragraph for each fund source):

(1) [103] for agriculture, rural development or nutrition; if so (a) extent to which activity is specifically designed to increase productivity and income of rural poor; [103A] if for agricultural research, account shall be taken of the needs of small farmers, and extensive use of field testing to adapt basic research to local conditions shall be made; (b) extent to which assistance is used in coordination with efforts carried out

under Sec. 104 to help improve nutrition of the people of developing countries through encouragement of increased production of crops with greater nutritional value; improvement of planning, research, and education with respect to nutrition, particularly with reference to improvement and expanded use of indigenously produced foodstuffs; and the undertaking of pilot or demonstration programs explicitly addressing the problem of malnutrition of poor and vulnerable people; and (c) extent to which activity increases national food security by improving food policies and management and by strengthening national food reserves, with particular concern for the needs of the poor, through measures encouraging domestic production, building national food reserves, expanding available storage facilities, reducing post harvest food losses, and improving food distribution.

(2) [104] for population planning under Sec. 104(b) or health under Sec. 104(c); if so, extent to which activity emphasizes low-cost, integrated delivery systems for health, nutrition and family planning for the poorest people, with particular attention to the needs of mothers and young children, using paramedical and auxiliary medical personnel, clinics and health posts, commercial distribution systems, and other modes of community outreach.

(3) [105] for education, public administration, or human resources development; if so, (a) extent to which activity strengthens nonformal education, makes formal education more relevant, especially for rural families and urban poor, and strengthens management capability of institutions enabling the poor to participate in development; and (b) extent to which assistance provides advanced education

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and training of people of developing countries in such disciplines as are required for planning and implementation of public and private development activities.

(4) [106] for energy, private voluntary organizations, and selected development problems; if so, extent activity is:

(i)(a) concerned with data collection and analysis, the training of skilled personnel, research on and development of suitable energy sources, and pilot projects to test new methods of energy production; and (b) facilitative of research on and development and use of small-scale, decentralized, renewable energy sources for rural areas, emphasizing development of energy resources which are environmentally acceptable and require minimum capital investment;

(ii) concerned with technical cooperation and development, especially with U.S. private and voluntary, or regional and international development, organizations;

(iii) research into, and evaluation of, economic development processes and techniques;

(iv) reconstruction after natural or manmade disaster and programs of disaster preparedness;

(v) for special development problems, and to enable proper utilization of infrastructure and related projects funded with earlier U.S. assistance;

(vi) for urban development, especially small, labor-intensive enterprises, marketing systems for small producers, and financial or other institutions to help urban poor participate in economic and social development.

(5) [120-21] for the Sahelian region; if so, (a) extent to which there is international coordination in planning and implementation; participation and support by African countries and organizations in determining development priorities; and a long-term, multidonor development plan which calls for equitable burden-sharing with other donors; (b) has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of projects funds (dollars or local currency generated therefrom)?

ANNEX D

GRAY AMENDMENT CERTIFICATION

ANNEX D: CERTIFICATION PURSUANT TO THE UTILIZATION OF GRAY AMENDMENT ORGANIZATIONS

I, RICHARD A. JOHNSON, Acting Director of the Agency for International Development in the Philippines, having taken into account the potential involvement of small and/or economically and socially disadvantaged enterprises, do hereby certify that in my judgment the technical assistance required under this program can best be procured through open competition. However, all other factors being equal, preference will be given to firms that submit joint proposals with Gray amendment-satisfying firms. Furthermore, for the scheduled progress reviews and external evaluations, joint efforts involving both local expertise and Gray Amendment-satisfying organizations are anticipated. My judgment is based on the recommendations of the Program and Mission Review Committees.

RICHARD A. JOHNSON
Acting Director, USAID/Philippines

Date: September 25, 1990

NATURAL RESOURCES MANAGEMENT PROGRAM
(492-0444)

PROGRAM ASSISTANCE APPROVAL DOCUMENT

VOLUME II

ANNEXES E to P

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ANNEX E

DONOR COORDINATION

ANNEX E: DONOR COORDINATION

I. USAID'S STRATEGY AND ASSISTANCE

A. USAID Strategy

The goal of the USAID program in the Philippines is to support the efforts of the GOP to achieve broad-based sustainable economic growth through the active partnership of public and private interests in establishing and managing efficient private sector markets. The five programmatic objectives that support USAID's strategic goal include: (1) addressing policy and institutional constraints that distort or impede overall growth; (2) achieving more efficient, competitive and dynamic private markets through diversification and increased economic opportunities; (3) improving infrastructure that supports economic activity; (4) providing social services more efficiently; and (5) improving the management of natural resources. In addition, the program applies USAID's cross-cutting programmatic themes of private sector involvement, policy dialogue and decentralization to help the Philippines attain its development objectives.

The program, as proposed, supports AID's policy to improve country policies by providing adequate incentives for people and private enterprise to participate in forestry activities and programs. These activities will thus reverse deforestation trends, expand the role of private enterprise as a means to establish an industrial base for forest development, improve the production efficiency of forests, and promote utilization efficiency in conversion and consumption of forest products (1). Finally, the program supports the ANE Bureau's draft environmental and natural resources strategy for the 1990s by enhancing economic growth through more efficient production and sound economic management of natural resources (2).

The objectives of the Natural Resources Management Program are directly related to the development objectives of the GOP. The principal program beneficiaries will be the participants in the rural economy, which has been identified by both USAID and the GOP as the priority sector for new investment.

The program proposes using performance-based disbursements to support policy implementation efforts in order to stimulate increased efficiency in the forest products and wood processing industries and for the economically sustainable management of the country's remaining tropical forest areas. Identifying needed policy reforms, as well as other support services such as collaborative research and training in critical natural resource management areas, will be facilitated through the provision of technical assistance.

(1) See AID Policy Determination No. 7, "Forestry Policy and Programs," May 16, 1983.

(2) See DRAFT "Environment and Natural Resources Management: Asia and the Near East Region, A Strategy for the 1990s," January 24, 1990.

B. AID Assistance to the Sector

The Rainfed Resources Development Project (RRDP) is currently USAID's major intervention in the area of natural resources management. RRDP is designed to develop institutional capacities and a policy framework to support community-based management of land and water resources in settled upland forests, rainfed agricultural areas and coastal zones. RRDP is being implemented in 21 project sites nationwide. This project pioneered the contract reforestation system that is now being applied in the Asian Development Bank (ADB)/Overseas Economic Cooperation Fund (OECF)-assisted National Forestation Program (NFP). RRDP has also generated a number of innovative techniques that are being used to upgrade DENR's Integrated Social Forestry (ISF) and Community Forestry (CFP) programs. In the third quarter of 1989, two of RRDP's most successful project managers were promoted to positions of national prominence, one as national-level coordinator for the ISF program and the other as assistant program coordinator for the NFP.

The USAID-funded Farming Systems Development Project -- Eastern Visayas is designed to establish mechanisms for adapting upland rainfed agricultural technologies to the resource conditions found in Region VIII (Leyte and Samar Islands). In addition, the Accelerated Agricultural Production Project indirectly supports natural resources management through assistance to the Department of Agriculture in the decentralization of agricultural research and extension, program planning and policy analysis.

USAID is also providing assistance under the Technical Resources Project for four activities that bridge the transition from RRDP project interventions to the proposed NRMP sector assistance program. These activities include the following: improving the effectiveness of Philippine NGOs in the implementation of environment and natural resources activities, through collaboration with experienced U.S.-based private voluntary organizations (PVOs); determining the importance of natural resources in national income accounts; including USAID as a partner in the ADB/OECF-initiated reforestation project; and increasing the project design capabilities of DENR offices.

In addition to the bilateral assistance portfolio, USAID provides assistance to a large number of PVOs that implement upland development and coastal resource management activities. Since 1980, the PVO Co-Financing Projects have provided a number of three-year grants for natural resources activities, including grants to the South Cotabato Foundation, Inc. in the Southern Mindanao region; the Actuator for Socio-Economic Progress in Central Luzon; and the Ilaw International Center, located on Bohol Island in the Central Visayas. USAID's Enterprise in Community Development Project has provided matching funds to private for-profit organizations that implement development activities, including the development of marine reserves, agro-forestry and ecologically sound upland farming techniques.

A number of AID/Washington projects have natural resources management activities directly related to forestry in the Philippines: the Forestry/Fuelwood Research and Development Project; the Biodiversity Survey and Action Plan; Philippine Wetlands Conservation; and the Debt-for-Environment Swap. AID's ASEAN regional portfolio supports three projects with natural resources management activities in the Philippines: Watershed Management; Living Coastal Resources Management; and Energy Conservation Management.

AID has had a positive influence in the area of natural resources management. USAID experience to date has confirmed the institutional and managerial capability of DENR. AID achievements have been emulated by other donors, notably the Japanese and the ADB. The proposed program is recognized to mark a shift to strong economic considerations and private sector involvement. The program offers a new approach -- an approach supported by the GOP and complemented by other donors.

II. OTHER DONOR ASSISTANCE

The donor community has also shown an increased commitment to the sector. Life-of-project funding levels for major foreign-assisted projects from 1980 to 1985 totaled approximately $73 million, with the participation of three principal donors (ADB, the World Bank and USAID). Since 1986, however, ten donors have committed resources to twenty major projects with combined funding levels of over $460 million, an increase of nearly 500 percent.

In addition to AID, the bilateral and multilateral agencies involved in the sector include ADB; the World Bank; OECF; the European Economic Community (EEC); the Japanese International Cooperation Agency (JICA); the Australian International Development Assistance Bureau (AIDAB); the governments of New Zealand, Canada, Sweden, Denmark, Italy, France and the Federal Republic of Germany; the United Nations Development Program (UNDP); and the World Health Organization (WHO).

ADB: The ADB has provided half of a U.S. $140 million loan to the fisheries sector (the balance funded through a fixed-rate loan from OECF) as well as a U.S. $120 million loan to DENR for the forestry sector. Among other things, the forestry sector loan focuses on contract reforestation and technical assistance to formulate a Forestry Sector Master Plan. The ADB is also supporting rehabilitation of four large watersheds as well as an ecologically-biased integrated area development project, jointly funded with the EEC, on the island of Palawan.

Recently, ADB granted assistance to a $40 million project on Mindoro Island. Designed to improve the living standards of low income upland communities, the project will utilize local NGOs in community organizing, training, and area development of the islands watersheds. ADB is also

supporting technical assistance to identify constraints and opportunities in mangrove rehabilitation and development, in preparation for another package of assistance in this area. Preparations are also under way for Phase II of the Forestry Program reforestation loan.

Another major project, under negotiation with the ADB, is designed to boost production of industrial tree crops and other commercial crops such as rattan, bamboo and rubber. Estimated to cost about $187 million, the project will include a package of policy reforms to be implemented by DENR, and hopes to make maximum use of private sector technical and managerial skills in forest management by granting concessional loans. Policy reforms are expected to include banning of logging operations in virgin forest areas, increasing the level of "economic rent" collected from timber harvests, and removal of other policies that discourage private sector participation.

ADB is expected to continue its key role in environment and natural resources development in the near future. For instance, it has expressed interest in financing a major environmental program, a watershed development program, and a major mineral development program in the next few years.

The World Bank: The World Bank has provided funding for the Central Visayas Regional Project (CVRP) since 1984. The Environmental Planning Institute has singled out CVRP as one of 20 worldwide model sustainable natural resources projects. Like the ADB, the World Bank also supports several watershed management projects. In 1987, it completed a study of forestry, fisheries and agricultural resource management (FFARM) that has served as the basis for their offer of an environment and natural resources management sectoral adjustment loan.

Prior to final agreement on the loan, the Bank provided support in undertaking preparatory studies through a grant from Japan, which was secured through the Bank. Studies included Integrated Protected Areas Systems (IPAS) preparation and design, and project preparation, in Regions II and X, to develop community-based resource management activities. Other studies to commence shortly are: preparation of a detailed forest monitoring and enforcement plan; an upland extension training program; institutional strengthening of DENR in managing regional project and policy formulation; and other research and studies identified in the FFARM report.

As designed, the proposed sectoral adjustment loan (SECAL) complements the objectives of the NRMP. The SECAL aims primarily to preserve existing biodiversity and to introduce sustainable land use practices. As sector assistance, SECAL comes with a package of policy reforms that, consistent with NRMP, seeks to prohibit logging in the virgin forests, collect a reasonable economic rent from logging operations, improve enforcement activities, and provide secure tenure rights to users who practice sustainable resource use.

JAPAN: Japan has a long history of support to rural development projects in the Philippines. In the agriculture sector, this includes assistance to integrated area development projects in at least three provinces, as well as several watershed management projects. Japan has expressed interest in increasing assistance to reforestation efforts and for establishing a national environmental laboratory and training center. OECF's lending strategy is presently shifting from assisting larger infrastructure-related projects to initiatives that relate more directly to the issues of rural economic development, under- and unemployment and environmental management.

WEST GERMANY: The government of the Federal Republic of Germany (FRG) provided technical assistance for the recently completed National Forest Resources Inventory, which produced critically-needed upgrading of forest inventory data and mapping. A follow-on project is also underway, which aims to introduce and further develop socially acceptable sustained yield management systems for the dipterocarp project.

The FRG is also supporting an integrated regional project on the island of Cebu, which addresses the rapidly deteriorating ecological conditions that are adversely affecting Cebu's farm productivity and water quality. Other projects in which FRG has expressed interest include a community-based agroforestry and reforestation project and a toxic chemicals and hazardous waste management project in the province of Cebu.

CANADA: The Canadian International Development Agency (CIDA) supports several small research programs on multipurpose and lesser- known tree species. It also supports a major environmental training program in cooperation with the University of the Philippines at Los Banos. Its research arm, the International Development and Research Center (IDRC), supports several small projects on waste treatments, seagrass habitat restoration and industrial waste exchange.

AUSTRALIA: The Australian International Development Assistance Bureau (AIDAB) provides assistance to the Philippines under a natural resources management and development project that focuses on land use, mapping and cadastral surveys. This project is to provide the mechanism for rapidly establishing accurate boundary delineations needed for land reform and titling.

ITALY: Together with the government of the Netherlands, Italy is supporting the Navotas-Malabon-Tullahan-Tenejeros River Revival Project. More popularly known as the "Ilog Ko, Irog Ko" Project (literally, "my river, my love"), it is one of DENR's showcase private sector/NGO/government undertakings.

SWEDEN: The Swedish government is currently supporting a study on lecheate pollution control in selected dumpsites in Metro Manila. Also, in collaboration with the World Bank during the preparation of the ffARM report, Sweden sponsored satellite reconnaissance and land use mapping in the Philippines. The government of Sweden is considering providing assistance for a program that will develop a community-based approach to improving the productivity of logged-over forests.

DENMARK: The government of Denmark is financing the rehabilitation of one of the major and most polluted river systems in Metro Manila -- the Pasig River.

FRANCE: The government of France is actively supporting projects in the mineral sector. Currently, it is providing assistance to the following: (1) geodynamics and metallogenesis in Northern Luzon; (2) a study on Philippine faults and metallogenesis; and (3) a study for the establishment of an image processing laboratory.

NEW ZEALAND: The government of New Zealand actively supports an industrial tree plantation in Mindanao.

UNDP: UNDP is currently providing funding for a workshop on human resource development and training needs for DENR's Environmental Management Bureau, and is considering funding a multi-year human resource development project in the same area. It also supports a small integrated social forestry project.

WHO: WHO has provided assistance in examining various environmental issues through its regional environmental planning associations.

NGOs: Of the numerous local NGOs, there are over 500 with primary or indirect interests in the natural resources sector. A recent survey identified 122 NGOs with mandates to work in the areas of forestry and the environment. One experienced NGO is the Haribon Foundation, a nature and wildlife conservation society that has evolved into a conservation foundation. Haribon is the largest Philippine NGO supported and endorsed by the international conservation community. The first Philippine debt-for-environment swap between DENR, the Haribon Foundation and the World Wildlife Foundation was signed in June 1988. The agreement specified the purchase of up to U.S. $2 million in face-value external debt over a five-year period.

The table on the following page summarizes foreign-assisted projects in environment and natural resources management in the Philippines.

REPRESENTATIVE FOREIGN ASSISTED PROJECTS
ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT IN THE PHILIPPINES (a)

REFORESTATION/WATERSHED MANAGEMENT	DURATION	FUNDING SOURCE	DONOR FUNDS (U.S. $000)
-- Abra Pine Plantation Dev't Proj.	1978-86	IBRD	1,760
-- Lake Bato Watershed Mgt. Rehab.	1980-89	ADB	320
-- RP-Japan Technical Cooperation	1976-87	Japan	2,904
-- UNDP/FAO Multiple Use Forest Mgt.	1976-83	UNDP/FAO	
-- ADB-OECF Forestry Sector Loan	1988-92	ADB	240,000
-- Ilocos Norte Forest Development	1984-92	ADB	25,150
-- Allah Valley Watershed Management	1979-89	ADB	5,410
-- RP-Japan Watershed Maintenance	1988-92	Japan	4,750
-- US-ASEAN Watershed Management	1984-89	AID	3,000
-- Muleta Manupali Watershed Dev't	1986-88	ADB	1,200
-- Bukidnon Industrial Tree Plantation	1989-92	N. Z.	1,900
-- Integrated Forest Protection Pilot	1981-88	IBRD	1,240
-- Third Davao del Norte Irrigation	1982-88	ADB	2,000
-- Forestry/Fuelwood Research and Dev't	1987-90	AID	400
-- Bamboo Research and Development	1987-92	UNDP/FAO	395
-- Forest Fire Management	1987-89	UN/FAO	135
-- ASEAN-New Zealand Afforestation Project	1979-87	N. Z.	163
SPECIAL FORESTRY/AGROFORESTRY			
-- Tree Crops Project	1981-84	AIDAB	60
-- Buhi/Lao Upland Development	1981-84	AID	154
-- Central Visayas Regional Project (b)	1984-89	IBRD	25,000
-- Rainfed Resources Development (c)	1984-91	AID	6,900
-- Palawan Integrated Area Development	1982-89	EEC/ADB	3,300
-- RP-German Cebu Upland Project	1986-92	W.Germany	2,050
-- Enterprise in Community Development	1986-93	AID	1,200
-- PVO Co-Financing III	1989-93	AID	1,000
-- Strengthening of the ISF Program	1988-91	UNDP	880
-- Magat Smallholders Agroforestry Plt.	1982-88	IBRD	790
-- Low Income Upland Communities	1989-97	ADB	32,000
FOREST CONSERVATION/PROTECTED AREAS			
-- Dipterocarp Forest Management	1988-91	W.Germany	970
-- Regional Environment Activities (d)	1988-91	AID	
-- Crocodile Farming Institute	1988-92	Japan	2,660

(a) Adapated from Sustainable Natural Resources Assessment--Philippines, USAID/Philippines, September 1989.
(b) Includes a large coastal resource component.
(c) Includes a large contract reforestation component.
(d) Includes Initial Biodiversity Survey, NGO Debt-for-Environment Swap.

(CONTINUED)

(CONTINUED)

REPRESENTATIVE FOREIGN ASSISTED PROJECTS
ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT IN THE PHILIPPINES

COASTAL DEVELOPMENT	DURATION	FUNDING SOURCE	DONOR FUNDS (U.S. $000)
-- ADB Fisheries Sector Loan	1989-93	ADB/OECF	140,000
-- Seagrass Restoration Project	1987-89	IDRC	56
-- Mangrove Rehabilitation Studies	1990	ADB	600
OTHER SECTOR ACTIVITIES			
-- Timber Stand Development	1982-88	W.Germany	176
-- Forest Resources Inventory	1986-87	W.Germany	2,500
-- Natural Resources Management	1988-92	Australia	14,570
-- TA for "bridging" activities	1990-91	AID	
-- Environment Assessment	1989	AID	
-- Population/Env. IEC Program	1990-94	UNFPA	358

ANNEX F

ECONOMIC ANALYSIS

ANNEX F: ECONOMIC ANALYSIS

Introduction

The economic evaluation of NRMP departs in important respects from the usual framework of project analysis. NRMP does not budget for detailed inputs and discrete ouputs normally associated with GOP projects. Yet policy-induced benefits require real reallocations of resources -- and sometimes augmented budgets -- even if they are not provided through the program. Because inputs and outputs in NRMP are not completely specified, this analysis departs from a true benefit-cost approach.

The usual project analysis also examines marginal changes in inputs and outputs, meaning that levels of prices, wages and profits are given by the existing economy. This compares with NRMP, which aims to leverage major market and non-market reforms, and which may therefore alter the entire structure of certain segments of the forestry and wood-processing sector. This implies that existing indicators of financial and economic values may be a poor guide to those that will prevail after the multiple policy changes. The highly complex issues of efficiency and income distribution implied by the policies have consequences far beyond the range of available tools, data and time to resolve them in a satisfactory manner. The best that can be expected here are reasonable orders of magnitude.

Another complication is the short-run tradeoff between open-market policies and forest protection. The DENR has used administrative and regulatory powers to attempt to monitor log flows and therefore control illegal logging. Initiatives to increasingly open markets for logs and wood products (i.e., to deregulate the industry) run contrary to tightening surveillance of log flows. That is, laissez faire in the forest products industries works toward one objective and against another, at least in the near term. This dilemma is reflected in any kind of economic analysis, where benefits can be increased in either protection (control of illegal logging) or production (expansion of enterprises according to free-market possibilities) by decreasing benefits in the other. In the long run, increased commodity production from open-market approaches is taxed to pay for increased forest protection. The goal of NRMP is to encourage policy shifts in tenure, pricing, and institutions that will make forest protection and production mutually supportive.

The perspective taken is that of an economic analysis, or net benefits from the standpoint of the country as a whole. According to the National Economic and Development Authority (NEDA), the appropriate social rate of time preference (SRTP) -- or social discount rate -- is 15 percent.

A. Logging Ban in Old-Growth Forests

The purposes of banning logging in old-growth forests are to protect the biological diversity that exists there, to maintain scientific and educational

values, and to retain the cultural significance of relatively undisturbed forests. The existence value of this old-growth refers to satisfactions by both Filipinos and non-Filipinos of knowing that these relatively undisturbed forests are protected, even if such persons will never visit them. Option value is the idea that preservation of the old growth forests keeps open future options for their stewardship and management, unlike the irreversible consequences of logging. Forests are renewable, but old growth is finite and non-renewable.

Bequest value refers to the endowment current generations make to future generations. The old growth forests represent a part of Philippine culture and unspoiled natural history to be passed along to children and grandchildren. Finally, serendipity value refers to the probabilistic events of discovering some useful chemical compound, genetic variety or other useful product or service from the old growth forests in the future. These concepts are defined and illustrated in many recent books on natural resources economics.

These values are not easily quantified, and there appear to be no existing studies in the Philippines on these questions. It could be argued that a country in which half of the population lives in poverty cannot afford to pay attention to the fine points of forest preservation. On the other hand, these values (existence, bequest, etc.) will become increasingly important as national income rises, and as old growth becomes an ever scarcer resource. The irreversibility of old growth means that its preservation must begin in the present.

An important economic issue concerns the opportunity costs of not logging the old growth timber. The single best measure of this opportunity cost is the potential loss of economic rent to the country by shifting the forest products industries toward alternative sources of logs. This rent is the margin between log selling price and log production costs (costs include a "fair" or "normal" profit margin for the private operator). Regardless of how this rent is shared between the GOP and private operators (an issue of income distribution), the rent represents a surplus provided to the country's economy as some mix of private profit and government revenue. Old growth forests are well-stocked with large trees, and therefore generate high volumes of usable logs per hectare. Yet production costs are high because new roads have to be constructed and because the best stands of old growth dipterocarps were logged many years earlier (i.e., remaining old growth stands are of increasingly lower commercial quality and found in increasingly difficult locations).

As logging shifts to second growth forests after the logging ban in primary forests, several changes in logging costs and returns are anticipated. Stocking of preferred species will be lower and log size will be smaller. On the other hand, main roads will be in place or possible to rehabilitate. Locational shifts toward relatively low slopes, and logging sites relatively close to processing and shipping points, will reduce log yarding costs and log

transport costs, respectively. According to the Philippine Master Plan for Forest Development (MPFD, 1990), the difference in direct logging costs between primary and second-growth forests favors lower costs in second-growth forests by a large margin (Table F-1).

This leaves the matter of log selling price. Logs of preferred species from second growth forests will be smaller in diameter but perhaps sounder (e.g., free from defects like heart rot) than logs produced from old growth. Lesser-known species (LKS) will possibly comprise a significant proportion of total log volume in second growth forests, and this may reduce weighted average log price. Yet prices of LKS will improve as processors and consumers adjust to using them, e.g., for core veneer in plywood production.

Few data can be located to test these hypotheses and quantify impacts. Experimental logging of second growth by the Aras-asan Timber Company in eastern Mindanao found similar stand composition in terms of commercial timber between second growth and old growth stands (Tagudar 1988). As shown in Table F-2, rents in harvesting the second growth stands at Aras-asan were high, ranging from 65-68 percent of weighted log selling price. This finding emerged from a detailed study that carefully accounted for log volumes, production costs and market outlets (Tomboc, Reyes, and Gianan 1988). Neither the ratio of rent to log selling price nor the absolute amount of rent per cubic meter (adjusted to 1990 pesos by the GNP deflator) departs from estimated figures for old growth stands (Table F-3). However, the degree to which the Aras-asan experience is representative of other second growth dipterocarp forests is not clear.

Logs also will increasingly derive from timber plantations, imports and coconut plantations. Imports produce no rent. Only a small margin if any rent can be expected from plantations, given their comparatively modest financial rates of return. Very little is known about the volumes and costs of producing construction materials from coconut plantations on an industrial scale. Hence the opportunity costs of preserved old growth depend on the weighting of second growth, timber and coconut plantations, and imports as replacements for the old growth.

There is no predicting the proportions of such a mix, but a likely ranking in descending order of financial attractiveness is second growth, imports and plantations. Only a small proportion (perhaps 20 percent) of timber plantation logs will serve as sawtimber, and therefore the role of timber plantations in substituting for old growth is debatable. Preliminary estimates suggest that the nationwide base of operable second growth forests may be sufficient to provide a sustainable annual cut approximating current removals from old growth (Tagudar 1988). All of this points to second growth as the most relevant and dominant source of substitute logs for old growth.

This remains speculative without cost, production and inventory data over a wide range of second growth logging. For present purposes, we are obliged

by the lack of contrary information to assume zero opportunity costs of banned old growth logging in terms of foregone rent when the comparison is with second growth dipterocarp forests as the alternative source of logs.

B. Control of Illegal Logging

Control of illegal logging has impacts for allocative efficiency and income distribution, especially since the magnitude of illegal logging is so great. Informal estimates suggest that 25-50 percent of total Philippine log production is illegal. Reduction of illegal logging would have enormous symbolic and political value, because illegal logging is widely perceived among Filipinos as a prime example of lawlessness, corruption, environmental destruction and GOP impotence.

One efficiency implication of reduced illegal logging is to increase nationwide log prices by constricting log supply from present levels. The amount of price increase is determined by the price elasticity of demand for logs, and by the effectiveness of the controls. In the limit, log prices would rise no higher than the CIF price of log imports, or perhaps 30 percent higher than current domestic prices (delos Angeles et al. 1989). This assumes that the GOP continues to allow log imports at minimal tariffs and does not interfere with log imports through regulatory controls. From previous studies of domestic cost structure and international comparative advantage, most Philippine log processors would remain internationally competitive even if their input costs rose by 40 percent (delos Angeles et al. 1989). Nevertheless, the least efficient producers would be obligated to close, which would have short-term negative impacts on employment, value-added and price levels.

The Philippine Institute for Development Studies (PIDS) used NEDA's input-output model for the Philippines to simulate a 30 percent increase in the price of domestic logs, i.e., making domestic price rise to equivalence with the CIF "world price" for similar (e.g., Malaysian) logs. The result is to increase weighted prices across all sectors by 0.62 percent (Table F-4). Without allowing for the product substitutions and technological adjustments that will inevitably take place following the price rise, the implication is that the control of illegal logging increases the Philippine price level by a maximum of 0.62 percent in the short run. With current (1989) national consumption expenditures at 883 billion pesos ($41 billion), this amounts to $252 million in increased expenditures per year.

A second, more positive implication of reduced illegal logging is lessened off-site damages of deforestation. This is a very complex topic in terms of causality and economic impact. The MPFD estimates that deforestation will remain high under the "status quo," but through time will decline in view of continued forest depletion and increased inaccessibility of forests. The MPFD goal is to reduce deforestation by roughly half every five years (Annex N).

Table F-5 shows the sequence of prevented deforestation according to MPFD targets. If off-site damages from deforestation are $50/hectare/year, as estimated by the Master Plan, then their present value in 1990 is $51 million. Not all of this can be attributed to illegal logging, since deforestation is jointly produced by numerous causal agents. Hence the control of illegal logging alone would not bring about the benefits shown in the table, but only some smaller amount. On the other hand, the constant $50 per hectare in annual damages avoided understates impacts in future years, when the economic base and physical infrastructure are both larger, and when deforestation extends into increasingly sensitive areas from the environmental perspective. Note, too, that on-site losses of biodiversity and possible reductions in site productivity (due to careless logging methods in illegal practices) are not being estimated.

The benefits attributable to policy changes on illegal logging should be stated conservatively in light of the poor data base for estimating impacts, the vast amount not known about deforestation economics in the Philippines, and the substantial risks that MPFD targets on deforestation reduction cannot be achieved. Thus the figure of $51 million should be regarded an outside limit until better information becomes available.

A distributional implication of reduced illegal logging is to shift timber harvests from the present toward the future. This occurs because less illicit logging today means more legal logging tomorrow. A second distributional consequence is to allow the GOP a tax share of the resource rent, with due allowance for its receipt in the future rather than the present (see later discussion of pricing policies).

Admittedly, the 15 percent social rate of time preference implies that delayed harvests have low present value. For example, a log to be sold for 3,000 pesos in the year 2000 has a present value in 1990 of just 740 pesos.

C. Tenure and Reform of Property Rights

Reforms are needed to clarify and rectify tenure issues as they relate to forestry and the forested lands (Annex I). Especially important are resolution of ancestral land claims, formal implementation of policies to give power to "people-oriented forestry," assured renewal of forest use agreements, and fair compensation for investments when use agreements are terminated prematurely for reasons other than contract violations. It is also important to allow local governments to receive a share of revenues generated from the sale and rental of local forest resources. An increasing share of forest output is expected to originate from community-based units, and this will likely shift the composition of sectoral output towards non-timber products (Annex P).

The economic implications of these policies are not easily described and estimated. Security of rights in lands and trees encourages greater

willingness to protect and manage them, resulting in additional output through time. The sharing of revenues between national and local governments is an issue of transfer payments. Yet revenue sharing also has efficiency consequences to the extent that local governments would have incentives for better forest stewardship. These impacts remain unquantifiable at present, since the Community Forestry Program (CFP), Integrated Social Forestry (ISF) program and other new tenure agreements are not yet adequately evaluated for their economic content.

Some of the arguments in favor of high economic returns from granting tenure under forest stewardship contracts and other community-level approaches are: (1) low opportunity cost of labor in technologies that will be labor-intensive; (2) likely emphasis of non-timber forest products, salvage logging, and other forms of extraction that cause less environmental damage than conventional logging; and (3) low opportunity costs of land and forest growing stock if CFP, ISF and similar tenure agreements are located mainly in areas not suitable for ordinary commercial logging.

The Central Visayas Regional Project (CVRP) on Negros Island is an example of results that might be achieved elsewhere under favorable circumstances (Table F-6). Approximately 43,000 cubic meters (cu.m.) of mainly fire-killed timber were converted to firewood, roughsawn lumber and slabs using hand saws and carabao logging. Over two years this generated a gross revenue of 17.2 million pesos and employment of about 389,000 person days among 1,200 families. Applying the shadow wage factor of 0.52 to a daily wage of 20 pesos, and assuming no opportunity costs of the dead timber, the labor inputs (excluding carabaos and minor expenditures) had an economic cost of 4.0 million pesos. To this must be added the project overhead of 11.6 million pesos, a figure higher than normal because CVRP was a special pilot project. This implies an approximate net benefit of 1.6 million pesos, assuming that economic prices of project outputs and overhead are the same as their financial prices. From the community's standpoint, project establishment costs should be ignored, meaning that net benefit for the community was 13.2 million pesos, or about $660,000 ($550 per family) in just two years. If this flow could be managed on a sustainable basis, the net present value of CVRP for the community is $2.2 million.

In addition, the establishment of CVRP helped slow deforestation in the region from over 1,100 hectares per year to some unknown but minimal rate. The environmental benefits of avoided deforestation were not estimated in CVRP, and much analytical work remains on this and similar case studies all over the country. If avoided deforestation is worth a nominal $50 per hectare per year, then a perpetual stream of such benefits has a present value of $333/hectare, or $1.5 million for the 4,500 hectares remaining at CVRP. Hence total benefit is $2.2 million for production and $1.5 million for protection, or $3.8 million. It should be remembered that this is more an illustration than an estimate; many complexities will arise with other projects. For example, the zero opportunity cost of timber cannot be assumed for expanded community forestry projects.

It is not possible to extrapolate results from CVRP to DENR's wider range of community forestry projects (CFP) because of the uniqueness of each context. In 1988 the Philippines had 12 community forestry projects registered, but only some of these were active (Annex I). If NRMP's policies on property rights lead to two new successful CFP projects per year for the five years of NRMP, each of which has a present net value of $3.8 million, then the combined present value in 1990 of the ten projects is $25 million. This should not be used as a planning figure, but merely suggests an order of magnitude.

Another benefit component for forest protection should be added in cases where communities will not be able to generate a significant flow of forest outputs for sale or household consumption but may be able to retard open access on abandoned timber license agreements (TLAs) if user rights to them are soon established. The number of hectares in this category, the resource values protected and the probability that new tenure arrangements for cancelled TLAs will halt encroachment are all highly speculative. No estimates are made here due to lack of data and because of overlap with benefits under "control of illegal logging."

D. Trade Liberalization

The rationale for maintenance of low barriers to importation of logs and semi-processed forest products stems from substantial capacity underutilization in the forest products industries. It also follows from anticipated hardships on some producers due to the ban on old growth logging and to tightened controls on illegal logging.

The importance of low import barriers as domestic log supply shrinks is illustrated by simulations using the Philippine input-output model. Table F-7 shows price effects throughout the economy when log prices rise by hypothetical amounts of 30, 100, and 200 percent. Scenario I portrays domestic log prices rising to the level at which Malaysian logs could be imported to substitute for domestic logs. Such an increase in prices is highly plausible under a logging ban in old growth forests and tightened control of illegal logging. Scenarios II and III show what might happen as log supplies contract due to these same circumstances plus the imposition of substantial barriers to log imports (e.g., with the intent of making illegally cut Philippine logs easier to detect). The margins of II over I and III over I indicate consumption losses for the Philippine economy of $317 and $724 million, respectively. Because of the somewhat extreme price rises portrayed, these should be regarded as upper bounds on policies to keep open imports of logs and semi-processed forest products as domestic log supplies (legal plus illegal) contract.

A complementary element of liberalized trade is unrestricted export of processed and semi-processed forest products. On the other hand, the export of logs is properly restricted, continuing with policy begun in 1986 to capture employment and value-added through domestic processing.

The export of processed and semi-processed forest products helps maintain price levels for producers during these critical transition years, and in the long run encourages the entry of more tree growers and more processing enterprises. This is essential for sectoral survival and long-term growth.

An important example arises with the lumber export ban, imposed by administrative order in 1989. The ban was intended to help lessen cutting pressures on remaining forests and make available a greater quantity of unfinished lumber for secondary and tertiary processing. In particular, the intent was to increase the production of finished wood products (e.g., wooden doors, furniture, and furniture parts) for export.

However, there are alternative policies to move in the same direction, including an export tax on lumber, direct incentives offered for highly manufactured products like furniture, and other policies with less serious misallocation consequences than an export ban. While reliable figures are not available, the volume of lumber demanded by secondary and tertiary processors is modest as a proportion of Philippine production (probably not exceeding 10 percent of the total). At the same time, lumber has been a principal component (roughly half) of all wood products exports. This further suggests the inappropriateness of a ban in comparison with policy alternatives.

In the short run, the ban could be expected to have the following effects: (1) drive down domestic prices of lumber; (2) drive down the derived demand for logs; (3) reduce foreign exchange earnings; and (4) redistribute income from lumber producers to lumber consumers. According to figures maintained by the Philippine Wood Products Association (PWPA), export prices exceeded domestic prices by 65 and 10 percent, respectively, for high-grade and low-grade lumber before the log ban. Following the ban, there is yet no clear indication of lumber price movements, partly because of prior mitigating behavior (e.g., forward export contracts) in anticipation of the restriction.

Imposition of the ban results in loss of the profitable export market, which had absorbed 50-60 percent of lumber production before the ban. In 1988, foreign exchange earnings from lumber were about $157 million, but in 1990 will likely not exceed $40 million (straight-line projections from first quarter, Table F-8). The ban perhaps also hurts the domestic market. As producers attempt to divert export-grade lumber into the domestic market, lumber prices will fall, presumably making it impossible for some producers to continue to operate. If this is the resulting economic behavior, then the ban contributes to the objective of reducing cutting pressures on forests, but at the risk of large sacrifices in national product and employment.

The input-output model for the Philippines was used to portray production and employment effects of the ban on lumber exports (Table F-9). The ban is shown to decrease GDP by 0.40 percent and salaries and wages by 1.27 percent. These effects represent an annual loss of $179 million in GDP and $95 million

in salaries and wages, respectively. Based on mean salaries and wages in the economy, job loss due to the lumber export ban is about 90,600 person years. These are upper limits, not allowing for the many compensating adjustments that follow the imposition of trade restrictions. That the relative decline of salaries and wages is greater than that of GDP is a reflection of the labor-intensive character of lumber production and of the industries that buy lumber's outputs and sell lumber's inputs.

E. Enterprise Entry, Exit and Competition

The future forest products manufacturing base in the Philippines is dominated by the transition from old growth toward second growth and plantation logs. Conversion efficiency from physical, financial and economic perspectives depends on the extent and effectiveness of new investments to use the smaller logs, wider mix of log species and wider mix of products expected from these new sources of raw materials. From a technical and engineering viewpoint, investment requirements are as high as $642 million (GOPA 1990).

Barriers constraining investment in new types of enterprises and processing equipment impede needed re-tooling and industry rehabilitation (Annex O). Without relaxation of current regulations and permits, there can be little hope of the country encouraging efficient development of its wood-based industries. Less regulatory intervention would elevate sectoral value-added by increasing the number of active enterprises, allowing a wider range of scales and technologies in these enterprises, and encouraging modernization to proceed without government red tape. These are the prerequisites for sustainable development of both forest and industry in the long run.

An enormous amount of capital could be absorbed in the sector and still give handsome financial returns, especially if other barriers were removed (see previous discussion of trade barriers). For the period 1990-2000, investment for industry revitalization and modernization would increase manufacturing value-added by $969 million (discounted present value in 1990) according to GOPA (1990). Annual growth rates in production value, profits, value added and foreign currency balance are projected at 3.2, 4.6, 4.3, and 7.0 percent, respectively, if the revitalization plan is implemented. The GOPA scheme is exceptionally ambitious in view of the sector's present condition of low investment and reinvestment (see Table F-10 showing a mere trickle of imported capital goods). The gap between what is technically desirable and what is more likely to occur must be explained in large part by uncertainty over logging bans and the generally poor investment climate in the sector. If reduction of regulatory barriers contributes only 10 percent toward the GOPA targets, then $97 million is the incremental value added across a representative cross-section of firms, not including inter-industry linkages.

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Another policy action under enterprise entry and exit is divestiture by the GOP of the parastatal Paper Industries Corporation of the Philippines (PICOP), as well as the release of roughly 18 other companies in the forestry sector that were sequestered by the GOP for loan default or because of dubious business practices under the Marcos administration. In the short run, divestiture would cut the GOP's financial losses from holding these companies. In the long run, privatization should lead to the restructuring that would make the forest products industries more competitive. No attempt is made to estimate these benefits.

F. Reform of Timber Pricing Policies

The subject of resource rents in Philippine logging is a much debated and often confused topic. Issues include: (1) different concepts of rent; (2) estimated levels and variations of timber rents across locations and timber types; (3) comparisons of alternative approaches to collect more rent by the GOP; and (4) different expectations of private and social benefits and costs that will ensue when the GOP collects more rent.

Rent is the amount of revenue from logging Philippine forests in excess of minimum earnings required to keep enterprise from leaving the logging industry (minimimum earnings include a "fair" or "normal" profit). That is, rent is "excess profit" accruing to the logging enterprise that the GOP can tax (on behalf of Philippine society as a whole) without forcing the enterprise out of business.

Other concepts have been added to this basic concept. For example, proposals have argued that logging companies should pay an environmental tax for off-site damages due to flooding, sedimentation, etc. Others contend that logging companies should be allowed "credits" for services they render that the GOP should but is unable to provide. These services include concession protection (law enforcement) and sometimes also a variety of social services (e.g., health, housing and schooling for workers and their families). This wider framework of external costs and benefits is highly relevant but adds enormous complexity to resource pricing.

There are many competing ideas on how the GOP should collect higher timber rents. Suggested aproaches include: timber appraisal to set a minimum selling price for a timber tract, followed by a competitive auction to sell harvesting rights to the highest bidder over the minimum; logging performance bonds to be managed in a "forestry bank" or similar account, some or all of which is remitted to the logging company upon demonstration of satisfactory logging and forest renewal; and levy of an area rent (per hectare) in relation to timber stocking, composition and other variables. Additional recommendations are to: raise the currently low flat charges (per cu.m.) to some new higher level, and to set GOP charges as some proportion of log selling price. This last proposal forms the basis for timber production sharing agreements, as

presently conceived but not yet implemented. Some proposals combine two or more instruments, e.g., performance bonds and timber auctions.

Advocates of these different approaches have done so with different criteria in mind: conformance with economic theory; administrative simplicity; minimization of corruption; estimated amount of revenue to be raised; extent of departure from current methods ("learning curve"); and resistance expected from the Congress and logging companies. The model of rent capture that best conforms with microeconomics texts may not be feasible, considering that peace-and-order problems prevent foresters from actually appraising the value of the resource. This favors methods that save on field foresters. Conversely, the easiest approaches from an administrative standpoint (e.g., simply raise the flat fee per cu.m.) will continue to produce inefficiencies in the selection of timber stands and individual trees and logs to be harvested.

NRMP supports the implementation of agreements that would provide the GOP with forest revenues equivalent to 20 percent or more of log selling prices in Manila while alternative (and still better) policies are being analyzed. The "environmental fee" of 500 pesos per cu.m., as embodied in Administrative Order 62 (June 1990), approximates the 20 percent policy. The net gain of 500 pesos per cu.m., multiplied by estimated log production from second growth forests as given in the MPFD, indicates that the revised policy will generate a gain of $196-393 million in terms of 1990 present value.

Translation of the GOP's increased rent collection into economic benefits presents theoretical difficulties. The GOP's collection of the rent is a transfer payment from private logging companies to the government. No new income is provided, but income is redistributed. This has positive social justice repercussions, since the logging companies generally comprise a business elite and the GOP nominally, at least, represents the interests of the Philippine people as a whole.

Beyond distributional issues are possible efficiency implications. In rent theory, the fall of profits from "excessive" to "normal" does not affect the exit of firms from the industry. In practice, the policies and procedures for rent collection are imperfect, so that adjustments are indeed very likely. For instance, if the GOP collected the "average" rent (as opposed to a separate appraisal for each timber tract), then firms with higher than average costs or lower than average timber values will be squeezed from the industry. The same consequence is likely in the proposed policy to set forest charges equivalent to a proportion (e.g., 20 percent) of log selling price in Manila. There will be short-term losses but long-term gains in output and employment as the policy takes effect, but these are beyond present capacity to estimate.

G. Forest Management

The policy intent of moving ahead with forest mapping, classification and inventory is to provide an investment framework through which the other NRMP components become feasible. This could otherwise be viewed as filling information gaps for decision making, given the present very poor state of knowledge of Philippine forests. Without vastly improved field-level data, there is no way to define, rank and compare projects in the forestry sector. This has consequences of suboptimal allocation of funds among competing uses and high risks that programs and projects cannot be made sustainable.

At future levels of log production from second growth forests, resource rents in Philippine forestry have an estimated 1990 present value of $281 million to $2.4 billion (Table F-11). The wide range of estimates reflects uncertainty regarding the stocking and growth of second growth forests as well as variability in rents across different timber tracts.

The estimated future rents are one measure of the social surplus that could be enlarged with better information for determining annual allowable cut, separation of production from protection zones, marking of management units on the ground, and similar management inputs. Data collected in the course of PAAD preparation suggest that 30 percent of potentially harvestable timber volume is being wasted in the forest simply because of current inadequate methods of computing allowable cut (Annex N). With realistic management plans developed from maps and inventory, more of the currently submarginal material will be captured for processing, fuelwood and other end uses. However, this raw material will have lower prices (and hence lower social surplus per cu.m.) than prime sawlogs. A conservative estimate is that NRMP policies to implement forest management on the ground will expand resource rents by 15 percent above levels without such intervention, or some $42 to $360 million in terms of present value.

H. Synopsis

Benefits and costs are incompletely specified due to the complexity of the NRMP policy issues and the multiple dimensions in which they are defined. Policy effects are not additive, and most estimates of policy consequences are necessarily speculative.

Policy 1. Timber Pricing: Under the 20 percent pricing policy supported by NRMP, forest charges increase from the current 30 pesos per cu.m. to 530 pesos per cu.m. Projected over future sustainable timber cut in second growth forests, the gain is $196-393 million in terms of present value in 1990.

-- The GOP's collection of these charges represents a transfer payment from private logging companies to the government. No new income is provided, but income is redistributed progressively from a rent-seeking logging oligopsony to the Philippine population more generally.

-- In the short run, inefficient logging companies will be squeezed out of the industry, causing reductions in output and employment. In the long run, output and employment grow as logging becomes more efficient through reallocation of harvesting rights to those who can pay the highest prices for the scarce raw material.

Policy 2, Tenure: Security of rights in lands and trees encourages greater willingness to protect and manage them. The economic implications of tenure are not easily described and estimated. New tenure agreements in the Philippines granting community rights in forests are not yet adequately evaluated for their economic content. The CVRP Project (CVRP) in Negros is an example of results that might be achieved elsewhere in community forestry stewardship agreements.

-- If NRMP's policies on tenure lead to two new successful community forestry projects per year for the five year life of the program, each of which has a present net value equivalent to that of CVRP, then the combined present value in 1990 of the ten projects is $25 million. This is not a planning figure, but an order of magnitude.

-- Environmental benefits arise even when communities are unable to generate significant flows of forest outputs for sale or direct consumption but are able to stop open access and illegal encroachment.

Policy 3, Enterprise Entry, Exit, and Competition: Reforms of GOP regulations that currently discourage enterprise entry and exit in forest products industries can be assessed in terms of progress towards sectoral revitalization and modernization.

-- Targets for revitalization and modernization are laid out by a new comprehensive analysis for the entire Philippine forest products sector (GOPA 1990). If relaxation of regulatory controls contributes as little as 10 percent toward these targets, this amounts to increased sectoral value added of $97 million (not including inter-industry linkages) for the period 1990-2000.

-- Progress toward GOP divestiture of the country's pulp and paper parastatal company plus release of other sequestered companies should lead to restructuring that would make the forest products industries more competitive.

Policy 4, Trade Liberalization: Low barriers to importation of logs and semi-processed wood mitigate hardships on wood-processing firms due to the ban on old growth logging, and to tightened controls of illegal logging. Unrestricted export of processed and semi-processed forest products keeps producers from closing, and in the long run encourages more investment in both forestry and the processing industries.

-- Policies to keep open imports of logs and semi-processed wood, should log prices rise substantially following the other NRMP policies, help moderate price levels. Without imports, annual consumption losses in the Philippine economy are $317-724 million under extreme scenarios of log price increases.

-- The lumber export ban is an example of losses in the Philippine economy from restricted exports. Repeal of the ban increases Philippine GDP by 0.40 percent and salaries and wages by 1.27 percent. This amounts to annual gains of $179 million in GDP and $95 million in wages and salaries.

Policy 5, Old-Growth Logging Ban: Benefits include preservation of biological diversity, educational and scientific values, and cultural significance of relatively undisturbed forests. Opportunity costs consist of foregone national income if alternative timber sources produce lower forest rents.

-- Preservation of old growth forests produces existence values, option values, bequest values and serendipity values.

-- The prohibition of old growth logging appears to have negligible opportunity costs if the comparison is with second growth dipterocarp forests as the alternative source of logs.

Policy 6, Forest Protection: Control of illegal logging has important implications for efficiency and income distribution, especially since the magnitude of illegal logging is large.

-- Reduction of illegal logging increases nationwide log prices by constricting log supply. If log prices rise by 30 percent, the Philippine price level increases by 0.62 percent, resulting in losses to consumers of $252 million annually.

-- Prevented deforestation is not easily quantified and priced, but reduction in off-site damages with versus without program-supported controls may equal $51 million. (Effects for on-site biodiversity and site productivity are not quantified.)

Policy 7, Forest Management: The removal of institutional constraints to forest mapping, classification and inventory provides an investment framework supporting the other NRMP components.

-- If NRMP policies to implement forest management expand resource rents by 15 percent above projected levels without NRMP, this amounts to a present value in 1990 of $42 to $360 million when sustained in perpetuity.

Table F-1. NATURAL RESOURCES MANAGEMENT PROGRAM: Comparison of Logging Costs in Old Growth and Second Growth Forests, Mindanao (pesos/cu.m.)

Components	Old Growth	Second Growth
Cutting (felling and cross-cutting)	50	30
Yarding (high lead systems)	100	115
Transport and loading	300	240
Road construction	446	164
Subtotal	896	549
Overhead (15%)	134	82
TOTAL	1,030	631

Source: DENR, July 1989. Master Plan for Forestry Development, "Sustainable Forest Management Plan" (Draft Report), Part 2, Table 6, p.49.

Table F-2. NATURAL RESOURCES MANANGEMENT PROGRAM:
Resource Rents in Logging Second Growth Timber
at Aras-asan Timber Company, 1986

	Tract 1	Tract 2	Tract 3
Stand age (years)	33	28	22
Area harvested (hectare)	14	15	14
Volume removed (cu. m.)	1,729	1,405	1,330
Weighted Log Selling Price (P/cu.m.)	1,398	1,433	1,446
Production costs (a) (P/cu.m.)	389	397	365
"Fair" profit (b) (P/cu.m.)	97	99	91
Implied rent (c) (P/cu.m.	912	936	990

(a) Includes forest charges by the GOP.
(b) 25 percent margin over production costs.
(c) Revenue less (costs plus profit)

Source: Data obtained from Tomboc, Reyes and Gianan. 1988. "Financial feasibility and some technical considerations in harvesting timber from second-growth dipterocarp forests: A case study for Aras-asan Timber Company", Philippine Lumberman (Vol. XXXIV, No. 19, October 1988, pp.20-30, 38).

Table F-3. NATURAL RESOURCES MANAGEMENT PROGRAM:
Approximate Resource Rents in Logging
Old Growth Timber, 1990

	Range	
	Low	High
	(Pesos per cu.m.)	
Log selling price	1,500	2,900
Direct production cost (a)	224	602
Overhead (assume 15 percent)	34	90
Forest charges (GOP)	30	30
"Fair" profit (b)	65	173
Subtotal	353	895
I. Worst-Case Scenario		
Low price	1,500	
High costs	895	
Low rent	605	
II. Best-Case Scenario		
High price	2,900	
Low costs	353	
High rent	2,547	

(a) For a variety of logging systems studied by GOPA (1990).
(b) 25 percent margin over production costs (direct and overhead).

Table F-4. NATURAL RESOURCES MANAGEMENT PROGRAM:
Estimated Price Increases in the Philippine Economy
from Increasing Log Prices by 30 Percent

Sector	Price Increase (Percent)
1. Crops	0.22
2. Livestock and poultry	0.45
3. Fishery	0.59
4a. Logging operations	30.00
4b. Other forestry activities	0.16
5. Metallic mining	0.85
6. Non-metallic mining	1.00
7. Food processing	0.50
8. Beverage and tobacco manufactures	0.90
9. Textiles and leather products	0.64
10a. Rough and worked lumber	30.38
10b. Veneer and plywood	22.75
10c. Other wood, cork and cane products	27.74
10d. Furniture and fixtures, primarily of wood	40.24
10e. Furniture and fixtures, primarily of metal	5.31
11. Paper, publishing and printing	7.00
12. Chemicals and chemical products	0.84
13. Products of petroleum and coal	1.12
14. Non-metallic mineral products	1.17
15. Basic metals	1.18
16. Metal products and machinery	1.29
17. Miscellaneous manufactures and scrap	1.32
18. Construction	9.36
19. Electricity, gas and water	1.44
20. Transportation, communication and storage	0.84
21. Wholesale and retail trade	0.78
22. Finance, insurance and real estate	0.80
23. Government services	-
24. Private services	0.97
Effect on Consumption Expenditures	0.62

Source of Basic Data: NEDA, Interindustry Accounts of the Philippines: 1983 Update.
Source of I-O Analysis: Marian de los Angeles, PIDS, forthcoming PIDS Working Paper.

Table F-5. NATURAL RESOURCES MANAGEMENT PROGRAM:
Estimated Benefits of Reduced Deforestation, Off-Site Impacts

Year	Deforestation Prevented (a) (thousand ha.)	Reduced Off-Site Damages (b) ($/ha)	1990 Present Value ($millions)
1991	2	333	0.6
1992	4	333	1.0
1993	8	333	1.8
1994	16	333	3.0
1995	32	333	5.3
1996	34	333	4.9
1997	36	333	4.5
1998	38	333	4.1
1999	39	333	3.7
2000	40	333	3.3
2001-2015	45/year	333	18.9
			51.1

(a) Master Plan for Forestry Development targets compared with projected status quo give "with" vs. "without" comparison.

(b) Constant $50/ha./year in reduced sedimentation, flooding, etc., in perpetuity at 15% SRTP.

Table F-6. NATURAL RESOURCES MANAGEMENT PROGRAM:
Economic Impact of the Central Visayas Regional Project

FORESTED AREA AS OF OCTOBER 1979..... (Note: TLA cancelled in 1979, thus creating open access situation)	12,000 ha.
FORESTED AREA AS OF OCTOBER 1986..... (Note: Open access situation ends when production/protection privileges/responsibilities were vested in communities)	4,500 ha.
ANNUAL FOREST LOSS DURING PERIOD OF OPEN ACCESS..... (2,000 ha. - 4,500 ha.)/6.75 yrs. = 1,111 ha./year	1,100 ha.

Note: Forests have remained intact since 1986. Current area is still 4,500 ha.

PROGRAM ESTABLISHMENT COSTS (Pesos 000,000)

(a) Staff, other costs: (aver. P2.0 million/yr. x 5.5 yrs. from 1985-mid'90)	11.0
(b) Inventory, management plan	0.6
TOTAL	11.6

FINANCIAL RETURNS (Pesos 000,000)

Sales of:	1986	1987	1988	Total
Handsawn lumber	1.28	8.60	7.00	16.88
Firewood	0.07	0.08	0.04	0.19
Slabs	0.01	0.05	0.12	0.18
	1.36	8.73	7.16	17.25

PRODUCTION VOLUME (in cubic meters)

Handsawn lumber	1,006	6,238	4,711	11,955
Firewood	677	703	371	1,751
Slabs	15	429	683	1,127
	1,698	7,370	5,765	14,833

EMPLOYMENT (in person days)

Lumber, firewood, slabs production	345,000
Forest guards (hired by community)	33,750
Inventory (labor)	10,500
Total	389,250

NOTE: Employment data are for the period from June 1986 to October 1988. Production activities were suspended in 1988 when communities were required to improve their financial management (i.e., sharing of benefits) as a pre-condition to restoration of harvesting privileges.

Source: P.C. Dugan, USAID/Philippines.

Table F-7. NATURAL RESOURCES MANAGEMENT PROGRAM:
Estimated Price Effects for Hypothetical Increases in Log Prices
of 30, 100 and 200 Percent

	Sector	SCENARIO I	SCENARIO II	SCENARIO III
		(percent)		
1.	Crops	0.22	0.36	0.57
2.	Livestock and poultry	0.45	0.74	1.15
3.	Fishery	0.59	1.02	1.63
4a.	Logging operations	30.00	100.00	200.00
4b.	Other forestry activities	0.16	0.28	0.45
5.	Metallic mining	0.85	1.57	2.61
6.	Non-metallic mining	1.00	1.81	2.96
7.	Food processing	0.50	0.81	1.26
8.	Beverage and tobacco manufactures	0.90	1.50	2.37
9.	Textiles and leather products	0.64	1.05	1.64
10a.	Rough and worked lumber	30.38	72.19	131.91
10b.	Veneer and plywood	22.75	53.33	97.00
10c.	Other wood, cork and cane products	27.74	52.83	88.68
10d.	Furniture and fixtures, primarily of wood	40.24	72.37	118.28
10e.	Furniture and fixtures, primarily of metal	5.31	9.29	14.98
11.	Paper, publishing and printing	7.00	13.16	21.96
12.	Chemicals and chemical products	0.84	1.39	2.17
13.	Products of petroleum and coal	1.12	1.87	2.95
14.	Non-metallic mineral products	1.17	1.96	3.07
15.	Basic metals	1.18	1.94	3.03
16.	Metal products and machinery	1.29	2.15	3.38
17.	Miscellaneous manufactures and scrap	1.32	2.25	3.57
18.	Construction	9.36	16.66	27.09
19.	Electricity, gas and water	1.44	2.67	4.42
20.	Transportation, communication and storage	0.84	1.40	2.19
21.	Wholesale and retail trade	0.78	1.32	2.10
22.	Finance, insurance and real estate	0.80	1.36	2.17
23.	Government services	-	-	-
24.	Private services	0.97	1.64	2.59
	Effect on Consumption Expenditures	0.62	1.40	2.40

Notes: SCENARIO I: 30% increase in log prices
SCENARIO II: 100% increase in log prices
SCENARIO III: 200% increase in log prices

Source of Basic Data: NEDA, Interindustry Accounts of the Philippines: 1983 Update.

Source of I-O Analysis: Marian delos Angeles, PIDS, forthcoming PIDS Working Paper.

Table F-8. NATURAL RESOURCES MANAGEMENT PROGRAM:
Philippine Exports of Lumber, First Quarters of 1989 and 1990
(in cu. m.; FOB value in US$)

PSSC	Description	1990, 1st Quarter			1989, 1st Quarter		
		Quantity	Value	% share	Quantity	Value	% share
248.32-08	Lauan, red	18,562,688	8,097,379	67.49	6,895,206	2,247,001	7.47
248.31-08	Lauan, red	4,944,129	1,971,953	16.44	91,496,927	24,494,259	81.48
248.31-29	Other non-coniferous, sawn lengthwise, sliced or peeled of a thickness exceeding 5 mm	13,227,499	1,362,335	11.36	4,240,785	755,563	2.51
248.32-29	Other non-coniferous wood, planed, tongued, grooved, etc.	2,295,128	545,364	4.55	306,533	58,528	0.19
248.31-09	Lauan, white	88,230	20,000	0.17	8,516,164	2,151,267	7.16
248.32-09	Lauan, white				452,020	180,523	0.60
248.31-01	Almond				381,574	110,222	0.37
248.31-03	Apitong				359,142	42,845	0.14
248.32-03	Apitong				124,265	22,479	0.07
248.31-13	Narra				287	133	0.00
	TOTAL	39,117,674	11,997,041	100	112,772,903	30,062,820	100

Source: Documentation Center, Bureau of Export Trade Promotion, DTI.

Table F-9. NATURAL RESOURCES MANAGEMENT PROGRAM: Estimated Sectoral Effects Resulting from a Total Lumber Export Ban (in percent)

	Sector	Output Changes
1.	Crops	-0.006
2.	Livestock and poultry	-0.008
3.	Fishery	-0.008
4a.	Logging operations	-9.164
4b.	Other forestry activities	-0.051
5.	Metallic mining	-0.012
6.	Non-metallic mining	-4.012
7.	Food processing	-0.007
8.	Beverage and tobacco manufactures	-0.003
9.	Textiles and leather products	-0.007
10a.	Rough and worked lumber	-21.963
10b.	Veneer and plywood	-0.008
10c.	Other wood, cork and cane products	-0.003
10d.	Furniture and fixtures, primarily of wood	-0.007
10e.	Furniture and fixtures, primarily of metal	-0.002
11.	Paper, publishing and printing	-0.115
12.	Chemicals and chemical products	-0.084
13.	Products of petroleum and coal	-0.499
14.	Non-metallic mineral products	-0.053
15.	Basic metals	-0.086
16.	Metal products and machinery	-0.084
17.	Miscellaneous manufactures and scrap	-0.093
18.	Construction	-0.006
19.	Electricity, gas and water	-0.223
20.	Transportation, communication and storage	-0.160
21.	Wholesale and retail trade	-0.196
22.	Finance, insurance and real estate	-0.058
23.	Government services	-
24.	Private services	-0.071
	Total Effect on Output	-0.403
	Total Effect on Employment (salaries and wages)	-1.275

Source of Basic Data: NEDA, Interindustry Accounts of the Philippines: 1983 Update.

Source of I-O Analysis: Marian delos Angeles, PIDS, forthcoming PIDS Working Paper.

Table F-10. NATURAL RESOURCES MANAGEMENT PROGRAM: Quantity and Value of Imported Capital Goods in the Logging and Forest Products Industries, 1980-1988 (in numbers; in FOB U.S. $000)

Year	Value of Total Imports of Machinery & Transport Eqmt	Sawmill & loggging machines & eqmt (a)			Machines for working wood (b)		
		Qty	Value	% of total	Qty	Value	% of total
1980	1,860,631	4,339	3,060	0.16	6,699	433	0.02
1981	1,797,249	2,935	2,360	0.13	9,132	6,935	0.39
1982	1,668,287	6,926	2,054	0.12	5,986	3,925	0.24
1983	1,591,595	1,696	1,637	0.10	8,634	3,115	0.20
1984	1,085,819	338	214	0.02	1,289	1,953	0.18
1985	726,262	12,482	149	0.02	3,859	1,040	0.14
1986	806,305	40	234	0.03	3,541	1,096	0.14
1987	1,137,390	169	324	0.03	3,632	1,816	0.16
1988	1,643,685	334	453	0.03	24,048	3,515	0.21

(a) Sawmill and logging machines and equipment (wood debarking, sawing, and splitting, and slicing and paring machines)

(b) Machines for working wood (planing, drilling, rounding, sandpapering machines; lathes; and presses specialized for woodworking)

Source: Philippine Foreign Trade Statistics, various years.

Table F-11. NATURAL RESOURCES MANAGEMENT PROGRAM:
Estimated Forest Rents Available in Logging
Second Growth Forests

	Range	
	High	Low
Rent per cu.m. ($) (a)	111	26
Annual log volume produced in second-growth forests (million cu.m.):		
Years 1991-2015	3.2 (b)	1.6 (c)
Years 2016 and beyond	4.8 (b)	2.4 (c)

Scenarios for Rent Generation:

Present value in 1990 of future rents from second-growth forests:

	Rent per cu.m. ($000,000)	
Log Volume	High	Low
High	2,400	562
Low	1,200	281

(a) Table F-3. Rents are conservatively assumed constant through time, and equal to current rents in old-growth forests.

(b) Master Plan for Forestry Development, "Sustainable Forest Management Plan," Part 2.

(c) Assume one-half of MPFD estimates.

Table F-12. NATURAL RESOURCES MANAGEMENT PROGRAM:
Forest Charges Collected by GOP, 1980-1988

Year	GNP def 1980=100	Forest charges at current prices	(P'000) a/ at 1980 prices	percent change
1980	100	95,551	95,551	-
1981	111	169,752	152,930	60.05
1982	120	165,502	137,918	(9.82)
1983	134	122,233	91,219	(33.86)
1984	201	111,819	55,631	(39.01)
1985	238	88,927	37,364	(32.84)
1986	240	98,576	41,071	9.92
1987	260	102,382	39,378	(4.12)
1988	285	102,243	35,875	(8.90)
Percent change 1980-1988		7.00	(62.45)	

(a) Forest charges from timber and non-timber products.

Sources of data: NPPS-NEDA. Philippine Forestry Statistics, FMB, various years.

ANNEX G

FINANCIAL ANALYSIS

ANNEX G: FINANCIAL ANALYSIS

A. The Natural Resources Sector's Financial Outlook

From 1986 to 1990, DENR's annual budget increased over 500 percent (from $49 million to $312 million) -- an indication of the GOP's recognition and commitment to natural resources management. DENR projects an increase in real terms of 10 percent per annum in its budget over the next five years. Current indications are that the political support that DENR has enjoyed since 1986 will continue through 1992 and probably beyond.

The donor community also has shown an increased commitment to the sector. Life-of-project funding levels for major foreign-assisted projects from 1980 to 1985 totaled approximately $73 million, with the participation of three principal donors (ADB, the IBRD and USAID). Since 1986, however, ten donors have committed resources to twenty major projects with combined funding levels of over $460 million, an increase of nearly 500 percent.

The GOP and the donor community are strongly committed to continuing their support of the "Philippine Strategy for Sustainable Development" and the "Master Plan for Forestry Development." Therefore, it is likely that the financial support needed by DENR to accomplish NRMP's policy objectives will be made available in a timely manner.

B. Need for and Impact of USAID Program Assistance

The public investment needs of the sector are estimated at $3 billion, the requirement for funding 129 programs and projects intended to restore the Philippine environment and natural resources base over the next several years. Present donor commitments are less than $500 million. USAID program assistance of $125 million is the minimum required to accomplish the NRMP program objectives over a five-year period. Further, each of the program components has the potential to make a major contribution to natural resources management in the Philippines. The dollars for policy reform will be used by the GOP as official debt service payments to directly reduce the nation's foreign debt burden.

GOP financial contributions to NRMP can not be accurately quantified, as the implementation actions to reach stated policy objectives will be undertaken by a variety of GOP units for varying periods of time. The nature of these actions ranges from administrative decisions to discrete programs and activities, some of which will draw heavily on the GOP's resources. Many activities have yet to be identified.

Initial estimates show that DENR will incur an additional $181 million to implement the policy agenda (Tables G-1, G-2 and G-3). USAID's performance based disbursements for the successful completion of specified policy reforms will be $75 million. It is expected that benefits derived from the implementation of this policy agenda will result in additional revenues to DENR and the forest products industries, as well as other unquanifiable benefits accruing to the private sector and the nation as a whole. It is estimated that total cost of implementing the program's policy objectives will amount to approximately $227 million, compared with the total USAID program funding of $125 million. In the economic evaluation of the program, it is expected that total benefits in terms of present values of $612 million to $1.3 billion will be generated. Thus a net benefit of $385 million to $1.1 billion is expected to be realized under this program.

Table G-1. NATURAL RESOURCES MANAGEMENT PROGRAM:
DENR's Estimated Additional Costs to Implement the NRMP Policy Agenda (a)
($000)

POLICY/ACTION	YR.1	YR.2	YR.3	YR.4	YR.5	TOTAL
1. TIMBER PRICING	2,000	2,000	2,000	2,000	2,000	10,000
2. TENURE	0	10,080	11,790	11,790	8,130	41,790
3. COMPETITION	0	500	500	1,025	625	2,650
4. TRADE (b)	0	0	0	0	0	0
5. LOGGING BAN	5,000	8,000	8,000	8,000	10,000	39,000
6. FOREST PROTECTION	27,460	7,670	8,700	9,140	9,630	62,600
7. FOREST MANAGEMENT	0	6,250	6,250	6,250	6,250	25,000
GRAND TOTAL	35,060	35,100	37,840	38,805	37,235	184,040

(a) In 1990 dollars.
(b) No costs to DENR. Please refer to notes in Table G-3.

Table G-2. NATURAL RESOURCES MANAGEMENT PROGRAM:
DENR's Estimated Additional Costs to Implement NRMP Policy Agenda a/
($000)

POLICY/ACTION	ACTIVITIES b/	1	2	3	4	5	Total
1. TIMBER PRICING	1.1 Collection	2,000	2,000	2,000	2,000	2,000	10,000
	1.2 Evaluate impacts of new pricing policy						c/
	1.3 Reinvest income from collections						d/
	1.4 Timely release of reinvested funds						d/
	Sub-total	2,000	2,000	2,000	2,000	2,000	10,000
2. TENURE	2.1 Design new tenure instruments including consultation workshops & conduct public information campaign reaching all users.		290				290
	2.2 Implement "people-oriented" forestry						
	-community forestry (CFP)		3,660	3,660	3,660		10,980
	-community stewardship(CSC)		1,130	1,130	1,130	1,130	4,520
	2.3 Training & project preparation assistance for LGUs implementing natural resource mgt. projects			2,000	2,000	2,000	6,000
	2.4 Delineate & inventory 400,000 ha of forests for TPSA auction sales		5,000	5,000	5,000	5,000	20,000
	Sub-total		10,080	11,790	11,790	8,130	41,790
3. COMPETITION	3.1 Revoke/amend procedures governing exit/entry in the wood industry						c/
	3.2 Technology transfer & upgrading in the wood processing industry				625	625	1,250
	3.3 Divest govt equity in the wood processing industry		500	500	400		1,400
	Sub-total		500	500	1,025	625	2,650

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POLICY/ACTION	ACTIVITIES b/	1	2	3	4	5	Total
4. TRADE	4.1 Pay 3% evaluation cost on log imports	600	600	600	600	600	3,000
	4.2 Study impacts of tariff reduction for semi processed wood imports						c/
	4.3 Removal of non-tariff barriers						c/
	4.4 Study potential impacts of liberalized lumber exports						c/
	Sub-total	600	600	600	600	600	3,000
5.LOGGING BAN	5.1 Delineate and mark slopes above 50%	1,850	2,960	2,960	2,960	3,700	14,430
	5.2 Delineate and mark boundaries of old growth forests	3,150	5,040	5,040	5,040	6,300	24,570
	Sub-total	5,000	8,000	8,000	8,000	10,000	39,000
6. FOREST PROTECTION	(Note:Items 6.1 to 6.3 explained in Comprehensive Forest Protection Plan prepared by DENR)						
	6.1 Increase confiscations of contraband timber & arrests/ convictions of illegal loggers						
	6.2 Provide equipment & legal backup for forest guards						
	6.3 Intensify guarding by reducing area assigned to each guard from current 4,000 ha to approx 1,500 ha						
	Personal services	3,100	3,100	3,400	3,400	3,400	16,400
	MOE	3,050	3,660	4,390	4,830	5,320	21,250
	Capital Outlay (equipment & watch towers, etc.)	20,400					20,400
	6.4 Prepare aerial surveillance plan						d/
	6.5 Conduct Aerial Patrols	910	910	910	910	910	4,550
	6.6 Conduct Studies on methods for reducing forest destruction caused by: - unauthorized settlement - land speculators - careless logging practices						d/
	Sub-total	27,460	7,670	8,700	9,140	9,630	62,600

POLICY/ACTION	ACTIVITIES b/	1	2	3	4	5	Total
7. FOREST MANAGEMENT	7.1 Delineate boundaries of various categories of GOP-owned forests (Note: Costs already included in 5.1 and 5.2 above)						
	7.2 Inventory and demarcate production areas in secondary forests: -inventory		6,250	6,250	6,250	6,250	25,000
	Sub-total	0	6,250	6,250	6,250	6,250	25,000
	GRAND TOTAL	35,060	35,100	37,840	38,805	37,235	184,040

a/ Costs over and above normal expenditures included in DENR budget.
b/ For details of cost derivation see attached worksheets (Table G-3)
c/ Costs absorbed by Support Services component of NRMP.
d/ Costs absorbed as part of DENR routine functions.

Table G-3. NATURAL RESOURCES MANAGEMENT PROGRAM:
Estimated Additional Costs to Implement Policy Agenda
Derivation of Cost Estimates ($000)

		Amount
1.	TIMBER PRICING	
1.1	Collection	
	a) Scalers a/ 6 per CENRO x 114 CENROs x $1.5/scaler/yr (2 scalers each in wood, logpond and transport operations)	1,026
	b) Accounting Staff b/ 2 per CENRO x 114 CENROs x $1.5/person/yr	342
	2 per PENRO x 43 PENROs x $2.0/person/yr	172
	c) Administrative costs: (Printing of new forms, remittance of collections and audit expenses) 157 offices (114 CENROs + 43 PENROs) x $3.0/office/yr	471
1.2	Evaluate impacts of the new timber pricing policy	c/
1.3	Re-invest income	d/
1.4	Timely release of re-invested collections	
		2,011
	Total (rounded-off)	2,000

a/ Additional scalers in the timber producing regions (i.e., 2, 4, 8, 9, 10, 11, and 12) which have a total of 114 CENROs.

b/ There are 43 PENROs in the above-listed timber producing regions.

c/ No additional costs to DENR. Expenses absorbed under Support Services Component of NRMP.

d/ No addional costs to DENR. Expenses absorbed as part of DENR's regular functions.

2. TENURE	Amount
2.1 Design of new tenure instruments:	
a) Consultation workshops: 10 x $1,000/workshop	10
b) Information campaign (Printing and distribution of bulletins; public assemblies, media expenses) 14 regions x $20,000/region	280
Sub-total	290e/
2.2 Implement People-Oriented Forest	
a) 100 community forest programs Management plans: 100 x 1,000 ha each x $50/ha	5,000
b) NGO services: 100 sites x $20,000/site/yr x 3 yrs	6,000
Sub-total	11,000f/
c) 50 community forestry stewardship agreements Management plans: 50x 5,000 ha each x $10/ha	2,500
NGO services: 50 sites x $10,000/site/yr x 4 yrs	2,000
Sub-total	4,500
2.3 LGU implementation of natural resources management projects	
a) Training: 200 LGUs/yr x $10,000/LGU	2,000
b) Assistance in project preparation: 200 LGUs x $20,000/LGU	4,000
Sub-total	6,000
2.4 TPSA operations	
a) Delineate and inventory 20 sites x aver. 20,000 ha/site x $50/ha	20,000
TOTAL	41,790

e/ Equally divided among Years 2 to 4 of NRMP.
f/ Equally divided among Years 2 to 5 of NRMP.

3. COMPETITION	Amount
3.1 Revoke/amend procedures that control exit/entry in the wood industry	c/
3.2 Technology transfer in the wood processing industry	
a) 4 pilot plants x 50 cu.m. daily milling capacity x $2,500/inatalled cu.m. capacity	500
b) Training for saw-doctors, millwrights, etc. 100 firms/yr x 5 trainees/firm x $500/trainee x 3 yrs	750
Sub-total	1,250g/
3.3 Divestiture of government equity in the wood industry:	
a) 20 divestiture plans x $50,000/plan	1,000
b) Auction expenses: 20 firms x $2.0/firm	400
Sub-total	1,400
TOTAL	2,650

4. TRADE	Amount
4.1 Continue policy of lowest available tariff on round log imports	3,000h/
4.2 Conduct study on tariff reduction for semi-processed wood	c/
4.3 Remove non-tariff barriers on imports	c/
4.4 Study potential impacts of liberalized lumber exportation	c/

g/ Equally divided among Years 3 to 5.

h/ No costs to DENR. However, the GOP will be paying for pre-export evaluation services at point of departure. These are estimated at $600,000 based on average imports of 200,000 cu.m./yr x average F.O.B. value of $100/cu.m. x 3% (evaluation service charge by SGS, etc) x 5 yrs.

5. LOGGING BAN	Amount
5.1 Delineate and mark 40,000 hectares with slopes over 50% where log ban will be implemented in secondary forests: 400,000 ha x $30/ha	12,000
5.2 Delineate and mark old-growth forests: 0.9 million ha x $30/ha (Delineation costs in old-growth forests than in secondary forests because of difficult accessibility)	27,000
TOTAL	39,000

6. FOREST PROTECTION	Amount
(Note: Items 6.1 to 6.3 explained in comprehensive Forest Protection Program prepared by DENR)	
6.1 Increase confiscations of contraband timber and arrests/convictions of illegal loggers	
6.2 Provide equipment, legal back-up, travel funds, incentives for forest guards	
6.3 Intensify guarding by reducing area assigned to each forest guard from current 4,000 ha to approx. 1,500 ha	
- Personal Services	16,400
- MOE	21,250
- Capital Outlay (equipment and watchtowers)	20,400
6.4 Prepare aerial surveillance plan	c/
6.5 Conduct aerial patrols	4,550
6.6 Conduct studies on methods for reducing forest destruction caused by:	
a) unauthorized settlement	
b) land speculators	
c) careless logging practices	c/
TOTAL	62,600

7. FOREST MANAGEMENT	Amount
7.1 Delineate boundaries of various categories of GOP forest (already included in logging ban cost)	
7.2 Inventory and demarcate production areas in secondary forests	
a) Inventory: 500,000 ha x $50/ha	5,000
b) Demarcate (already included in logging ban cost)	
TOTAL	25,000

ANNEX H

INSTITUTIONAL AND ADMINISTRATIVE ANALYSIS

ANNEX H: INSTITUTIONAL AND ADMINISTRATIVE ANALYSIS

A. Background

Since its creation in 1987, the Department of Environment and Natural Resources (DENR) -- the lead GOP entity in the implementation of the proposed Natural Resources Management Program (NRMP) -- has demonstrated a sense of purpose and commitment to better manage the Philippines' natural resources. Within the conceptual framework of the "Philippine Strategy for Sustainable Development," DENR is pursuing an ambitious policy and institutional reform agenda directed at arresting further degradation of the environment, rehabilitation of that which has been destroyed, and preservation of existing natural resources. In the forestry sector, DENR is dedicated to "perpetuation of forest resources for the benefit of present and future generations of Filipinos."

In support of the GOP and pursuant to its recently approved "Philippines Assistance Strategy Statement" and Agricultural and Natural Resources Strategy, USAID will encourage ecologically sound, long-term economic growth through sustainable natural resources management via NRMP. This will be accomplished through the provision of performance-based disbursements to the GOP in exchange for the implementation of mutually agreed policy objectives. In addition, program funds will be provided for activities, such as technical assistance, that support the implementation of the agreed policy changes.

B. Objective

The purpose of this Annex is to determine the institutional capability of DENR to plan, administer and monitor actions required to attain the program purpose. It focuses on the technical and administrative capacities of DENR to reach NRMP's policy objectives, which are directed at managing and protecting the natural forests, and restructuring and rehabilitating the forest products industries. It identifies some of the technical and administrative issues that need to be addressed, and recommends actions to facilitate effective and efficient natural resources management. This assessment also looks at local government units (LGUs), non-government organizations (NGOs), and various "user groups" that have a major role in managing the Philippines' natural resources.

The approach used in the preparation of this Annex was to study the process by which GOP policies are translated into actions needed to reach stated policy objectives at the operating level. Key personnel and staff of DENR provided an understanding of and insights into the operation of the Department at all levels. These were confirmed in interviews with Asian Development Bank (ADB) and World Bank personnel who work closely with DENR. Many publications were reviewed during this assessment; those listed at the end of this Annex were particularly valuable resource materials.

C. GOP Organization and Capabilities for Natural Resources Management

This section reviews the organization and capabilities of the GOP, with particular reference to DENR, as well as local government and non-government institutions involved in natural resources management in the Philippines, in order to identify the institutional factors that contribute to improving resources management.

There are five major groups of organizations involved in natural resources management in the Philippines: national government agencies; local government units; non-government or private voluntary organizations; user groups; and donor organizations.

1. The New Constitution

The 1987 Constitution, ratified by plebiscite in February 1987, embodies explicit provisions for the protection and enhancement of the environment. These include a fundamental statement of policy: "The State shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature." In the management of the public domain, the Constitution instructs the Congress to take "into account the requirements of conservation, ecology and development," insisting that "forest lands and natural parks shall be conserved and may not be increased or diminished, except by law," and requiring "measures to prohibit logging in endangered forests and watershed areas."

The 1987 Constitution also calls for rural development and agrarian reform, promotion of the rights of indigenous cultural communities and the encouragement of non-government, community-based or sectoral organizations that promote the welfare of the country. In Article XIII on social justice and human rights, the State is pledged to enhance human dignity and reduce inequities through the acquisition, ownership, use and disposition of its property. Specifically, there is a requirement for "agrarian and natural resources reform" that gives land to the landless, requires the participation of farmers and independent farmer organizations in planning, organizing and managing such a process, and applies the principles of land reform to the disposition and utilization of lands in the public domain, subject to prior rights of small settlers and indigenous communities.

The new Constitution, therefore, gives explicit recognition to management of the environment, linking the use of natural resources to expanded productivity, sustainability and equity through open democratic processes and distributive justice. It is against this backdrop of high and competitive ideals and legislation governing natural resources and the environment predating the new Constitution that government reorganization for natural resources has taken place.

2. Department of Environment and Natural Resources

DENR was created in June 1987 to consolidate the management of natural resources and the environment in a single agency. Prior to 1987, there were some 27 GOP agencies dealing with environment and natural resources management. Agencies other than DENR still share some responsibility for natural resources and the environment. A particular need for coordination exists between DENR and the Departments of Agriculture (DA) and Agrarian Reform (DAR) with respect to upland and coastal area management. However, the establishment of DENR represents a major effort to create a lead GOP agency for natural resources and environmental management.

DENR is responsible for the conservation, management, development and use of forest and grazing lands, mineral resources and other lands in the public domain. DENR's principal responsibility is for public forest lands, defined as including lands with a slope of 18 percent or more and mangrove forests of 20 hectares or more. The line functions of DENR have been decentralized and are being managed through Regional Environment and Natural Resource Offices, located in regional capitals and headed by Regional Executive Directors (REDs). The REDs report to assistant secretaries for field operations in Luzon, the Visayas and Mindanao, who in turn report to the national-level Undersecretary for Field Operations. The Secretary of DENR is assisted by four additional undersecretaries for policy and planning, legal services, natural resources management and environment and research.

DENR has six staff bureaus, three for natural resources and three for environment. These include the Forest Management Bureau, with responsibility for forest land use, forest management, reforestation and social forestry; the Protected Areas and Wildlife Bureau, responsible for all national parks and wildlife sanctuaries; and the Ecosystem Research and Development Bureau, responsible for basic and applied forestry, upland and mangrove research.

Over the past three years, DENR has undertaken a complex and far-reaching reorganization in an attempt to: (a) consolidate all major natural resource and environment functions within a single agency; (b) decentralize staff from the national capital to the regions and provinces; (c) devolve decision making from the Secretary to the regional level and below; (d) consult more actively with the public about policies, programs and projects; and (e) transform its image from that of a corrupt regulatory agency to an enlightened development institution. The broad parameters of this process are to shrink DENR from approximately 25,000 staff, with 35 percent at the national level and 65 percent in the field, to approximately 23,000 staff, with 15 percent at the center and 85 percent in the field. Presently, DENR has about 24,000 staff and has attained its field deployment target of 85 percent. DENR also employs about 16,000 contract employees.

Budget allocations for the DENR and the Ministry of Natural Resources (the forerunner of DENR) declined in real terms by 4.4 percent between 1981 and

1986. This decline was comparable to that experienced by all the "agricultural" agencies in response to the Philippines' severe financial crisis that began in 1983. However, between 1986 and 1990, DENR's annual budget increased by over 500 percent, an indication of the GOP's current concern about the environment and natural resources.

3. Local Government

Local government in the Philippines embraces those levels of government from the provincial to the municipal and barangay levels. These levels of local government are headed by elected representatives (governors, mayors and barangay captains) who convene provincial, municipal and barangay development councils to plan and oversee development programs and projects. The importance of local governments to natural resources management stems from their closeness, and the closeness of their constituents as resources users, to the issues posed by resource degradation; their lack of legislative control over most of the natural resources within their boundaries; and the personnel and financial resource limitations they face for planning and implementing development.

Local government expenditures have stabilized at a level equivalent to only 10-12 percent of national expenditures; an excessive proportion of local expenditures has been based on funds transferred from the national government and in response to decisions made in Manila. The inability of local governments to raise revenues for their own purposes, and their lack of influence over the management of natural resources, has made them ineffective partners in the development process at a time when more responsive local management of resources is required. The current trend toward government decentralization to the regional level has been handicapped by failure to address the absence of either a revenue base or management infrastructure at the subregional, i.e., the local government, level.

4. Non-Government Organizations

NGOs have been active in the Philippines in various forms since before the country's independence in 1946. Both religious and non-religious groups, with and without foreign assistance, have been active in the fields of relief work, formal and non-formal education and health. More recently, NGOs working in the areas of economic development, environmental conservation, human rights and social justice have proliferated. NGOs have become a feature of development in the 1980s for several reasons, including: a growing willingness by the Government to strengthen and rely on private sector institutions generally; the perception that NGOs can be effective in reaching the poor; a sharp decline in public development resources, necessitating a search for more cost-effective alternatives; the realization that NGOs mobilize significant volumes of resources from public and private sources; and recognition of the capacity of some NGOs to carry out programs at local, regional or national levels.

There are now about 300 NGOs involved in different projects of DENR, mostly related to reforestation, forest conservation and environmental activities. Many religious organizations, in particular, are actively involved in social and ecological activities, especially in the uplands.

5. User Groups

User groups (organizations of beneficiaries) represent an important subset of NGOs, and play a significant role in natural resources management in the Philippines. The best documented of these are water user associations incorporated to manage communal irrigation systems. These cover more than 500,000 hectares, and average approximately 100 hectares in area. While development of user groups to manage upland area resources is difficult, effective examples already exist, and the role of user groups in these areas is bound to expand. Centralized service-delivery approaches for the benefit of the rural poor have frequently failed because of limited reach, inability to sustain necessary local action, limited adaptability to local circumstances and the creation of dependency relationships. For these reasons, greater participation of user groups in the planning and implementation of sustainable development at the local level is desirable. Current Government policies favoring decentralization and devolution are opening opportunities for the active involvement of user groups in resources management, and the organizational skills needed to form or develop such groups can be found in the education and NGO communities.

D. Plans for Strengthening Natural Resources Management

From the broad institutional reforms of the GOP in support of the Philippine Strategy for Sustainable Development (PSSD), DENR has initiated major organizational reforms and institutional strengthening. Its objective is to attain the following by 1992:

-- Institutionalization of inter-agency coordination in implementing the PSSD to the degree that mechanisms for collaboration and exchange will have reached the level of operations.

-- Private sector participation and cooperation achieved with full partnership with GOP institutions in managing the environmental and natural resources of the country. Institutional mechanisms to carry out these relationships will range from formal contracts for resource development to collaborative councils for planning, management, monitoring and evaluation of natural resources.

-- Establishment of viable and well organized rural upland communities and/or farmer associations actively supporting the maintenance and management of natural resources projects.

-- Maintenance of well-trained DENR staff who are responsive to the Department's mandate. Competence and efficiency will be demonstrated in both the technical and management fields.

-- Installation of a reliable natural resources data base that is accessible to internal and external users, and a management information system that is effective, up-to-date and supportive of the socio-economic and environmental concerns of the Department.

-- Improvement of competencies of field level offices of the Department as measured in the timely attainment of policy and program targets.

E. Institutional Needs to Strengthen Natural Resources Management

The ability of the GOP to resolve environment and natural resources problems depends on the presence of capable institutions. Many of the institutional arrangements for effective management are in place, but they do not yet operate effectively.

A framework of institutional instruments exists in the Philippines that is sufficient to support most of the environment and natural resources policies of the GOP and to implement the NRMP as detailed in the PAAD. These institutions include the GOP, non-government organizations and the for-profit private sector.

The current DENR leadership has injected a sense of purpose and commitment heretofore absent in the Department. Most of the reorganization and decentralization of DENR has been accomplished and much, though not all, of the confusion over roles, responsibilities and direction has been resolved. At the national level, the most significant issues relating to natural resources management stem from limited mandates, resource limitations, remaining confusion regarding reorganization, potential corruption of the line agencies charged with managing natural resources, and the ineffectiveness of local governments and user groups that need to be empowered.

The issue of mandate has two main aspects: changing roles and overlapping responsibilities. With respect to changing roles, DENR's predecessor, from the time of its separation from the Ministry of Agriculture in the mid-1970s, consistently viewed all aspects of management of the public forest land as its exclusive responsibility. As a result, a tremendous amount of energy was expended in resisting the efforts of other agencies to enter its enormous 'territory' and in flirting with the provision of a range of services to upland people that foresters and engineers were ill-equipped to provide.

The need for the DENR to transform itself from an almost exclusively regulatory body that raises revenues and manages forests to a developmental agency has been recognized. Attention is now being devoted to understanding how such a transformation can be achieved and to making it happen. This process is well under way and must continue.

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Overlapping responsibilities refers mainly to the DA's lack of involvement in the uplands, where one-third of the population lives, largely dependent on rural occupations for their welfare. Within the DA, the charge to be developmental has long existed, but attention to upland development was precluded, except for a few special projects, by authority vested in DENR under the 18 percent slope criterion. In addition, the DA has emphasized commodity programs for irrigated lowland agriculture, thus severely limiting its capacity to promote agricultural development in rainfed hilly lands. Understanding upland agriculture systems requires very different perspectives and skills from the better-studied lowland agriculture. The DA has not chosen to invest heavily in understanding upland agricultural technologies, and upland farmers are left without access to a research and extension system.

The resource limitations of national agencies include both personnel and financial resources. Personnel resource limitations refer mainly to limitations of qualified staff. DENR and the DA appear to have adequate numbers of staff. Within DENR there is a scarcity of staff with technical and managerial skills and who can deal effectively with the problems of people in public forests regarding their search for more secure tenures and more productive systems to generate livelihood. Upland farmers require certain specific services to improve their livelihoods; these services generally include community organization, services to secure or improve resource tenures, extension services to improve production and income levels, and sources of small-scale credit. In none of these areas are DENR, DA or DAR currently well equipped to serve their clients.

Financial resource limitations affect line agencies in several ways, including shortages of vehicles and/or fuel, inadequate communications and insufficient daily and travel allowances. Particularly in DENR, the combination of traditionally centralized decision making and poor financial backing for field operations has resulted in a staff that is not oriented or disposed favorably to field work. The lack of operational vehicles, fuel and maintenance systems means that professional staff have little mobility and become dangerously dependent on concessionaires to take them to the field. The lack of effective communications systems means that staff are often isolated in the field without recourse to advice or support. Poor mobility and poor communications become overwhelming factors in areas where personal safety may be at risk or security is believed to be weak. Staff are unwilling to go to the field in insecure areas knowing that they cannot return readily or call for support. The lack of operating funds for travel allowances create disincentives to leaving the office and traveling into the hills, regardless of the security situation or the availability of transport.

The problem of potential corruption of the line agencies is an issue that applied particularly to DENR's forerunners. It refers to the public perception of favoritism and dishonesty in the disposition of public resources. This includes both the explicit use of public resources as

personal "perks" and the abuse of regulatory power by officials. The current Administration in general, and the incumbent DENR Secretary in particular, have made an issue of the need to maintain high standards of integrity. Recent senior appointments that drew on people from outside the system, increased salaries, enhanced public awareness of the problem and greater transparency in operations have all contributed to this objective. However, the potential rewards for corrupt behavior are still great. The system for allocation, management and regulation of resource use must be further improved to reduce the scope of administrative discretion and increase mandatory resource use fees to levels commensurate with economic rents.

Power and authority in the Philippines has traditionally been concentrated in the central government, which stands at the apex of the administrative hierarchy. Until recently, decisions flowed unilaterally from national line agencies to the three-tiered local government structure of provinces (73), municipalities (approximately 1,600) and barangays (approximately 42,000). These political subdivisions are grouped into 13 administrative regions with Regional Development Councils as the machinery for coordinating sub-national government programs in each region. Government policy is to move increasing amounts of authority and control to the sub-national level, but actual devolution has been slow, with the result that local governments still act largely as under-staffed and under-equipped implementors of national programs.

If the GOP carries though with its plans for decentralization, the capabilities of local governments at all levels must be strengthened. Currently, local governments suffer acute resource limitations in personnel and finances. The areas where local government has received some strengthening in the past include planning, infrastructure development, taxation and fiscal administration. Mobilizing local financial resources is still particularly weak, with almost total dependence on the real property tax and transfers from the central government. However, for decentralization to be meaningful, revived support for all three areas is necessary, combined with improved reliability and timeliness of inputs from central to local governments. Until local governments have more discretionary power to plan and implement, local governments will be less effective and resource management will not be as responsive to local development opportunities and constraints.

Current policy also encourages more effective collaboration between government and private organizations to improve natural resources management. Since corporate and user groups are frequently the agents of resource degradation, effective collaboration is extremely important if it can lead to change. Some private corporations in the Philippines have been innovative and exemplary in their relations with government and resource users, but most have not. Lack of effective control by GOP agencies has made private corporations the de facto managers of many public resources, and private corporations with the potential to contribute to resource conservation, such as through contract reforestation, have only recently been identified.

Non-government organizations are already active in the Philippines in natural resources management in communities of forest lands, both independently and in association with government. NGOs have demonstrated their capacity for community organization, advocacy of community positions and extension of effective low-cost technologies. However, there are limited numbers of NGOs directly active with projects in the field or with the strategic capabilities necessary to serve and strengthen other NGOs. Since much of the process of resource degradation in the uplands involves the subtle undermining of the resource base by poor people in search of a livelihood, i.e., a highly localized process, the failure to develop NGOs beyond their current levels reduces the effectiveness of conservation measures. Facilitation of local resources management can and does come from government, but the most effective measures, in terms of sustained local capacity building at low cost, have been associated in the Philippines with NGOs working at the local level, whether independently or in association with GOP agencies.

F. Suggested Criteria for Targeting NRMP Assistance

The needs are so great in relation to the resources available that it is necessary to focus attention on actions that will significantly contribute to NRMP's stated policy objectives and program purpose. Program assistance must be targeted to achieve significant results within a reasonable timeframe. For these reasons, criteria must be adopted for recommending institutional changes and in targeting assistance provided by NRMP. Assistance provided under NRMP's Support Services component will consist of technical assistance, training, research and limited commodities.

The first suggested criterion for recommending institutional change and identifying support needed from NRMP is to focus on actions that will directly support the attainment of those stated NRMP policy objectives that are not being addressed by existing or planned programs.

The second criterion is to strengthen selected institutional entities, primarily in DENR, whose improved performance will clearly contribute significantly to the attainment of those stated NRMP policy objectives that are not being addressed by existing or other planned programs. The third criterion is to avoid recommending changes or providing support for entities already targeted for major assistance from other donor agencies.

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ANNEX I

SOCIAL SOUNDNESS ANALYSIS

ANNEX I: SOCIAL SOUNDNESS ANALYSIS

This annex discuss three major topics related to the design of NRMP First is a description of the factors other than economic policy that encourage deforestation and forest degradation in the Philippines, including population growth. The second is an analysis of the key socio-economic assumptions underlying NRMP and a review of the evidence supporting these assumptions. Third, an assessment is made of the capabilities and role of non-government organizations (NGOs) as they pertain to the establishment of a debt-for-environment activity.

Some statements and data in the text are presented without citing references, and are the outcome of field trips and interviews (see the list of persons contacted). In Annex P, traditional uses of forest resources by upland dwellers and the prospects for non-timber forest products are examined in detail. This annex does not address the institutional capabilities of the Department of Environment and Natural Resources (DENR), which is covered in a separate annex.

A. Socio-Cultural Aspects of Deforestation

The trends in natural forest degradation in the Philippines are well described in the USAID-funded Natural Resources Assessment (Dames & Moore, 1989) and other recent reports. Nevertheless, it is worth highlighting some of the socio-cultural forces and conditions that have fostered destructive forest use in addition to the economic causes analyzed elsewhere in this report. Deforestation and resource degradation occur primarily on land considered to be in the public domain. The economic use and replenishment of forest resources is determined by GOP policies that in the past have strongly asserted the property ownership rights of the state. The ability of the GOP to play the role of "landlord" has proved limited, and has led to an alarming boom in illegal logging, land speculation, and other destructive practices. The NRMP strategy for addressing the lack of tenure security in public forests is treated at greater length in the next section.

A rapid increase in population size is often cited as the primary cause of deforestation, because more people are clearing forests for agriculture. The actual dynamics of deforestation in a particular province, however, cannot be explained solely in demographic terms. The province of Negros Oriental is a useful illustration. All logging concessions in the interior forests of Negros Oriental were canceled in 1979. At the same time, recession and massive unemployment in the sugar cane industry drove thousands into the uplands along the abandoned logging roads to pursue slash and burn farming and illegal timber cutting (Dugan, 1989). More recently, unscrupulous sugarcane plantation owners and local politicians in the lowlands have trucked their

NOTE: The assistance of Ms. Evelyn Caballero during the preparation of this annex is gratefully acknowledged.

tenants to the upland forests and left them there to avoid tenancy claims under the Comprehensive Agrarian Reform Program (CARP). Land pressure on the surrounding uplands has also increased. The price of sugar cane is now more favorable, and sugar cane fields are spreading up the steep slopes of the uplands at the expense of the hedgerow alley cropping introduced to upland migrants by a variety of donor-funded and NGO projects. Although sugarcane is not a sustainable form of land use, the "landlords" of this public land stand to make short-term gains. They are easily obtaining credit through the local banks and are receiving the tacit support of the government.

This example illustrates several important contributions to deforestation. First, the strong interconnections between the landed elite, the provincial and municipal governments and the business community often encourage land use practices that are corrupt, destructive and inequitable. Second, policies and programs that promote reliance on a single commodity such as sugar cane are often at the cost of environmental quality and the loss of natural resources for other uses. Finally, the presence of logging roads facilitates forest occupation, particularly when no one has responsibility for managing and protecting the forest.

Another dimension to deforestation is the socio-cultural environment that has spurred illegal logging by small-scale operators as well as over-cutting and poor forest management by the formal sector. During the 1950s, the industry was composed of small-scale entrepreneurs with a pioneering spirit, who used old military trucks and second-hand equipment and viewed forest resources as limitless. As the timber industry become more profitable, the government established a series of regulations that discouraged small-scale legal operations by requiring concessions. The advent of martial law thwarted the trend toward a technical "forester's" attitude toward logging as a way of life and as a long-term occupation worthy of investments in forest management. Instead, timber concessions were allotted based on political considerations, and loggers came to see timber as a source of immediate wealth rather than as a reliable source of income over a lifetime.

This does not imply that population growth is unimportant. To the contrary, the changes in the population of the Philippines have had a profound effect on the forestry sector in terms of growth in the domestic demand for forest products for housing and other industries, in employment needs, and in the size of the resident forest population. The estimated 1990 national population is 62 million, with a projected population of at least 75 million by 2000 (USAID/Philippines, 1990). The past two decades have seen rapid population growth estimated by the GOP at an annual rate of 2.4 percent, but estimated as high as 2.8-3.0 percent by a recent World Bank study and by the WRI (cited in Dames & Moore, 1989).

In 1988, the upland population was estimated at approximately 17.8 million, or nearly one third of the national population, with 8.5 million residing on "public" forest lands (Cruz and Zosa-Feranil, 1988). The annual growth rate of the upland population is approximately 2.5 per cent, mostly from migration. In 1989-90, DENR undertook a census of forests occupants, but

the data are incomplete. Enumerators were reluctant to travel to many remote areas and "hot spots" where peace and order problems are prevalent. Those people who were interviewed were asked about the number of people in their community, not where they came from or the extent of their traditional territory (in the case of indigenous groups). Nevertheless, a preliminary analysis of the census data by DENR suggests a lower estimate of 6.0 to 6.8 million forest residents (GOPA, 1990). Tribal and ethnic groups comprise about 70 percent of this population (Figure I-1).

Upland residents are among the country's poorest, and occupy about 40 percent of the total forest and woodlands, with population densities near the national average of 100 persons per square kilometer. In general, the highest rates of in-migration to uplands are to upland areas with relatively lower population densities (Cruz, 1986). Migration from the lowlands to the uplands is motivated primarily by unemployment and the search for agricultural land (Calanog and Calderon, 1990). The construction of logging roads has stimulated this migration, with population growth as high as 3.5 percent near the roads (Sajise and Ganapin, 1989). This rate of migration and upland population growth could result in an upland population of 50 million by 2020.

B. Assumptions Underlying the Policy Agenda

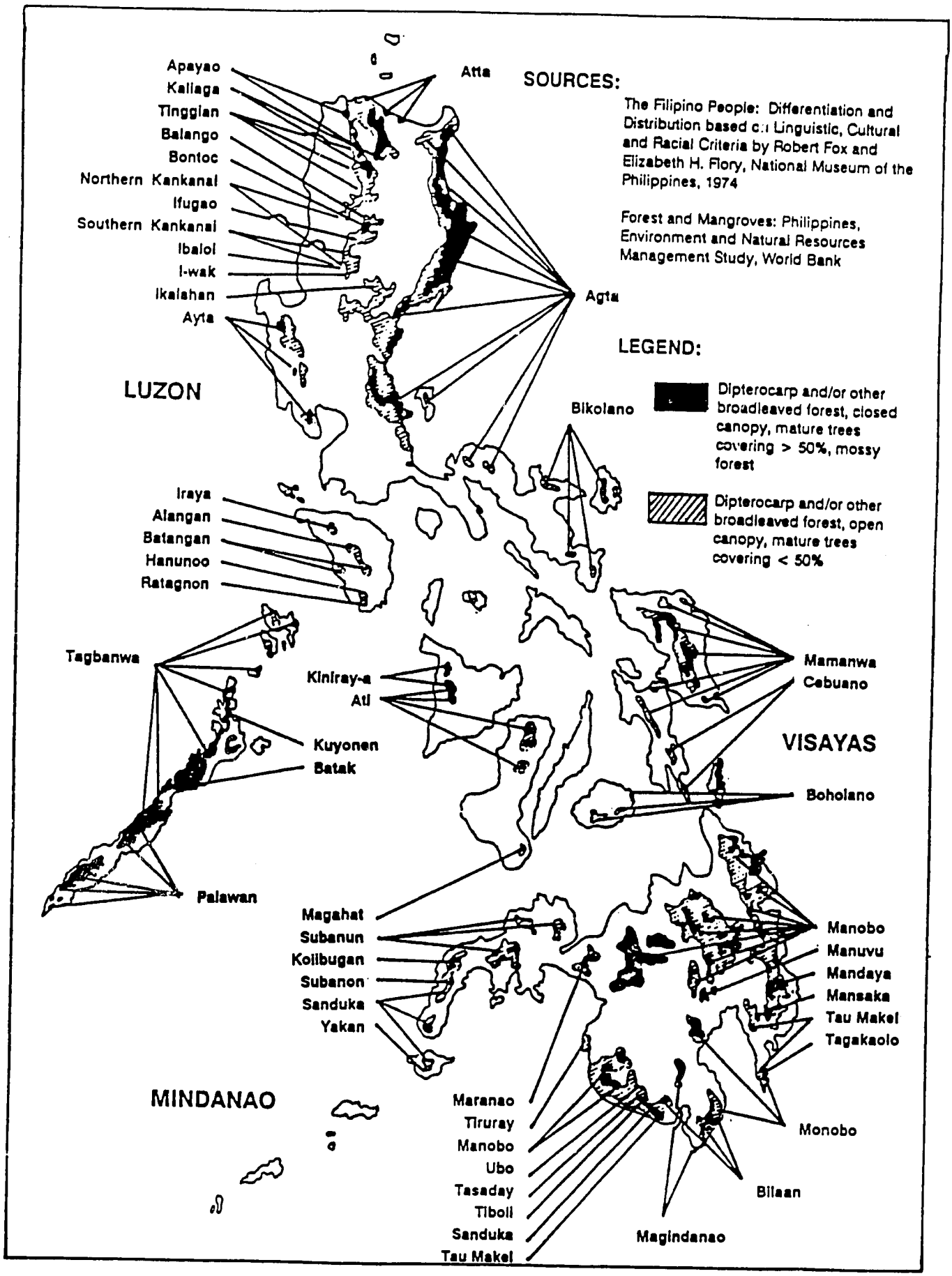
The policy changes envisaged under NRMP address the major forces that have prevented forest resources from contributing substantially to rural economic growth, employment and income generation. A critical program strategy is the transfer of more responsibilities to the private sector while simultaneously strengthening the enforcement of forestry regulations and improving the investment incentives for sustainable management. This includes allocating more property rights and responsibilities to rural communities, NGOs and commercial enterprises for the use, management and protection of natural forests. At the same time, the Resources Protection component will strengthen and expand the role of NGOs for promoting the conservation of biological diversity and community-based resources management. Several socio-economic assumptions implicit in the selection of these policy changes are addressed below.

1. Political Acceptability

The acceptability of the program's proposed policy changes is an issue since deforestation and natural resources degradation are highly politicized, emotional issues in the Philippines. Nevertheless, far more damaging politically, as well as from a socio-economic standpoint, would be allowing the status quo to continue. The socio-economic and political costs of deforestation are of central concern to the Philippines, as evidenced by the plethora of media reports, draft legislation and the rapid emergence of an NGO environmental community.

For the third of the country's population residing in the uplands, forest resources play a crucial role by providing some of the basic household needs

Figure I-1. NATURAL RESOURCES MANAGEMENT PROGRAM:
Philippine Cultural Communities



and income. Indeed, forestry offers one of the only immediate opportunities in many upland areas for improving rural livelihoods. Of special concern is the pervasive disaffection with the government by cultural minorities and tribal groups because their traditional land occupancy and forest exploitation ("ancestral domain") have not been protected against the onslaught of lowland migrants, miners, and loggers. This has helped foster peace and order and insurgency problems, which are particularly notorious in the forested areas of the country.

The ten general strategies articulated in the GOP's Philippine Strategy for Sustainable Development (PSSD) are all compatible with the program's proposed policy changes, particularly: (a) the proper pricing of natural resources; (b) property rights reform; (c) establishment of an integrated protected area system; (d) inducing growth in the rural areas; and (5) strengthening citizens' participation and constituency building. The NGO community is envisioned by DENR as playing an essential role in implementing the last four strategies. The NRMP Resources Protection component will stimulate this involvement by supporting NGO initiatives in the management of protected areas and in community-based forest management.

2. Property Rights Reform

An underlying premise of NRMP is that some secure tenure is a prerequisite for long-term investments in forest conservation by households, communities, local government units (LGUs) or for-profit enterprises. The experience in Asia in general provides some empirical evidence that rural people change their behavior and invest in more long-term resource management when provided with secure tenure over land or particular natural resources. Absolute ownership provides the strongest incentive, but other instruments have also proved to be effective, such as long-term usufructary rights and stewardship contracts.

The major issues for NRMP related to property rights reform are: (a) ensuring that indigenous patterns of forest use and occupancy by cultural groups are recognized as part of their ancestral domain; (b) developing a forest stewardship agreement process that has sufficient flexibility to be sensitive to local tenure; (c) establishing procedures for minimizing the misuse of stewardship agreements and for resolving land claim ecological functions designated for a forest area; and (d) providing forest usufructary rights to communities with supporting programs that offer sufficient opportunities for income generation to improve the incentives for long-term forest conservation. These issues will require special attention under the Support Services component of the program.

An example of the problems facing indigenous groups who do not have some form of title to their traditional territory is illustrated by the Mangyans of Mindoro. The Hanunoo Mangyan traditional land use practices were documented by Conklin in the 1950s, and have come to epitomize "integral" swidden agriculture that is both sustainable and compatible with forest conservation (see Annex P). This celebrated group has lost much of its territory as the

result of: (a) encroachment through permits and leases issued by government officials to outside groups and enterprises; (b) land-grabbing and illegal fencing by wealthy and influential individuals; (c) squatting by migrants on Mangyan reservation land (already legally acknowledged), which was later turned into alienable and disposable land; (d) deception by outsiders who approached local leaders with offers of friendship, loan money or goods in exchange for land; and (e) kaingin restrictions by the government. The most pervasive factor has been the issuance of pasture leases for wealthy lowlanders by unscrupulous politicians. Some Hanunoos and other Mangyans have become wage laborers and tenants on their own land (Lamberte, 1985).

Most analyses of forestry issues in the Philippines view the recognition of the ancestral domains of indigenous peoples as a critical step toward sustainable forest management and protection, as well as toward democracy and equity (see Fay, 1989 and World Bank, 1989). The 1987 Constitution contains provisions for protecting the rights of ancestral domain, but also espouses the Regalian Doctrine that all lands not covered by official documentary certificates of title are presumed to be owned by the government. Nevertheless, there are Constitutional precedents for recognizing the claims of ancestral lands as superior to the subsequent claims of the state (La Vinia, 1989).

DENR has proved reluctant to use these Constitutional precedents and relinquish its control over ancestral lands in the absence of a presidential order or legislation. Senate Bill 909, which is pending approval, does establish a process for recognizing ancestral domains, and is supported by DENR. This bill recognizes ancestral lands as communally-held private property, but not disposable. The vigorous, extended debate in Congress over this bill will prevent any near-term resolution. Although the World Bank made the passage of this bill a condition of funding for the upcoming environmental sectoral adjustment loan, this stance has proved impractical in the existing Congrssional climate.

In this setting, NRMP can help DENR take advantage of existing opportunities to recognize ancestral claims. Specifically, the delineation and recognition of claims in the autonomous Cordillera and Mindanao regions can be accelerated and strengthened. The following, in particular, need to be refined: (a) defining what is included as "ancestral domain;" (b) procedures in delineating the claims of different cultural groups; and (c) the nature of the rights recognized (La Vinia, 198x). The first and third issues are crucial for forest management, as systematic guidelines are needed to identify obligations and resource rights of communities for special forest areas such as critical watersheds and nature preserves. The second issue is important because each cultural group has a unique set of tenure arrangements and socio-cultural norms regulating resource use, and procedures are needed for recognizing the particular resource system that is in place. Further, the extent of forest area eligible for designation as ancestral domain is unknown. Most of the remaining old growth forests are probably claimed, and as much as 80 percent of the proposed Integrated Protected Areas System (IPAS) may be claimed, by indigenous people. A task force is already at work in the

Cordillera region but is in danger of becoming bogged down in the conflict resolution process. Mindanao has no task force yet, although that region contains a substantial portion of the remaining natural forests of the Philippines.

DENR has a general policy objective of property rights reform that relies on various instruments other than titling to assign more secure land tenure and forest usufructary rights to rural upland communities, local-level people's organizations and individual families. These instruments are summarized in Table I-1. The empirical evidence available from the Integrated Social Forestry (ISF) program and from NGO initiatives shows that these instruments can effectively turn common property resources into limited access ones and can increase the investment by local residents in long-term resources management.

The ISF program relies primarily on the Certificate of Stewardship Contract (CSC), which is issued to individuals who are the tillers of public forest land. The intention is to increase the incentives for sustainable upland agriculture; the program is DENR's flagship initiative. Pulhin (1987) examined the degree of compliance with the obligations of CSCs by upland farmers in 20 project sites in Region IV (272 respondents). Less than half the participants were actually migrants from the lowlands. Generally, there were high expectations from CSC agreement, and the farmers felt some pressure from the threat of CSC cancellation. On the other hand, there was generally poor compliance with the details of the agreement due to the lack of technical support from the government and from some abuses of the program. The most predictive factors for compliance were the proportion of total household income derived from CSC land, distance of the CSC site from home, and the provision of extension services. As the ISF program has learned, the dissemination of stewardship contracts is only the first step. The true challenge is to develop and implement well-defined work by a resident NGO or DENR staff person (see Aquino et al. 1987). Recently, DENR has allocated more resources to increase the number of qualified staff for the ISF program.

The CSC is most appropriate for improving the incentives for sustainable upland agriculture rather than for the management of natural forest stands. The latter requires a more coordinated approach to resource inventorying, the formulation of a management plan and implementation. The Community Forest Stewardship Agreement (CFSA) has been used by a few communities to establish more formal rights to their ancestral domains and to resist forest encroachment. It is primarily viewed as a mechanism for cultural groups, although theoretically there is no reason CFSAs could not be issued to long-term migrant communities. Most CFSAs are awarded to communities that have established their own "people's organization" with the help of NGOs and which have taken the initiative to file formal requests and persist with their claims until DENR finally issues certificates. Only ten CFSAs were issued by the end of 1989, but the number of pending cases is quite substantial.

Many indigenous communities are reluctant to file for a CFSA because the certificate implies that the land is part of the public domain and not part of

Table I-1. NATURAL RESOURCES MANAGEMENT PROGRAM:
Agreements for Community Access to Upland Natural Resources

Name	Duration	Area	Coverage	Number Issued	Total Area (Ha.)
Certificate of Stewardship Contract*	25 years, renewable	3-7 ha.	Farmed lands, Cogon grass	93,070 (1988)	227,460
Community Forestry Stewardship Agreement	25 years, renewable	vari-able	Forest, farmed lands	12 (1988)	12,433
Forest Land Management Agreement		vari-able	Reforested degraded land		
Community Timber Utilization Agreement	25 years, renewable		Residual forest	1 (pilot)	4,000
Community-Based Forest Management		100 - 1,000	Residual Forest, Old Growth	10 (pilots)	
Watershed Protection Contract			Critical Watersheds	(pilot)	

* This includes all agreements prior to the consolidation of the Integrated Social Forestry Program.

their legitimate ancestral domain. In 1987, DENR made a revision clause for non-waiver of ancestral land rights when a cultural community enters into this type of agreement, so that even if the CFSA is canceled or it expires, their ongoing claim to ancestral domain is not affected. It should be possible to strengthen this provision further to encourage more indigenous communities to participate by offering to transfer all CFSAs into Certificates of Ancestral Domain if the community complies with all CFSA obligations for forest management during the first 10-15 years. This is the type of refinement of tenure instruments that can be facilitated under NRMP.

Tenure security has also affected the timber industry. Despite the 25-year time frame for timber license agreements (TLAs), renewable for another 25 years, the practical experience has been that the licenses are frequently withdrawn by the GOP for political reasons as well as for serious violations of the license agreements. From 1978 to the present, 43 TLAs were suspended, with an average operating time of only 9 years. Since 1960, 39 TLAs have been revoked before the end of their 25-year license, with an average operating time of less than 15 years. DENR reports that only a few TLA holders have ever completed the 25-year initial license period and received renewals. Although DENR must retain the power to force compliance with forestry regulations by revoking or suspending licenses and agreements, the industry must also have the confidence to invest in the regrowth of hardwood trees that can take 40 or more years to reach harvestable size. NRMP addresses this issue by encouraging the establishment of a well-defined procedure for just compensation for enrichment planting, timber stand improvement and reforestation if a forest agreement is revoked without a major violation. This is viewed as a more pragmatic approach to the extension of the TLA or TPSA time frame, which would require a Constitutional amendment.

3. Community-Based Resources Management and Protection

A critical element of NRMP will be the empowerment of rural communities to manage and protect the natural forests. Peoples' organizations and NGOs can play a pivotal role by mobilizing rural communities and cultural groups to apply for forest stewardship rights from the GOP and by assisting the development of subsequent forest resource management plans. The draft Master Plan for Forestry Development proposes that 1.5 million hectares of residual forest be placed under the responsibility of forest-dwelling communities by the year 2005 (Table I-2). In addition, the establishment of the IPAS and the proposed ban on further logging in old growth dipterocarp forest will need the participation of local communities to enforce restrictions on forest use. In return, their rights to certain types of forest exploitation will be strengthened and community development efforts will be initiated by a range of NGOs, academics and DENR. This process is generally expressed as "community-based resource management," and is articulated in the Philippine Strategy for Sustainable Development (DENR, 1990) and in the National Economic and Development Authority's Medium-Term Philippine Development Plan (1987-1992).

Two components of NRMP support and promote community-based resource management. The policy agenda will encourage DENR to define the rights and

Table I-2. NATURAL RESOURCES MANAGEMENT PROGRAM:
Proposed Targets for People-Oriented Forestry Programs
as proposed by the Master Plan for Forestry Development

	1995	2000	2005	TOTAL
1. Integrated Social Forestry:				
-- CSCs issued (000s)	181.1	191.0	198.0	596.8
-- Forest land managed (000 ha.)				
2. Community-based Forest Management:				
-- Number of Leases:				
Large (av. 1,000 ha.)	50	250	200	500
Medium (av. 500 ha.)	150	500	350	1,000
Small (av. 100 ha.)	1,300	2,250	1,450	5,000
Total	1,500	3,000	2,000	6,500
-- Number of Households (000s):				
Largeholders	7.1	35.7	28.6	71.4
Mediumholder	10.7	35.7	25.0	71.4
Smallholder	18.6	32.1	20.7	71.4
Total	36.4	103.6	74.3	214.3
3. Residual Forest Managed (000 ha.):				
Large	50.0	250.0	200.0	500.0
Medium	75.0	250.0	175.0	500.0
Small	130.0	225.0	145.0	500.0
Total	225.0	725.0	520.0	1,500.0

responsibilities of the GOP, LGUs, NGOs and other private sector entities and to establish an effective working relationship with the NGO community. The Resources Protection component will lead to the establishment of an environment fund that supports community-based resource management initiatives, including participatory research, training and field projects. Implicit in this approach is an assumption that rural communities are capable of managing natural resources in a sustainable way if given the right incentives and provided with appropriate technical support from the GOP or NGO community. Given the rapid rate of deforestation and natural resource degradation, most view this approach as the most feasible for sustainable forest use in the Philippines.

An analysis by Sajise (1989) of several successful and unsuccessful case examples of community-based resource management provide important insights to this approach. He found that in order to ensure a productive and sustainable resource base, the structure of the local social system has to be compatible with: (a) equitable distribution of natural resource access rights among community members; (b) capacity building for participatory resource management; (c) greater community solidarity; and (d) ability to buffer the rapid changes caused by the intrusion of the cash-oriented economy and new technologies. In addition, outside assistance must support the traditional customs, traditions and norms governing the use of natural resources. Several examples of fairly successful initiatives are listed in Table I-3.

There are several important issues that will be appropriate to address under the program in support of the community-based resource management concept. First, there is a need to ensure that DENR has a procedure for allocating appropriate forms of tenure arrangements that are compatible with local socio-cultural conditions. Second, the technical approach to forest management will need to be formulated according to site-specific conditions and existing land use practices, rather than being based on a uniform formula for forest management devised in Manila. Third, social science skills will be crucial for the implementation of this effort. In particular, the implementing DENR or NGO staff must be capable of understanding community-specific needs and social conditions using a variety of social assessment and rapid rural appraisal techniques. Finally, substantive management systems must be developed for different forest resources, including timber, rattan and other forest products.

C. Role of NGOs and Their Capabilities

NGOs play two crucial roles in helping to meet program objectives. The first is their advocacy role for issues related to environment and natural resources, particularly: government and forest industry accountability; the promotion of the ancestral land rights of indigenous groups; public education and awareness of environmental issues; and the devolution of government power to the local level in order to empower communities to have more control over natural resources. The second role is assisting communities in natural resources management and the establishment of an effective IPAS. The Resources Protection component of NRMP will provide the impetus for

Table I-3. NATURAL RESOURCES MANAGEMENT PROGRAM:
Examples of Community Based Forest Management

1. Ayungon and Bindoy, Negros Occidental

In 1984, a social forestry program was initiated as part of the Central Visayas Regional Development Project I (CVRP) funded by the World Bank. Community Timber Utilization Permits were issued by DENR for about 4,500 ha. of residual dipterocarp forest. In this experimental effort, local communities were given the same status as timber concessionaires in terms of wood harvesting privileges and forest management responsibilities. During the first year, the rate of deforestation declined from 1,360 ha. per year to less than 100 ha. per year. Wages earned from forestry activities were 40 to 70 pesos per day, compared to 10 to 15 pesos per day working for the nearby sugar plantations. Serious problems arose, including the mismanagement of community revenues earned from timber sales, which led to the suspension of the CTIPs by reinstatement of their permits. The natural forest is still guarded by some of the participating communities and for this reason is one of the few forests tracts remaining in Negros.

2. Kalahan Education Foundation (KEF)

This foundation was established on behalf of 2,000 members of the Ikalahan group of Santa Fe, Nueva Viscaya. After a long struggle, nearly 15,000 ha. were awarded in 1974 as the first Community Forestry Stewardship Agreement (CFSA) issued by DENR. Since then, nearly 1,000 ha. of land formerly under agricultural use have been reforested at no cost to the government. (It would have cost 18 million pesos -- about $720,000 -- to reforest the same area under the current reforestation program). Accidental fire losses have been reduced from 100 ha. per year to 40 ha. per year, and the watershed quality has improved to the point where natural springs have returned. This community has developed a small industry based on a forest tree fruit, "dagwey" (Sauraula bontocensis), which is collected, preserved and marketed. The KEF has successfully fought off land speculators, corrupt politicians and others trying to develop their forest lands.

3. Pundasyon Hanunuo Mangyan (PHM) and Philippine Association for Intercultural Development (PAFID)

With the assistance of PAFID, Mangyans from four areas of the municipality of Bulalacao in Mindoro Oriental province established PHM. This peoples' organization created the necessary legal framework to apply for a CFSA for their ancestral lands. After six years of strong opposition by a mining company, a CFSA was issued for 3,980 ha. for 87 families. PHM has kept illegal loggers out of their forests by using the CFSA. In one case, they confiscated the chainsaw and lumber from an illegal logger and used the lumber to build a new school. PAFID also helped establish programs for elementary education and agroforestry, drawing on the services of De La Salle University and the University of the Philippines at Los Banos.

Table I-3: NATURAL RESOURCES MANAGEMENT PROGRAM:
Examples of Community Based Forest Management

(continued)

4. Santa Cruz Mission Cultural Foundation, Inc. (SCMFI), Lake Sebu, Mindanao

A religiously-oriented NGO, SCMFI has a range of programs and local services for the T'boli people. The best known initiative is the Ecological Family Farm project where 150 families have developed two-hectare plots into permanent agriculture sites, and 1,650 hectares was reforested around tribal farms. SCMFI has actively resisted illegal logging and mining in areas claimed as ancestral domain, and turns in violators to DENR. Other services are also provided, including environmental education. There is fairly close coordination with government agencies so that more services will be provided to the T'boli, although there are some allegations that SCMFI supports the communist New Peoples' Army.

strengthening the ability for nature-swap (hereafter referred to as the environment fund) for field activities, research and training as well as by encouraging coordination and cooperation among NGOs and the GOP.

The NGO community acquired a powerful mandate under the 1987 Constitution to play an active role in: (a) grassroots development initiatives; (b) acting as intermediaries between the citizenry and government, particularly on behalf of the poor; and (c) promoting innovative approaches to community self-reliance. This mandate, reiterated in the Medium-Term Development Plan and the PSSD, provides a unique opportunity for the NGO community play a major role for achieving some of the program's policy objectives. In particular, the proposed environment fund will support and strengthen initiatives by peoples' organizations, NGOs and academic groups in the conservation of biological diversity and community-based resources management.

A large, vibrant NGO community has emerged in the Philippines, with particular strengths in health programs, grassroots community development and advocacy. With registered NGOs numbering in the tens of thousands, these groups serve a variety of functions and pursue a wide array of objectives. The political relationship of the NGO community to the GOP is better than during the Marcos era, and many DENR senior staff originally worked in the NGO community, including the DENR Secretary. There remains room for improvement, however, and the Support Services component of NRMP should include provisions for continuing dialogue between NGOs and the GOP at both the national and regional levels on the objectives of the CFP and IPAS programs and the responsibilities and obligations of all parties.

With growing public awareness of the alarming trends in environmental degradation, many organizations are turning their attention to environmental quality, biological diversity and natural resources management. The environmental movement in the Philippines is not limited to middle-class concerns, but is evolving into broad-based activism among upland dwellers and coastal fishers willing to protect local natural resources through "people power" tactics. This strong "people" orientation by environmental NGOs is exemplified by the large number of grassroots community development organizations that identify themselves as concerned with environmental issues.

A recent analysis of NGOs involved in community forestry and environment (Ganapin, 1989) shows that 527 groups identify themselves as concerned with these topics, and 122 NGOs are directly involved. These groups are divided in to roughly three categories: (a) broad -- involved in many environmental issues, and tending to be urban-based; (b) focused -- either mobilized around a specific issue such as deforestation in Palawan or community-related, such as the Society of Filipino Foresters; and (c) allied groups such as the Bishops'-Businessmen's Conference and Rotary Clubs, which include environmental issues as one of their concerns.

Of the 527 NGOs, 74 percent (63 percent of the "primary" environmental NGOs) are located outside Metro Manila. Region 1 has the highest number, perhaps related to the Cordilleras autonomy movement there. Region 3 also has

a high number, reflecting a large number of upland farmers' organizations. Lack of funds is a serious limiting factor for these environmental NGOs because they are highly member-dependent. For this reason, the debt-for-nature fund will serve as a powerful impetus for the participation of these groups in community resource management programs.

The NGO community in the Philippines has reached the stage where it can take primary responsibility for determining the priorities and direction of the proposed environment fund under the NRMP Resources Protection component. Although there are important areas where the expertise and experience of international NGOs is needed, these must be identified and requested by the Philippine NGO community rather than pre-determined by the program.

Three evident weaknesses in the environmental NGO community are poor community development skills, inadequate coordination and collaboration with other NGOs, academic and research groups, and insufficient ecological and anthropological knowledge. There is a recognized need to stimulate more NGO initiatives in community-based resource management and in "people-oriented" nature conservation, with concomitant research and training activities. The earlier USAID-supported debt-for-nature program implemented by the Haribon Foundation proved effective for the "classic" preservation of a marine park but has not yet involved local communities in the development of management plans or buffer zone community development.

On the other hand, many grassroots NGOs are highly skilled at community organization and development. Further, extensive ecological and anthropological research is needed to document the existing biological resources in the proposed IPAS and in the residual forests proposed for community-based forest management. This research is best accomplished in coordination with the implementation of NGO initiatives, and will require greater collaboration between the research community and NGOs. A major emphasis of the Resources Protection component should be the exchange of skills and ideas among these groups.

The environmental fund also has the potential to stimulate greater experimentation with innovative approaches to resource conservation (and other environmental initiatives) based on existing systems of forest use by indigenous forest dwellers. Several social science research networks, mostly associated with universities, are already involved in this form of participatory "action research." The National Museum has a modest ethno-botanical research program under the current debt-for-nature swap. The pairing of anthropological and ecological research with community resource management initiatives will be critical for the long-term sustainability of conservation projects.

A large number of NGO groups, peoples' organizations and university participatory research efforts have been directed at upland development, including the promotion of more sustainable land use. This is where most grassroots NGOs have developed the experience and track record with community-

based resource management. The broad mix of NGOs, government agencies and donors concerned with upland development is gradually moving toward greater coordination, networking and dialogue. This has proved a delicate process in light of the broad spectrum of ideologies and affiliations represented by these organizations. It will be crucial to the establishment of the environmental fund to reinforce this movement toward collaboration and coordination among NGOs and the GOP.

D. Conclusion

NRMP addresses the major barriers that prevent forest resources from contributing substantially to rural economic growth, employment and income generation. NRMP will have a profound long-term impact on the Philippines by restructuring the forest industry to serve as a major source of employment and off-farm income for rural communities and cultural minorities. The program provides the basis for protecting and enhancing the tremendous wealth represented by the forest resource base and for dramatically increasing the efficiency and sustainable use of that wealth. The program's support services and environmental fund will provide the impetus for withdrawing the central government from day-to-day management and control over this resource base. This transformation and devolution to local governments, communities and the private sector ensure the long-term sustainability of the program's impact.

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ANNEX J

RESOURCES PROTECTION COMPONENT

ANNEX J: RESOURCES PROTECTION COMPONENT

I. BACKGROUND

A. Summary

The Resources Protection Component of NRMP will provide $25,000,000 to non-government organizations (NGOs) that work to sustain the natural resource base of the Philippines. This component of the program has the potential to address the full range of natural resource issues -- biodiversity conservation, forest protection and management, water resource supplies and urban pollution. It also has the greatest potential for sustainability beyond the five-year life of the program.

AID may use part or all of the funds designated for this component to endow a fund that could be administered as a trust fund, using the income earned from investments to support resource protection activities. AID also will consider using part or all of the funds for grants directly to organizations carrying out resource protection and conservation work.

It is expected that most of the funds designated for the Natural Resources Protection Component may be converted to pesos through one or more debt-for-nature swaps. The dollars would be used to purchase Philippine Government debt at a discount from the face value of the debt. A trade would then be negotiated in which the Philippine government would repurchase the debt instruments using pesos, also at a discount from face value but at a lesser discount. The debt-for-nature swap enables the government to retire debt and enables more pesos to become available than would be the case with a normal exchange of currencies.

As part of the program implementation process, AID will determine what portion of the designated funds it wants to convert through the debt-swap mechanism, and will then seek approval from the Philippine government for the exchange. AID will also determine the proportion of direct grants and endowed funds it will support through the Resources Protection Component. This annex will outline the options for implementing this component, assuming that AID will allocate the $25 million for the Resources Protection Component. For the purposes of this discussion, it is assumed that AID will use the $25 million as follows:

- $3 million for direct grants to continue the debt-for-nature swap begun prior to NRMP, including $2.5 million swapped for Philippine debt and $500,000 to be used for foreign exchange costs associated with these activities.

- $20 million to endow one or more trust funds to be administered by an existing NGO, a consortium of organizations, or a newly established

foundation, including $16 million to be swapped for Philippine debt and $4 million to be used for foreign exchange costs associated with the supported resources protection activities.

The following assumptions are used: (a) the foundation would be controlled by a self-perpetuating board dominated by Filipinos; (b) part of the $4 million, approximately $200,000, would be used for the initial costs of establishing the foundation and brokering the debt swap; and (c) the balance would be used to endow a dollar trust fund controlled by the foundation, if AID regulations permit. Otherwise, the balance would be used as NGO grant funds, with the funds to be drawn down during the life of NRMP.

B. Debt Swap Description

The traditional debt-for-nature swap involves the following steps, which are usually taken in the order given:

1. A donor makes available cash in a hard currency (e.g., U.S. dollars) to a U.S. not-for-profit organization for the purpose of funding a conservation (or sustainable development) activity in a developing country.

2. The U.S. organization negotiates in advance with the Central Bank of the developing country for a swap "window" (e.g., $5 million in face value debt), which will allow the organization to swap its purchased notes for local currency obligations of the Central Bank at a set exchange rate. Note that this swap may occur in several tranches up to the total of the face value debt agreed to by the Central Bank.

3. The U.S. organization then approaches the secondary market for the developing country's debt in order to purchase Central Bank obligations from U.S. commercial banks at the prevailing market discount for the developing country. Note that the market discount is different in different countries and varies over time in each country as a result of many factors, including political changes, shifts in international commodity prices, and debt restructuring plans.

4. The U.S. organization then swaps the notes for the local currency obligations of the Central Bank, usually at a redemption discount on the official exchange rate, and often with staggered maturity dates and interest rates.

5. The U.S. organization then turns over the local currency proceeds of the swap, whether in cash or Central Bank bonds, to the local NGO for funding of a program of conservation activities, which typically includes some or all of the following: surveys of particular biological resources; determinations of land that is worthy of status as a national park or protected area; purchase of land found to be the prime habitat for endangered species; establishment of park management plans; research on endangered species and their habitats, funding the services of park rangers and guards; training of park staff; and public education on conservation.

Each participant in a debt-for-nature benefits: the donor obtains a bigger return on its grant through the leverage of the secondary market discount; the U.S. not-for-profit organization gains funding and the considerable value of publicity from arranging a swap; the Central Bank of the developing country retires some debt; and the local NGO gains support for a conservation-related program.

The first debt-for-nature swap in the Philippines followed the pattern just described. The World Wildlife Fund (WWF) negotiated a "window" of $2,000,000 of face value debt with the Central Bank of the Philippines. To date (June 1990) there have been two transactions under this arrangement. The first "tranche" was for $390,000 in face value Central Bank debt owed to U.S. private commercial banks, which WWF purchased from the banks at a discount of approximately 50 percent. The second tranche, for $900,000 of face value debt, is now nearing completion. The "window" negotiated with the Central Bank in early 1988 allows for conversion of these amounts at the exchange rate prevailing at the time of redemption, with no discount. The pesos obtained as a result of these swaps have been used to fund the local currency costs of two conservation projects in El Nido and St. Paul, both on the island of Palawan.

AID supplied the first dollar "tranche," with WWF raising additional matching funds, primarily from U.S. foundations. For the first tranche, AID contributed $40,000 of the approximately $195,000 used for purchasing debt and $135,000 for related administrative expenses. WWF raised approximately $282,000 from other sources, for a total of approximately $450,000 for the purchase of $9 million (face value) of Central Bank debt. AID has provided a total of $205,000 for the WWF debt swaps.

II. ALTERNATIVE APPROACHES

A. Analytical Framework

The intent of the Resources Protection Component of NRMP is to use swapped debt to fund resource protection and conservation activities. Experience to date with the debt-for-nature mechanism of funding conservation activities in the Philippines has been limited to a $2 million dollar "window" with the Central Bank of the Philippines. Early success with the debt swap has led USAID to consider greater support for this type of activity.

The analysis contained in this annex is guided by the overall program purposes: (a) To promote the economically and ecologically sustainable management of the Philippines' natural resources, with special attention to tropical forests and biodiversity; and (b) to increase economic efficiency in the forest products industries. Toward this end, the Resources Protection Component would fund specific natural resource interventions. The objectives of the Resources Protection Component can be summarized as follows:

a. To provide a source of funds for sustainable development and resource conservation.

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b. To establish mechanisms for supporting sustainable development and resource conservation that will attract policy and financial support from the Philippine government and financial aid from bilateral and multilateral donors and private foundations; and

c. To involve as many Philippine NGOs as possible in the development and management of sustainable development and resource conservation activities.

In addition to these objectives, this annex explores mechanisms to provide adequate safeguards for financial and program management while freeing AID from significant continuing oversight responsibilities. This annex also explores the possibility of "forward funding" activities, taking advantage of the recent changes in the Foreign Assistance Act (FAA), which for the first time allows the creation of endowment funds that can retain earnings from the investment of AID funds.

Until now, private voluntary organizations (PVOs) and NGOs could obtain AID funding only when the funds culd be spent fairly quickly for specific projects. Moreover, the AID funding was tied to the specific projects. Any interest earned on the AID funding while held by the PVO had to be returned to AID. However, the FAA now allows AID-recognized NGOs or PVOs to receive program grants in advance of the development of detailed project plans. This annex explores the options now made possible by the recent FAA changes for comparison with the better-known debt-for-nature options. Under both options, guidelines and criteria are provided for the development of integrated conservation methods, corresponding to the purposes for which debt-for-nature funds could be spent.

B. Outline of Options

The options outlined below embody USAID's two fundamental alternatives: whether to use the new endowment structure authorized by the FAA or continue to use the project-by-project approach. If the endowment route is chosen, the primary questions are how to set up the endowment and by whom it will be held.

OPTION ONE: Use the current debt-for-nature mechanism for the entire NRMP debt swap in one of two ways:

OPTION 1A: Continue working with only one U.S./Philippine NGO partnership, i.e., World Wildlife Fund and the Haribon Foundation.

OPTION 1B: Recruit as many as three additional U.S./Philippine NGO partnerships.

OPTION TWO: Create a new foundation, using one of these options:

OPTION 2A: Create the foundation as quickly as possible and use it for the debt swap.

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OPTION 2B: Create the foundation, but continue funding the existing debt-for-nature mechanism until the foundation is established and can swap debt; or

OPTION 2C: Create the foundation, but use the current debt-for-nature mechanism as a bridge to bring in more U.S. and Philippine NGOs to design programs to be funded by the new foundation.

C. Analysis of Options

OPTION ONE: Use the current debt-for-nature mechanism for the entire NRMP debt swap in one of two ways: continue working with only one U.S./Philippine NGO partnership, i.e., World Wildlife Fund and the Haribon Foundation; or recruit as many as three additional U.S./Philippine NGO partnerships.

Under Option One, USAID would continue to fund conservation activities through the standard debt-for-nature swap mechanism, which involves a tripartite partnership between a U.S. conservation NGO, a Philippine NGO and the GOP's Department of Environment and Natural Resources (DENR). Both suboptions combine the functions of financial arrangements (i.e., the "swap" itself) with project development/management; however, these functions can be separated.

Significant changes would be needed to implement the scenarios outlined under Option One. While the secondary market discount for Central Bank debt is presently approximately the same (50 percent), the amount of pesos obtained in the swap would be different due to the Central Bank's present policy, which requires a steep discount on the prevailing exchange rate. At present this discount is 24 percent, but it may soon increase to approximately 30 percent. Thus, AID would still be able to purchase debt at a discount of 50 percent from its face value; however, instead of obtaining the prevailing exchange rate of approximately 23 pesos per U.S. dollar, the required Central Bank discount of 30 percent would lower the effective exchange rate to approximately 15.4 pesos per U.S. dollar. In terms of the amounts being discussed for this swap, AID's $25 million would be "swapped" for approximately $35 million in pesos (instead of $50 million in pesos under the earlier arrangements).

If the Central Bank imposes further conditions, the peso proceeds could be reduced even further. One example of such a condition could be requiring that the debt-swapping NGO hold treasury bills with staggered dates of maturity stretching out for five years or more. Such bonds could result in significant losses if peso inflation continues at its present rate of 13 percent per annum. With some combinations of Central Bank discounts and restrictions, it may be better to simply exchange the dollars for pesos at the prevailing exchange rate.

The work of the Centro de Estudios Monetarios de Latin America (CEMLA) in Mexico City is relevant here. Senior economists analyzed the effects of a $50 million face value debt swap on the Costa Rican economy, and found that even if the entire local currency equivalent of the $50 million swap was put into the money supply at one time, the net increase in the annual inflation

rate would be no more than 0.5 percent. It can be argued from this study that the impact in the Philippines would be significantly less. However, the Central Bank's concern presumably is not the direct impact of this one debt swap, but the precedent of such a swap for other, larger debt swaps.

Under Option One, there would be a paramount need to find projects that could be supported with this large amount of one-time funding. This difficulty is one of the most powerful arguments for establishing an endowment so that the cash flow can match the peso requirements. If the cash flow is too fast, projects tend to be too hastily prepared and money can be wasted. If cash flow is too slow, then personnel hired with debt swap funds may have to be laid off temporarily. Nonetheless, WWF has advanced a proposal for a series of projects to be considered under Option 1A. (WWF proposal to USAID/ Philippines, undated, circa March 1990).

OPTION 1A: Continue working with only one U.S./Philippine NGO partnership, i.e., World Wildlife Fund and the Haribon Foundation.

Under this option, funding would be increased for the present arrangement between WWF, the Haribon Foundation and DENR. The primary concern with such a dramatic increase is the identification and administration of appropriate projects.

One proposal, which could absorb almost all of the pesos generated, is the purchase of approximately 1,500 hectares of lowland "virgin" dipterocarp forest from private land holders. This proposal is described in the "Sustainable Natural Resource Assessment" (September 1989). Although staff of DENR have supported this proposal, there are a number of drawbacks. One is the apparent lack of a systematic list of these sites. According to one DENR official, this is a preliminary list of sites. Typically the sites are small, on the order of 5 to 50 hectares each, and are scattered widely. The likely purchase price would be on the order of $16,000 (400,000 pesos or more) per hectare. At such a cost the outright purchase of the entire 1,500 hectares would require the equivalent of $24 million in pesos.

Another drawback is the development and implementation of effective management plans for so many small sites. Without community involvement, these plans would have an enormous annual recurrent cost. Similarly, the biological value of such small parcels is severely limited by their isolation from each other. An additional drawback is the difficulty of certifying that these sites are worthy of such an expensive protection approach.

An alternative approach might be to create a land trust which could purchase, with revolving funds, easements or development rights to privately held land. Such a trust could also receive donations of land or development rights and could be the focus of national fund and consciousness-raising drives to build financial and public support for conservation of privately held land. However, such a trust would take time to build its organization and achieve the governmental policy changes and tax reforms necessary to be effective.

WWF also includes in its proposal a detailed plan allowing it to swap $18 million to support 26 projects in the Philippines and to retain $7 million for "hard currency needs." The $7 million in hard currency would be used for expatriate salaries for debt swap management, external technical assistance, equipment purchase, and the funding of a U.S. scholarship. The grant proceeds would be spent over eight years. Note that these figures are "pre-swap," i.e., during the debt swap process, these amounts would be increased by approximately 40 percent over the exchange rate if both the 50 percent secondary market discount and the 30 percent Central Bank redemption discount are taken into account.

This proposal, which is essentially a scaled-up version of the existing approach, was drafted before the FAA authorized the creation of endowments. If the endowment authority is used, a trust fund would be set up in U.S. dollars. This trust fund would likely have the following characteristics: a board evenly split between the government and outsiders, including donor representatives and WWF; grants solicited from donors; the grants would create an off-shore investment portfolio whose interest income would be available to fund projects; funding decisions would require a 75 percent majority of board members; administration of programs would be by the government; and the government would have to supply matching local currency funds.

In summary, the advantages and disadvantages of Option 1A are:

Advantages:

1. **Quick results likely.** The current mechanism can be extended and new projects can be started more quickly than with any other method. WWF has already submitted a proposal and has offered to arrange the debt swap to secure funding for 26 projects.

2. **Co-financing possible.** WWF proved its ability to attract co-financing from foundations and other sources in the first debt swap. However, such co-financing is not specified in the proposal. The proposal could be improved if WWF were required to find additional funding in a ratio similar to the first debt swap.

3. **Recognized accountability.** WWF is an experienced AID contractor with many projects in several countries, and is a 501(c)(3) not-for-profit organization, which means that it can receive tax-deductible charitable donations from corporations and individuals as well as donations from foundations.

4. **Built-in expertise.** The WWF/Conservation Foundation has staff expertise in conservation areas such as: surveys of plant and animal life (flora and fauna); planning of nature preserves and parks; designing research programs on habitats and endangered species; developing scientifically sound management plans for endangered species; advising on management plans of parks and preserves; training of park rangers and forest guards; and conducting educational programs to convince the public of the need for conservation.

Disadvantages

1. **Top-down organization.** The proposal does not involve communities in the planning of conservation efforts. The El Nido project, funded by the first debt-for-nature swap, has been criticized by local officials and community representatives because it was planned without consultation with the local community.

2. **Lack of competition.** The proposal is limited to one U.S. NGO and one Philippine NGO from the large community of U.S. and local NGOs involved in global conservation. Hence, this option limits access to new ideas, either from within or outside the Philippines. The project as proposed directly strengthens only one Philippine NGO -- the Haribon Foundation. This is a serious shortcoming in a country with a rich community of NGOs.

There is also a lack of competition in the debt-swap portion of the proposal. There are many for-profit and not-for-profit organizations in the U.S. who would be willing to bid for the debt swap arrangements. AID could approach a number of conservation organizations or commercial houses or issue a Request for Proposals for the debt swap arrangements. The fees for conducting the debt swap transactions would likely be small because of the publicity value of being the debt swap agent for such a large transaction.

3. **No sustaining support.** While the WWF proposal provides support to several institutions in the form of contracts for field research and surveys over the eight year life of the project, it offers no long-term support for the Philippine institutions themselves.

OPTION 1B: Recruit as many as three additional U.S./Philippine NGO partnerships.

Under this option, the basic structure of the current tripartite relationship between WWF, Haribon and DENR would be retained, but the number of U.S. and Philippine NGOs participating in the debt-for-nature program would be expanded in order to encourage more innovation by promoting competition in the private not-for-profit sector. There are a number of U.S. NGOs with demonstrated success in conservation efforts, including Conservation International, Cultural Survival, The Nature Conservancy, WWF/CF, CARE and others, such as the Missouri and New York Botanical Gardens. All of these organizations have expertise which could be applied in the Philippines.

Given the wide variety of organizations and approaches, it seems prudent to find a way to access this growing body of experience for the benefit of the Philippines. The simplest way is to divide the total debt-for-nature program into four or five separate programs and ask for proposals from partnerships between U.S. and Philippine NGOs. This option is the same as Option 1A except that more groups are involved. Each U.S. NGO could establish a trust fund or foundation, and each could work on a different model, developed as appropriate to the NGO's particular approach.

The involved GOP agencies (DENR and the Department of Finance) would likely be concerned about whether the trust fund(s) should be under Philippine control. Members of the Philippine NGO community have expressed strong interest in participating in the design of any trust fund or foundation which results from the AID-funded debt-for-nature program in order to provide "checks and balances" on the management of the selected NGO. One alternative is for all programs of a trust fund to be reviewed by an advisory committee of other Philippine NGOs. Alternatively, the boards of trust funds could have a majority of persons drawn from the Philippine NGO community.

The following advantages and disadvantages are additional to those outlined under Option 1A:

Advantages

1. **More competition.** This option brings in more environmental/conservation organizations; hence, more ideas for innovation. In fact, given the number of obviously qualified U.S. environmental/conservation NGOs, it would be difficult for AID to award the debt-for-nature swap without a competitive process. Again, as pointed out under Option 1A, this competitive process argues in favor of separating the contract for the financial arrangements and the program design and management.

2. **More representative.** This option would work to build up four or five Philippine NGOs, not just one, in order to implement various approaches to conservation/sustainable development. The different Philippine NGOs could be encouraged to develop different methodologies, such as livelihood creation, reforestation, restoration of secondary forest, wildlife management and park preservation, and "ecotourism."

Disadvantages

1. **More oversight required.** This option will require much more oversight from both AID and DENR. AID will need to become involved in discussions with the Central Bank on the debt swap "ceiling" unless there is a separate contract for the financial arrangements. If there is not a separate contract, AID will also have to take part in discussions to ensure that the U.S. NGOs, who would be the debt-swapping agents under this option, are able to negotiate the same favorable terms with the Central Bank. AID would also have to allocate staff time sufficient to oversee all the grants to U.S. NGOs. Thus, AID would have a much greater management burden under this option.

2. **No guaranteed local input.** Although this option is more promising than Option 1A, there are still no checks or balances to keep the programming process open to ideas from communities and from the broader Philippine NGO community. One way to improve the opportunity for local input is to coordinate more formally with NGOs whose purpose is coordination. One such group is the "Philippine Development Forum" in Washington, which has as its membership a broad cross-section of NGOs that work in the Philippines. This group could form the nucleus of a Washington advisory body; a similar group could be located in the Philippines.

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OPTION TWO: Create a new foundation, using one of these options: create the foundation as quickly as possible and use it for the debt swap; create the foundation, but continue funding the existing debt-for-nature mechanism until the foundation is established and can swap debt; or create the foundation, but use the current debt-for-nature mechanism as a bridge to bring in more U.S. and Philippine NGOs to design programs to be funded by the new foundation.

This option would entail forming a conservation endowment fund and a grant-giving, Philippine-controlled foundation to administer the fund and determine its portfolios, schedules of investments and uses of investment income, within the limits imposed by its charter. Alternative ways to administer an endowment fund would include calling upon an existing NGO or consortium of NGOs to administer the fund or having a U.S.-based or international organization administer the fund.

Because the existing Philippine-based NGOs active in environmental work are grant-receiving (not grant-giving) organizations, and because substantial competition exists among NGOs, none of the existing organizations are likely to have adequate credibility with the other organizations to make the fund as effective as it could be. A new foundation, established to raise and distribute funds rather than carry out projects, could remain independent from specific segments of the NGO community. Because the administering organization would have far more credibility if it was led by Filipinos, control should not be given to an existing American or international organization.

The effectiveness of such an organization in funding an a wide range of innovative conservation activities would depend greatly on the following: its credibility with the public and the Government of the Philippines; the perception of the NGO community that the foundation is not linked to any particular NGO "group" or other special interest group; and the perception of international donors that the foundation is honest, competent, open to all NGOs and fair in its proposal selection process. This may require that non-Philippine organizations such as USAID and the U.S.-based conservation NGOs should have a small number of active seats on the foundation's Board of Directors.

OPTION 2A: Create the foundation as quickly as possible and use it for the debt swap.

The advantages and disadvantages of creating a new foundation are presented below.

Advantages

1. **Provides a sustainable funding source for creativity.** The foundation would involve the Philippine NGO community both in the setting of funding priorities and in the implementation of sustainable development and conservation efforts. This concept combines a philanthropic foundation with a forum (the foundation's board) that represents the NGO community. The foundation could provide a sustained source of funding in such a way as to empower those Philippine NGOs which are working closely with local communities

in the forest and upland areas of the Philippines. The foundation would differ fundamentally from a trust fund in that its board would have a majority of Philippine nationals (at least 60 percent by Philippine law) and a majority from NGOs (which could be made a charter provision).

The foundation's trustee selection process would need to ensure that the board as a whole and its individual members would be free from binding loyalties to specific constituencies. New board members would join because of their reputations as innovative individuals with demonstrated ability to embrace new ideas and relationships, thus ensuring the board's receptivity to innovation.

2. **New mechanism for building support for conservation.** The foundation would create a new mechanism for promoting local and national responsibility for addressing environmental problems. It would also promote a sense of ownership by Philippine society. Because this sense of ownership would minimize the tendency of many Filipino NGO leaders to think of nature conservation as foreign and elitist, the foundation would help to build an active constituency for conservation.

3. **Attractive co-financing mechanism.** The foundation's potential would be attractive to donors, especially U.S. foundations. The foundation would be able to channel donations from U.S. foundations to particular types of projects. Moreover, a foundation that matches donor support with its own funds would obtain and maintain status as a 501(c)(3) organization, so there would be no barrier to U.S. charitable contributions from foundations, corporations or individuals.

4. **Absorptive capacity.** Because the foundation would be able to reinvest its interest income, the growth of its grants would be determined by the availability of well-conceived projects. This is an advantage over rapid scaling-up of the traditional debt-for-nature mechanism, which would require spending the swapped pesos according to a schedule determined not by project readiness but by the pace of financial negotiations.

5. **Provides institutional support.** The foundation would be able to sustain long-term funding for Philippine institutions that are the backbone of a national conservation strategy. The institutional support would be provided so as to foster the growth of a network of Philippine institutions with an interest in conservation and sustainable development.

<u>Disadvantages</u>

1. **A slow starter.** A new foundation will take 18 months to establish. There is no way to shorten the time to establish a foundation because of the time required to select a board. If the board is appointed outright, the development period can be shortened to a few months. However, an arbitrarily-appointed board would lose credibility in the Philippines because there would be doubt as to the reasons why particular individuals were chosen. Moreover, opening the board selection process to public participation would increase the sense of ownership of key Philippine institutions.

2. **Incubation difficult.** Establishing the foundation would require a relatively long period of conscientious, public-spirited incubation. Its success will require the services of a few individuals who are dedicated to the task and committed to the philosophical views that Philippine society needs a credible environmental foundation and that conservation and sustainable development need a new institution that has the resources to promote new approaches. The process of selecting the board members would be the most critical phase, therefore the selection and composition of the nominating committee would have to be done very carefully.

3. **Requires special approval by GOP.** Since the foundation would be a non-government body (a non-stock, non-profit corporation), the GOP would need to rule that bilateral funds could be used to endow it. Such an endowment could be considered a diversion of funds committed in a bilateral agreement between the U.S. Government and the Government of the Philippines. However, this concern is mitigated by the fact that the foundation's assets would be held in a peso account in the Philippines.

4. **No guarantee of conservation priorities.** The foundation would offer only miminal assurance that its priorities would remain constant. The foundation would provide a mechanism for evolution of a societal consensus about conservation priorities as well as other environmental issues. As this evolution proceeds, foreign donors and international NGOs would be able to promote other priorities. Although once established, the foundation would be able to adhere to its priorities, the "power of money" may mean that donors would continue to exert a considerable influence on the foundation's programs.

5. **No provision for hard currency costs of conservation.** The foundation would not have access to dollars once the debt swap was completed. Thus, the foundation would have limited ability to tap foreign experts in conservation, botany, zoology, forestry, pollution or other environmental matters.

The foundation could obtain matching funds in two ways: by soliciting proposals that require a Philippine-U.S. NGO partnership, with the provision that the U.S. NGO bring counterpart funding; or by proposing program areas directly to U.S. foundations and corporations, which would agree, within limits, to provide matching funds for specific proposals.

6. **Legal issue outstanding.** One possibility for swapping debt suggested in discussions with the Central Bank and Department of Finance is the purchase of debt owed by Philippine private companies to U.S. commercial banks. As of June 1990, the AID General Counsel was reviewing guidelines to determine whether the FAA allows purchase of debt other than the debt of the Central Bank. A strict interpretation of the FAA confines use of AID funds to purchase of Central Bank debt. This provision is intended to maximize the benefits of debt-for-nature swaps to the borrower government by helping to reduce "sovereign" debt. On the other hand, in cases where the government is a party to the private sector debt, it could be argued that purchase of these non-performing notes from U.S. private commercial banks would benefit the Central Bank.

OPTION 2B: Create the foundation, but continue funding the existing debt-for-nature mechanism until the foundation is established and can swap debt.

Continuing a debt swap program that is unrelated to the process of developing a foundation is a compromise position. WWF estimates (WWF proposal) that the two debt-swap funded projects now underway need approximately $500,000 worth of pesos per year. Thus an interim swap of $500,000 would support these two projects until the foundation had been formed. At that time, the foundation together with WWF and Haribon could determine future funding requirements for a mutually agreeable project. The foundation could continue to fund local currency costs and WWF could raise the matching hard currency funds. Alternatively, a grant of $1,000,000 would support the current projects and allow development of new projects.

Advantages

1. Quick results. The current debt-for-nature mechanism can be extended to support old or new projects while the foundation is being organized. The value of this suboption is to keep public interest at a high level. If the current debt swaps are allowed to fail because of lack of interim funding, there could be a serious loss of public confidence in the debt-for-nature program.

2. Opportunity for co-financing. This option offers additional ways to attract co-financing from other sources in the U.S. (e.g., U.S. foundations). Many foundations have established relationships with U.S. NGOs involved in conservation. This suboption would allow these foundations to continue to fund conservation activities in the Philippines while the foundation is being developed.

Disadvantages

1. Does not promote competition. The initial grant part of this suboption would not bring into the Philippines more U.S. NGOs that are involved in global conservation, nor would it involve more of the Philippine NGO community. Hence, the first stage would not bring into play new ideas, either from within or outside the Philippines.

OPTION 2C: Create the foundation, but use the current debt-for-nature mechanism as a bridge to bring in more U.S. and Philippine NGOs to design activities to be funded by the new foundation.

Numerous U.S. NGOs have experience in the use of debt swaps to fund conservation efforts in developing countries. Some of the more prominent are: The Nature Conservancy, World Wildlife Fund, Conservation International, Missouri Botanical Garden, New York Botanical Garden, and NGOs with traditional international development experience, such as CARE, which are increasingly interested in sustainable development. This option focuses on developing a mechanism to bring more of the experience and creativity of these NGOs to bear on Philippine conservation needs in order to provide "incubation" for possible program approaches that could be adopted by the foundation.

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Use of this option could take advantage of the knowledge of these organizations to develop scientifically sound management strategies for natural ecosystems, especially tropical forests. Several of these organizations also have experience with arranging debt swap transactions. Proposals could be invited from at least three experienced U.S. NGOs and their Philippine NGO partners, or from consortia of U.S. NGOs linked with one or more Philippine NGOs. The rationale for this approach is to promote more creativity through competition among those operating in the private not-for-profit sector.

These NGOs could be asked to propose a $500,000 debt swap transaction that would explore innovative methods of involving communities in the planning and implementation of resource conservation projects. AID could possibly fund all of the proposals if they were of sufficient quality. Implementation of these proposals would allow each group to get a project underway and to work with the new foundation's board of trustees to develop program strategies.

Advantages

1. **Quick results.** The current debt-for-nature mechanism can be extended for new projects while the foundation is being organized. This has the same value as the previous suboption.

2. **More opportunity for co-financing.** This option offers more ways to attract co-financing from other sources in the U.S. (e.g., U.S. foundations) because it could bring into the program U.S. NGOs that are experienced fund-raisers.

3. **Provides incubation.** The most important benefit of this suboption is that it provides a period during which the program areas of the foundation can be explored with on-the-ground prototype projects. The foundation would benefit because during this initial period the project implementation skills of experienced U.S.NGOs would be available.

Disadvantages

1. **May dampen later competition.** This suboption gives a competitive edge to the selected organizations as they compete for grants from the foundation for funding after the transition period. The organizations that receive interim grants from AID would be familiar with the workings of the foundation, which may provide an edge for future funding. On the other hand, this opportunity provides leverage for the foundation, as it stimulates optimal performance from the NGOs with interim funding, in hopes of follow-on funding.

III. SCOPE OF RESOURCE PROTECTION COMPONENT ACTIVITIES

A. Funding Priorities

To be consonant with NRMP program objectives, the first priority should be activities in sustainable forest management, which would complement the

GOP's effort to implement the Integrated Protected Area System (IPAS). The first debt swap program with WWF-Haribon-DENR, concentrated on action to stabilize two areas of unique natural significance: El Nido and St. Paul, both on the island of Palawan. The approach was similar to that used for debt-for-nature swaps in other countries, particularly in Latin America. A natural area was surveyed, conservation plan developed, administration and protection staff was increased or upgraded, educational efforts were begun, programs to create livelihood for local people were introduced, and facilities for "ecotourism" were established. These projects are successful, but need modifications for successful replication.

Economic and social development must occur during the period of development of conservation areas. One priority is for the community in the conservation/management area to develop a new source of income or more income from a sustainable use of a traditional forest product. Such livelihood creation is the best linkage between the aspirations of local communities and international conservation imperatives.

Without an income generating activity, e.g., tourism or sale of non-destructively harvested forest products, the recurrent costs of the traditional protection strategy are prohibitive. The two Palawan sites, after start-up costs, have an annual budget of approximately $125,000 each. In other parts of the Philippines, political unrest limits the potential for tourism, thus another income generating approach is needed.

The long term security of natural area management or conservation rests almost entirely on the attitude of local communities living in and around the conservation/management area. If these communities do not feel a sense of "ownership," political or economic shifts in the community might lead the population to clear forest lands heedlessly to plant crops, as was the case with sugar industry workers in the early and mid 1980s when the international sugar market collapsed.

In the Philippines the community development NGOs are in many areas very effective in helping local communities organize for social and economic development. Many of these NGOs have strong development philosophies that emphasize the empowerment of local communities. These organizations, with proven implementation and financial effectiveness, could be provided the support to help their community partners involve themselves more fully in activities related to the sustainable management of biologically rich ecosystems. Rather than simply develop conservation-oriented Philippine NGOs, it should be possible to support programs that maximize the comparative advantages of existing NGOs. This strategy underlies the following rationale of program activities.

B. <u>Suggested Program Activities</u>

The following are suggested NGO program activities for funding under the NRMP Resources Protection component:

1. Support for Community Development NGOs

The role of community development is critical to long term success in conservation. Under this program area, the foundation would provide grants to community development NGOs with records of successfully working with local communities, particularly communities in forested areas, to achieve change in social and economic conditions. These NGOs would not necessarily have conservation as a priority; their orientations could be health, livelihood, education, farming, marketing, etc. However, projects to be funded under this program area would need to be in one of the following areas:

-- Forest rehabilitation.
-- Cooperative and sustainable use of forest products.
-- Establishment of plantation forests; or
-- Livelihood creation based on value-added processing of products from natural raw materials.

The first and third areas are compatible with management of conservation areas; all four could be compatible with the management of "buffer zones."

2. Basic Research

The basic research institutions of the Philippines, primarily centered in the National Museum and university institutes and departments, e.g., the Marine Science Institute and Institute of Biology at the University of the Philippines/Diliman, as well as various departments at the University of the Philippines/Los Banos, are all in need of long-term plans for institutional strengthening. Although these institutions have had contracts for botanical and zoological surveys, they could not receive sustained funding from the first debt-for-nature swap program, which was intended to educate Philippine society on its environmental problems and choices. These institutions must be enhanced and given a more central role in conservation and management.

The goal of this program area is to support a long-term institutional strengthening program, including short- and long-term training, staff recruitment, expansion of facilities (including collections, data bases, libraries and research stations), and provision of recurrent funds for basic environmental and ecological research. One benefit of this approach is to provide research institutions with bargaining power, trading access to their resources with recurrent local-currency funding from matching grants from U.S. foundations or other donors. Another benefit is to provide Filipino researchers with more influence over the nature of basic research agendas, which to date have reflected the interests of foreign researchers and institutions.

Special consideration should be given to ex situ conservation, i.e., arboretums and zoological parks. These high-profile institutions with high public appeal would be ideal candidates for attracting funding from the Philippine private sector. Special consideration also should be given to a flagship research preserve. The National Museum has a proposal for establishing such a facility on the 250 square kilometer island of Coron, near

Palawan. The concept is to develop a range of interdisciplinary research efforts combining anthropology, zoology, botany, ecology, geology, etc.

3. Applied Research

Few funding sources exist for applied environmental or ecological research in the Philippines. This program area would provide money for projects that complement the basic research agenda and create incentives for productive partnerships between scientists and community development NGOs. The idea is to fund proposals that involve partnerships between community development NGOs and scientists of Philippine research institutions. The emphasis should be on efforts that might lead to innovation in rehabilitation of forests, new products from forests (e.g., medicines, agrichemicals, varnishes, wildlife products), new cultivation systems (e.g., rattan), or new commercial species.

4. Community-based Enterprises

A number of Philippine NGOs have good track records in establishing community-based enterprises that create livelihoods and income for local communities. This program area would provide investment funds for enterprises that are compatible with conservation/management areas. The program could also fund intermediate community institutions, which would in turn loan to individuals.

5. "Green" Private Enterprises

This program area would likely have more application in efforts to combat water and air pollution. The concept is to use some of the income from an endowed trust fund to establish an equity fund or a soft loan window (or both) aimed at stimulating the Philippine private sector to form businesses that create valuable products from wastes, recycle waste materials, or market pollution control devices. This concept could be extended to private sector ventures aimed at reforestation or planting of long maturity tropical hardwoods.

6. Public Awareness

This program area would need to be developed in conjunction with the leading Philippine conservation NGOs, academic institutions, public policy "think tanks," and responsible leaders of print, radio, and television media. The program's aim would be to inform the public about environmental issues, providing public debate on national and local choices, and reporting on events of major environmental significance. A second set of activities could involve the development of educational materials for use in schools and by community development NGOs.

7. Training Support

This program area would provide short- and long-term, degree and non-degree training opportunities in a broad range of subjects and disciplines needed if the Philippines is to understand and deal with its environmental problems.

8. Co-Financing Activities

This program area would allow the co-financing of activities initiated by government agencies, foreign NGOs, and other groups on a case-by-case basis.

9. Development Rights and Use Easements

DENR has identified a number of biologically significant sites on land now in private ownership. One proposal calls for outright purchase of these lands; perhaps a more cost-effective approach to conserving these lands can be developed. One approach, pursued with notable success in the U.S. by the Nature Conservancy, is the use of revolving funds to purchase and hold land until government agencies can appropriate money for its purchase and development of a conservation and management plan. Another approach is to purchase land development rights. Other approaches involve the tax-deductible donation of the land to a trust or the donation of development rights. Another option is for the landowner to donate or sell the research rights to the land's ecosystem.

ANNEX K

SUPPORT SERVICES PLAN

ANNEX K: SUPPORT SERVICES PLAN

A. Background

The Support Services component of NRMP will be used to initiate the process of translating new policy pronouncements into tangible outputs. The policy implementation process will place demands on government and private industry that will be difficult for either sector to finance in the near term. NRMP support services will make it feasible to respond promptly to these demands and allow time for both sectors to mobilize the financial resources needed for the sustained implementation of policy reform responsibilities.

All support services are directly linked to the policy reforms described in the PAAD. Implementation is expected to be carried out through comprehensive consultancy contracts and task-specific contracts, as follows:

Comprehensive Contracts: policy analysis and program implementation services.

Task-Specific Contracts: design of the urban and industrial environment management project and development of the debt-for-nature foundation.

Contractors for the policy analysis and program implementation services are expected to employ consultants to assist in the implementation of NRMP initiatives by the Department of Environment and Natural Resources (DENR), non-government organizations (NGOs) and the private business sector. In addition to carrying out various expertise-specific responsibilities, the consultants will help formulate plans, schedules and budgets for each of the principal NRMP implementors (i.e., DENR, NGOs and the private sector). One major output of this assistance will be the installation of new approaches to a range of natural resource management issues. For example, aircraft will be used to monitor compliance with a ban on logging in old growth forests, which has not been done in the past. Consultants also will help set up new systems that are needed, oversee the initial implementation phases, and provide training for the implementors.

It is anticipated that sub-contractors will be used to perform certain tasks included in the principal contractors' scopes of work (SOWs). Consultants hired under the two comprehensive contracts will prepare SOWs for the sub-contractors, secure the approvals of the SOWs by USAID and DENR, and manage implementation of the sub-contracts. The use of sub-contractors also will initiate the privatization of certain functions that can be implemented most efficiently by independent specialists. For instance, sub-contractors will prepare site-specific management plans for residual forests. The use of sub-contractors for these services will help develop a network of professional planners whose services will be available in the future to DENR and the private sector.

B. Policy Analysis

The policy analysis services will be used to conduct four high-priority policy studies, formulate two policy-driven implementation plans, and establish administrative guidelines for three key policy reform areas. The policy analysis services also will be used for the conduct of research activities as identified in an implementation plan to be developed. It is anticipated that policy studies and research activities will be implemented through sub-contractors. The preparation of implementation plans and administrative guidelines will be the direct responsibility of the primary contractor, which will organize a management team to implement the activities described in the SOW.

1. Tenure/Ownership Study

Tenure and ownership are fundamental issues in the sustainable management of forest lands and resources. For those who reside or operate on denuded forest lands, the economic incentive to reestablish forests is predicated (among others) on confidence of secure long-term occupancy, ownership of improvements introduced on the land and access to the benefits anticipated from these improvements. Similarly, the primary financial motivation to conserve existing forests is an assurance that benefits can be obtained in the future to compensate for expenditures over time in protection, timber stand improvement and related conservation activities.

Another important dimension of tenure/ownership is the issue of social justice. This issue has particular relevance to the ancestral claims of indigenous cultural communities (ICCs). Hereditary rights to ancestral land have often been lost or jeopardized due to government policies and procedures that ignore traditional systems of tenure and ownership. Also at risk is the tenure security of upland settlers with a long history of occupancy but with no official documents to legitimize their tenure. Both groups have been victims of land-grabbing and forced evictions. Injustice has been evidenced through a combination of private greed, official connivance and a policy environment that does not adequately protect the rights of ICCs and upland settlers.

This study will assess current tenure/ownership conditions and identify measures that can effectively address outstanding problems in this area. The study will focus on three principal groups of forest land occupants: indigenous cultural communities, upland settlers and forest products licensees.

The Philippine Constitution mandates respect for the ancestral land claims, customs and traditions of ICCs. Several bills are pending in Congress to carry out this mandate, but early approval does not seem likely. Meanwhile, potential or on-going displacement of ICCs has negative implications on political stability and has been a cause of political unrest in the Philippine upland areas.

Despite the absence of clear-cut legislative guidelines, DENR is moving forward to address the ancestral lands issue through the use of administrative procedures . DENR action is premised on existing authority and

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precedents that allow the Department to grant reasonably secure tenure which subsequently may be made permanent through legislation. For example, DENR has issued several Community Forestry Lease Agreements (CFLA) and thousands of Certificates of Stewardship Contract (CSC) to members of indigenous cultural communities. These instruments grant tenure for a period of 25 years, and are renewable for an additional 25 years. While these instruments do not fully address the concerns of ICCs, they do provide an official deterrent to land-grabbing by other sectors. In collaboration with certain NGOs, DENR is in the process of developing new procedures that will strengthen and support the existing actions.

However, given the pressure to respond promptly to ICC tenure problems, there is a danger that uniform procedures may be installed through legislation or by administrative fiat. A uniform approach to this complex problem would undoubtedly violate many of the basic principles of land access that are enshrined in the customs and traditions of ICCs. For example, some cultural communities do not perceive land as a commodity that is eligible for private ownership. Land is held communally and councils of elders allocate use privileges. Private ownership is allowed in other communities, but land use is subject to certain prescriptions. Quite often, people are considered to be offspring rather than owners of the land.

The above and other variables all are important to consider in the formulation of laws and procedures to carry out the constitutional mandates that apply to ICC lands. Moreover, failure to respect local customs and traditions would seriously jeopardize any attempt to resolve tenure problems on lands covered by ancestral claims.

The tenure/ownership study will involve field visits, dialogue with ICC residents and their leaders, and a comprehensive review of secondary data. The objective of these activities will be to identify and recommend site-specific land-use and allocation procedures that respect ICC customs and traditions. The major outputs of this study will be recommendations for DENR as it moves forward on the delineation of ancestral claims and installs the appropriate rules and regulations for addressing tenure in ICC lands. The same recommendations may also provide input for legislation proposed by DENR to the Congress.

To benefit upland settlers, the contractor will assess the various tenure instruments currently in use and explore how these may be updated and improved. In addition to the CFLA and CSC instruments mentioned earlier, new instruments such as the Forest Land Management Agreement (FLMA) will be examined. The study also will look into the amendment of existing laws that prohibit the issuance of tenure documents for parks, reserves and similar areas, even in cases where the land was already occupied prior to creation of the park or reserve.

A major component of the tenure/ownership study will be analyzing the feasibility of curtailing the issuance of leases for public lands, moving instead toward the granting of titles under the Torrens system. As part of the study, the contractor will assess whether and to what extent the previous transfer of several million hectares from the public domain to private ownership has resulted in achieving the goal of sustainable management.

The most prominent group of forest products licensees affected by tenure issues consists of approximately 80 large and medium-sized firms that operate Timber License Agreements (TLAs). For this group, tenure security is crucial to business operations and the security of their investments. However, security of investments is equally important for numerous small-scale licensees whose tenure problems are often ignored during policy discussions. For example, there are currently 169 licensees who gather rattan under Minor Forest Product (MFP) permits. Their licenses cover more than 400,000 hectares of the public domain, and approximately one-third of these MFPs belong to members of indigenous cultural communities. Over the last two years an increasing number of MFPs have been issued to ICCs and upland farmer associations. Further, under DENR's new Community Forestry Program, it is anticipated that hundreds of Community Forestry License Agreements (CFLAs) will be granted over time.

All of the foregoing licenses grant the privilege to harvest forest products. In turn, the licensees are required to implement sustained-yield management systems that include investments in selective cutting, replanting, timber stand improvement and protection. Harvesting privileges are subject to cancellation due to non-compliance with terms and conditions of the licenses. Cancellations may also occur due to changes in land use policy (e.g., conversion of a TLA area into a park or preserve). In the past, there have been numerous instances of politically-inspired cancellations without adherence to due process, such as the right to a hearing or the privilege of appeal.

At present, there are no guarantees against loss of investments in sustained-yield managament when cancellation occurs for reasons other than non-compliance. For example, all previous investments are forfeited if a TLA, MFP or CFLA in good standing is cancelled due to political pressure or promulgation of a new land use policy. Obviously, cancellation under these circumstances is prejudicial and unfair to investors who have faithfully complied with terms and conditions of their licenses. However, the investors have no recourse and no means through which investments may be recovered. Clearly, this condition of insecurity is a strong disincentive to the long-term investments that are fundamental to sustainable forest management.

Security of investments is especially crucial at this stage in Philippine forestry, when production will no longer be derived from lush virgin forests, but from partially-degraded residual forests. In order to achieve sustainability, residual forests will require much more care and attention than virgin forests.

The study will prepare an inventory of forest products licenses, the number of hectares included in each licensing category, and the estimated volume and value of forest products allowed for harvest. Tenure problems will be identified and analyzed, and procedures will be drawn up for evaluating the licensee's investments in long term sustainability. Drawing on available data and the results of its analyses, the contractor will formulate recommendations that operationalize the principle of fair and just compensation in cases where cancellation occurs for reasons other than non-compliance. The recommendations will be embodied in a draft DENR Administrative Order (AO),

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issuance of which will be one of the pre-conditions for release to the GOP of the second performance-based disbursement.

2. Economic Rents Study

In July 1990, DENR increased the charges levied on timber. Whereas timber licensees formerly paid the government thirty pesos per cubic meter (P30/cu.m.) for logs harvested in public forests, this fee has been raised to five hundred pesos per cubic meter.

Local and international studies have long recommended higher fees. There has also been persistent public clamor to increase forest charges. Loggers were perceived to be unfairly capturing excess profits by paying minimal fees for the privilege to harvest a high value publicly-owned commodity. Low forest charges have been identified as a principal reason for the failure of many loggers to invest in sustainable forest management. It also has been argued that the availability of cheap logs did not motivate investments in forest conservation or reforestation.

Higher forest charges are expected to encourage more careful forest management in order to conserve immature residuals for future harvest. The government also anticipates that by increasing the value of logs (through imposition of higher fees), wood processors will invest in equipment and technology that processes timber more efficiently, thus resulting in a larger output of finished products from each unit of raw material. Another anticipated benefit is that logging will cease on fragile upland slopes where timber stands are meager, as it will be unprofitable to harvest given the increased fees that will be collected.

The economic rents study will look into the impacts of higher fees and assess whether the favorable results anticipated from increased charges are realized. In addition, the study will identify possible negative impacts and assess the overall results of the new fees, i.e., determine if the positive benefits outweigh negative impacts. For example, a temporary reduction in output and employment has been assumed as inefficient producers phase out of the industry. On the other hand, increased value-added and more employment have been predicted as efficient producers re-tool to take advantage of new opportunities for profit.

Part of the rationale for imposition of higher fees is the expectation that cessation of logging in fragile (relatively unproductive) sites will help preserve environmental benefits. But this assumption has been challenged by a perspective that higher value logs will make it attractive to cut trees which would otherwise be left in place. Furthermore, some quarters have predicted that forests abandoned by TLAs will be decimated by an influx of slash-and-burn farmers who will be impossible to control.

The contractor will assess both the economic and environmental results of imposition of the new, higher fees and will assess the validity (under real-world conditions) of the various assumptions mentioned above. These assessments will be carried out through field trips, examination of secondary data and interviews with reliable informants in the government and private sector.

Based on data generated by the study, the contractor will recommend measures to improve positive impacts while reducing negative impacts. Finally, the study will quantify the amount and percentage of increased government revenue earned from the new fee and the extent to which this additional revenue has been re-invested in improved forest management.

3. Forest Products Industries Study

This study will focus on the incentives and disincentives to investment, the overall business climate, and probable environmental impacts of new investments in re-tooling by wood processors. One of the major study topics will be regulation and deregulation.

Among primary industries of the Philippines, forestry is one of the most extensively regulated. For example, rules promulgated in the 1970s required TLAs to establish wood processing plants even in cases where this was impractical and unprofitable. Some of these rules still exist. Other regulations dictate the capacity and types of processing machinery that may be installed, the arrangements for sourcing of raw materials, and the final form of finished products that may be sold to overseas buyers. In woods operations, there are rules prescribing planting densities for reforestation, restrictions on the species that may be planted, one type of permit for hauling timber and a different permit covering tops and branches of felled trees. The list of rules and regulations is exhaustive. Moreover, new rules have been issued over the years without rescinding old rules that are inconsistent with the new issuances.

Over-regulation curtails the freedom to make investment decisions based on market factors. Obviously, market factors should be the major criteria for choosing among various investment options. Irrational regulations also create an environment conducive to graft and corruption. The forest products industries study will look into the range of regulatory issues and recommend changes (especially deregulation) that will simplify government and private sector management. The study methodology will include a review of existing regulations and interviews with all sectors affected by the regulations. The contractor will also identify investment opportunities that are not being pursued because of regulatory constraints or other barriers.

In addition to regulatory issues, the study will examine related matters that affect the business climate in the industry. These include, among others, tariff and non-tariff barriers to trade and investment, banking regulations, customs procedures, peace and order, and laws governing ownership and foreign investment. The study also will assess probable environmental impacts from new investments envisioned under the Forestry Master Plan (e.g., re-tooling of the wood processing industry and from the ADB-assisted Industrial Forestry Program).

Study recommendations will be submitted to DENR and major trade organizations representing the forest industries. The contractor will organize discussions with government and private sector representatives to assess the recommendations and reach agreement on those that are feasible to implement.

4. Employment Study

Policies implemented through NRMP are expected to stimulate the creation of new jobs in the forestry sector. Additional investments in wood processing, labor-based community timber production and expanded tree-planting are envisioned as the major sources of increased employment.

Currently available employment data for the forestry sector are derived from industry and government statistics that record existing jobs in TLA operations, wood processing plants, furniture factories and reforestation projects. Unfortunately, these data deal with formal employment but fail to account for the large number of workers participating in the informal sector of the economy. Preliminary (unofficial) estimates developed during PAAD preparation indicate that employment in the formal sector probably accounts for less than 30 percent of total employment. The balance consists primarily of jobs in backyard woodworking shops, production of handicrafts dependent on non-timber forest products, and people who gather and sell rattan, bamboo and other forest commodities. When fuelwood and charcoal production are considered, a ration of 90 to 10 between informal and formal sector employment seems to better reflect the overall situation.

To accurately assess the impacts of NRMP policies on employment, it will be imperative to develop comprehensive baseline data from both the formal and informal sectors, and this will be a major function of the employment study. Moreover, there must be a better understanding of factors that have the potential to help generate new jobs in the forest industry. Toward this end, the study will explore new policy options and identify opportunities to stimulate employment.

For example, the GOP is currently promoting the planting of bamboo in reforestation and agroforestry projects. It seems highly probable that increased supplies of bamboo would stimulate new investments (and therefore new jobs) in furniture manufacturing, chopstick production and other export commodities. However, guidelines on the development of public land leased to private investors for agroforestry and reforestation imply that the land should be used to grow timber, not bamboo. In theory, an overzealous DENR official could cancel a lease if the lessee plants bamboo on land that per GOP guidelines should be used to grow timber. Guidelines may need to be revised so that a lessee can confidently plant bamboo, thereby helping to create new jobs. Similarly, a TLA licensee may wish to implement labor-intensive logging methods. However, current DENR guidelines presume that licensees will employ machine-based methods. This is another opportunity to update policies and regulations in ways that will create new jobs.

The employment study will be an iterative exercise, beginning with establishment of better baseline information, followed by periodic assessments of the impacts of new policies on employment and supplemented by the identification of new policy initiatives that can help generate additional jobs in the forestry sector.

The contractor will likely employ research assistants to gather data for analysis. The study will be conducted throughout the life of the program

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in order to monitor changes and update employment statistics. While it may not be possible to conduct a nationwide employment census, representative samples can be developed in several regions and for various employment categories. Based on these samples it will possible to prepare accurate overall estimates. For instance, the study will determine the number of jobs created for every cubic meter of timber that undergoes primary, secondary and tertiary processing. The same methodology can be applied to rattan and other forest products, starting with gatherers, transport labor, preliminary processing and final conversion into furniture.

5. Privatization Plan

The GOP owns various assets in the forest industry, such as processing plants and forest plantations. Most of these assets were acquired through foreclosure on loans owed to government financing institutions (GFIs). Other assets were turned over to the GOP when loans were converted to equity. The latter case is exemplified by the Paper Industries Corporation of the Philippines (PICOP), which is the largest forestry company in the country and dominates the production of newsprint and kraft paper.

Government ownership of industries is not consistent with current GOP policies, and in some cases (e.g., PICOP) the government-owned entity holds a virtual monopoly. Further, government ownership is perceived as a disincentive by private entrepreneurs who are reluctant to invest a sector where free market competition could be curtailed.

The emergence of statal and para-statal industries proliferated during the Marcos era. Since then, the Aquino administration has privatized a number of these industries through public auctions and negotiated sales. However, the government still holds large amounts of equity in the forestry sector. The forest products industry study is designed to help expedite privatization of this equity.

The contractor will compile a comprehensive list of forest industry assets owned by the GOP, including the estimated value of each asset. Primary sources of data will be the Asset Privatization Trust (APT) and GFIs such as the Development Bank of the Philippines (DBP). Drawing on this data, the contractor will identify opportunities and prepare a plan for moving forward on the sale of these assets to private investors.

To facilitate preparation of the plan, the contractor will confer with potential investors and assess their reactions to on-going GOP privatization initiatives. Central to this appraisal will be the private sector's comparison between the GOP's assigned asset values and prevailing market values. The contractor will also confer with the APT, DBP and other concerned agencies to discuss the procedures currently being applied for evaluation, public auction, negotiated sales and all other features of the privatization process. The contractor also will contact other sources such as private sector bankers, timber buyers and construction companies. These independent sources of information can help gauge business prospects that would have a bearing on the marketability of government-owned forestry assets. These investigation will provide inputs for the preparation of a privatization plan for presentation to the GOP.

6. Technology Development and Transfer Plan

Technical assistance provided under this support services element will be used to formulate an applied research plan for the forestry sector and implementation plans for disseminating useful technology to wood processors, reforestation managers, furniture manufacturers and other end users.

The contractor, in collaboration with concerned GOP offices, will develop a technology development and transfer plan for implementation in 1992 and beyond. In addition, the contractor will assist with the establishment of systems and procedures for updating the plan during succeeding years. Priority subjects to be included in the plan are:

- -- Agronomy and the economics of non-timber forest products.
- -- Testing and development of new sustained-yield timber management systems, i.e.:
  - -- Low volume removal at five- to ten-year intervals rather than the current high volume harvests at 35-40 year intervals; and
  - -- Narrow clear-cut strips with no cutting between strips.
- -- Silviculture and utilization of lesser known species.
- -- Rehabilitation and re-establishment of dipterocarp forests; and
- -- Increasing conversion ratios in down-stream processing.

The technology development and transfer plan also will include technical assistance to the private wood industries sector. Specialists will help wood processors identify sources of new machinery and technology that can help increase efficiency and profits. As part of this assistance, the specialists will provide information on U.S. sources of raw logs or semi-processed wood that may be imported by Philippine companies.

It is anticipated that several of the specialists will be based in Metro Manila and will report to the Philippine Wood Products Association (PWPA) and the Chamber of Furniture Industries (CFI). Services will include technical advice on improving plant layout, management, maintenance and other phases of wood processing (e.g., kiln-drying). The specialists also will provide updated information on new equipment, technology, etc. Upon request, the specialists may furnish technical services to any wood processing facility in the country that seeks their assistance.

It is expected that one specialist will be based in the U.S. and will report to the PWPA and CFI through the Manila-based specialists. Major responsibilities of the US-based specialist will be to:

- -- Prepare and continuously update a directory of U.S. machinery manufacturers whose equipment can help upgrade wood processing efficiency and increase profits.

- -- Identify sources of raw logs and semi-processed wood that may be imported by Philippine companies.

- -- Furnish data on prices, shipping information, addresses, etc. for the above; and

-- Assist in US-based procurement of machinery, logs or semi-processed wood, if requested, in collaboration with the Manila-based specialists.

The US-based specialist will travel to the Philippines twice each year for two years to gain first-hand knowledge of the needs of local wood processors and to help with technology transfer.

In addition to preparation of the technology development and transfer plan, assistance will also be provided in implementing the plan. Research activities specified in the plan will be "farmed out" to research institutions, private sector firms and independent researchers. Some research may be conducted by institutions included in the existing network of the Philippine Council for Agriculture and Natural Resources Research and Development (PCARRD). Other research topics may be sub-contracted to entities that are not part of the PCARRD network. For instance, testing of new equipment and technology may be sub-contracted to a reliable wood processing firm.

C. Program Implementation Services

While the policy analysis services described above will consist primarily of studies and the preparation of implementation plans, the program implementation services will deal with specific activities in management planning for residual forests; community forestry; conservation of old growth forests; regional/provincial technical services; and communications, information, education and training (CITE) services. Although technical assistance will be included in these services, the major focus will be "hands-on" implementation, carried out through sub-contractors.

1. Management Planning for Residual Forests

This activity responds to policy reform decisions that will prohibit all logging in primary (old growth) forests, enforce a selective logging ban in residual forests, and rely on residual forests excluded from the ban to provide the raw material for wood processing, construction and other timber-based industries.

Residual forests are characterized by highly variable timber stands, terrain and other bio-physical features. These forests were earlier subjected to logging, slash-and-burn farming and other forms of depletion. The extent of depletion is directly proportional to past forest management practices. Appropriate future use, including timber extraction, harvesting of non-timber products, silvicultural treatments and the like, will be influenced by current forest conditions. Basic policy decisions such as establishing the annual allowable cut, scheduling the frequency of rotational harvests, and determining the investments needed to sustain productivity all must relate to the prevailing forest conditions. No rational decisions are possible on these matters until actual conditions are verified.

The current status of residual forests will be determined by conducting comprehensive resource inventories covering about 60,000 hectares. Timber and non-timber resources will be quantified and classified by age,

size, density, species distribution and other decision-making parameters. This exercise will be implemented by sub-contractors, and will provide guidelines for future activities such as replanting, silvicultural treatments, harvesting and environmental management. The latter is particularly important because interventions may be needed to repair previous environmental damage (e.g., excessive erosion due to poor road construction). By determining these needs in advance, operational planning will provide for investments in environmental management. Thus management plans from the outset will identify the activities required to achieve sustainability and protect against irreparable damage to tropical forest eco-systems.

Based on results of the inventories and an assessment of environmental management requirements, the sub-contractors will prepare site-specific management plans that convert overall guiding policies into operating rules and procedures (e.g., delineating slopes steeper than 50 percent where logging will not be allowed). Resource inventory data will also guide private sector decision-making on downstream processing investments and importation. For example, if the data indicate shortfalls in raw material supply, private sector decisions to import may be influenced accordingly.

Sub-contractors will be private sector firms, partnerships or other legal entities competent to prepare management plans for residual forests. The sub-contractors will be hired pursuant to an administrative order that will establish guidelines for selecting and deploying the sub-contractors. Thus a major institutional objective of this activity will be to professionalize and privatize forest management planning.

In keeping with this intent, independent professionals will develop comprehensive plans that specify how each parcel of residual forest should be treated. This will help insulate against government and industry pressure that in the past has led to planning and management decisions that were not consistent with sustainability. Sub-contracting under this activity will stimulate the development of a network of private sector forest planning entities divorced from the industry and not beholden to government. Their business will be to plan the management of public forests consistent with high professional standards, profitable/sustainable production and conservation of the environment. This will help provide the objectivity fundamental to sound management decisions.

The contractor, working in collaboration with DENR, will select the sub-contractors and prepare scopes of work. The contractor will supervise the sub-contractors during the early years of implementation while concurrently transferring skills in awarding, management and supervision of planning contracts to DENR regional, provincial and community offices.

2. Community Forestry

This support services activity will focus on new DENR policies and projects that authorize upland communitites to manage certain areas of residual forests. In order to help prevent intrusion into old growth forests, many of these projects are located within proposed "buffer zones." To

implement these projects, DENR will contract the services of non-government organizations (NGOs) that will assist the communities to cope with their new responsibilities.

Communities that take over management of residual forests and buffer zones will be issued 25-year licenses, renewable for an additional 25 years, and will be permitted to harvest and sell forest products. This privilege creates financial incentives to conserve the forest as a permanent source of livelihood and income. Similarly, long-term tenure security provides institutional incentives for conservation, which have special relevance in the delineation of ancestral lands. Indigenous cultural communities will be the principal beneficiaries of the community forestry initiative.

The operational procedures of DENR's Community Forestry Program (CFP) envision the use of NGOs to provide assistance in the following: the preparation of operations plans that include utilization of forest products, reforestation, protection and environmental management; organizing the communities into producers' associations; and marketing, bookkeeping, preparation of tax returns, and assistance with other functions inherent to managing a small-scale enterprise. The NGOs also will conduct training to help the communities develop the skills needed to manage their own enterprises.

The support services provided under NRMP will be used to help DENR implement CFP consistent with its operational procedures. DENR will issue an administrative order furnishing guidelines for NGO participation in the CFP. Among others, this order will establish pre-qualification standards, selection criteria and budgets for payment of NGO services. In collaboration with DENR field offices, and applying the guidelines contained in the administrative order, the contractor will utilize sub-contractors to furnish the services envisioned in the CFP. The contractor will prepare the scopes of work and contracts for the sub-contractors, who will be supervised by the contractor in collaboration with DENR field offices. This will provide "hands-on" training for DENR in working through sub-contractors to achieve CFP objectives. This experience will be invaluable as DENR increases its collaboration with NGOs in project implementation.

It is anticipated that the sub-contractors will have three-year contracts, with provisions for DENR field staff to assume the major role in supervision once they have developed the necessary skills. The sub-contractors will reside full-time in the forest communities in order to furnish the services specified in their contracts.

3. Preservation of Old Growth Forests

DENR has decided to ban logging in old growth forests and on slopes with gradients above 50 percent. Implementing this ban will be a complex process that includes the delineation of old growth and 50 percent slopes and the identification of discrete areas within production forests where logging will be prohibited, but where harvesting of non-timber products might still be allowed.

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NRMP assistance in implementing this ban will include two innovations not previously applied in the Philippines: contracting the use of private sector aircraft for surveillance and monitoring of old growth forests, to help discourage intrusion and identify where forest protection must be intensified; and contracting with upland community organizations to protect old growth forests.

The contractor will help prepare an effective aerial surveillance plan, including the types of aircraft to be used, logistics for servicing and maintaining the aircraft, air-to-ground communications, flight paths and related matters. The U.S. Forest Service may be asked to collaborate in preparation of the plan, drawing on its extensive experience in aerial surveillance. The contractor's services are expected to include one aircraft expert who will provide crucial information regarding operating conditions in the Philippines (e.g., rural landing strips, fuel sources, weather). The contractor also will provide expertise in "on-site" protection services, perhaps through utilizing the services of a forester, experienced community organizer or private businessman who has managed forest protection programs.

Sub-contractors will be hired to provide the aerial surveillance and "on-site" services. The contractor will prepare scopes of work and select sub-contractors. Innovations supported under this activity will be tested in four regions of the country to develop experience for eventual replication nationwide.

4. Regional/Provincial Technical Services

DENR is committed to implement policies that emphasize decentralization and privatization. However, DENR has a long history of centralized management and limited experience with the transfer of key functions to the private sector (e.g., contract reforestation). Resistance to change must be overcome and the capability to operate consistent with new policy directions needs to be enhanced.

Technical assistance to help regional and provincial DENR offices implement decentralization and privatization policies will be provided by contractor teams that will rotate among these offices for periods of one to two months. "Hands-on" assistance in administration, planning and financial management will be prioritized, with special attention to DENR programs that include direct implementation by the private sector.

5. Communications, Information, Training and Education (CITE)

It will be difficult to implement policy reforms without strong public support. To help develop this support, NRMP will carry out a range of activities to: inform the public on environmental issues; provide advice on GOP, NGO and private sector projects that address these issues; and strengthen the capability of private citizens to understand and participate in environment and natural resources management activities.

The contractor initially will help DENR design a comprehensive program that focuses on the interrelated topics of communications, information,

training and education. After agreement on the components and administrative features of the program, the contractor will prepare scopes of work for implementing specific components. In close collaboration with DENR, the contractor will select sub-contractors to carry out the activities.

The contractor will also provide help with refinement of the CITE design to incorporate lessons learned during implementation. In providing these services, the contractor will work closely with DENR to furnish training in management and supervision of sub-contractors. When sufficient skills have been developed, DENR will take over management and supervision.

The CITE contractor's outputs are expected to include the following:

-- Fora, workshops and seminars that explain the rationale for ongoing policies, programs and projects that address environment and natural resources (ENR) issues.

-- Workshops and seminars that provide a forum for NGOs, educators, special interest groups and the general public to participate in policy dialogue, policy formulation and the design of ENR programs and projects.

-- Production and dissemination of TV shows, videotapes, radio broadcasts, posters, pamphlets, comic books and other information packages that inform, explain and provide training on ENR topics.

-- Preparation and distribution of teaching modules on ENR subjects that can be used in elementary and high schools, plus lobbying for inclusion of the modules in the curriculum.

-- Proposals for updating the curricula of forestry and related sciences courses so that new professionals may acquire skills that are in tune with prevailing conditions (e.g., subjects that deal with logging may be de-emphasized and courses on silviculture, non-timber products and agroforestry may be prioritized).

-- Short-term overseas training in remote sensing and enviromental impact analysis.

-- "Hands-on" local training in ENR management for NGOs, upland farmer leaders, parks and wildlife wardens, and private sector entrepreneurs.

-- Training in environmental and natural resources economics; and

-- Formulation of plans and a curriculum for establishment of an upland development institute that will train implementors and facilitators for social forestry projects.

D. <u>Design of the Urban and Industrial Environment Management Project</u>

Although NRMP focuses primarily on the forestry sector, it is clear that environmental issues in other sectors also have a major influence on the

economy. Failure to address these issues could, over time, diminish the favorable impacts expected from improved forest management under NRMP. Anticipating the need for development interventions in other sectors, the support services component includes a forward planning activity that will explore the feasibility of environmental management assistance outside of forestry. The priority area for consideration is the urban industrial sector.

Problems in solid waste management, air and water quality, industrial pollution and siltation of rivers and harbors are widespread in the major urban centers of the country. Environmental mismanagement in the urban centers poses serious constraints to industrial growth. Further, fishing and tourism in the coastal zones near urban centers already have been adversely affected by the spill-over effects of urban and industrial pollution.

The contractor will prepare a preliminary design for a companion urban and industrial environmental management project. Problems and opportunities will be prioritized and tentative plans of action will be drawn up for discussion with USAID, key GOP agencies and the private sector. The impacts of watershed management on urban water supply and hydroelectric power generation will receive special attention.

E. Establishment of the Debt-for-Nature Foundation

As described in the PAAD, the establishment of a foundation that will support NGOs working in environmental management is envisioned as part of NRMP's Resources Protection component. To finance resource protection activities by the NGOs, USAID will provide $25 million in grant funding, which will be used to finance a debt-swap with the Central Bank of the Philippines. External Philippine government debt will be purchased on the secondary market or directly from multilateral or bilateral creditors at a substantial discount. The institution involved in the debt swap would receive local currency from the Central Bank equivalent to the face value of the debt. The local currency then will be used to endow a new foundation.

Procedures are already in place for accomplishing debt swaps with the Central Bank. However, establishing a new foundation will require careful planning and execution. The foundation will manage a large endowment as we;; as appraise and help finance proposals from NGOs. The latter will be a very sensitive task given the desire of NGOs to retain their independence and the various approaches taken by NGOs to address environmental problems.

Initial activities will include organizing the foundation, establishing criteria for accrediting NGOs and approving proposals and registering the foundation as a not-for-profit, tax-exempt entity. The selection of trustees who will administer the foundation during its early years will be especially crucial. It is imperative for the trustees to be individuals of unassailable integrity. Moreover, the trustees must be highly competent, objective, independent and credible, as the early years of foundation operations will set the standards and tone for future years.

To assist with the development of the foundation, NRMP will finance the services of a contractor to assist in the sensitive tasks summarized above.

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The contractor will need to have experience setting up new organizations and be very familiar with laws, procedures and regulations pertaining to foundations in the Philippines. Special skills in identifying suitable trustees will be imperative; to effectively accomplish this, the contractor will need an extensive network of reliable local contacts and the ability to discreetly appraise potential trustees.

F. Administrative Arrangements

The support services will be implemented through both comprehensive and task-specific contracts. It is anticipated that the comprehensive contracts will involve use of sub-contractors. The policy studies contractor could employ sub-contractors to conduct the individual policy studies and to conduct research. The program implementation contractor could utilize sub-contractors to prepare management plans for residual forests, implement community forestry projects, carry out aerial surveillance and community-based conservation activities in old growth forests and implement the CITE program. It is anticipated that the task-specific contracts will be awarded through competitive bidding. However, the contractor hired to assist in th development of the foundation may be contracted through IQC work orders.

Scopes of work for all contracts will be prepared by USAID in collaboration with DENR. Scopes of work for sub-contracts will be drafted by the respective contractors, reviewed by DENR and approved by USAID. DENR will participate in the technical review panels for awarding the contracts.

The contractors will submit monthly billings for services rendered, including services of the sub-contractors. Monthly accomplishment reports and evidence of payment to sub-contractors will accompany the billings. Contractors will submit reports and billings to USAID, with copies furnished to DENR.

ANNEX L

RESEARCH STRATEGY

ANNEX L: RESEARCH STRATEGY

Research could play a vital role in the sustainable management of forest resources by providing the necessary knowledge and technologies in the production and efficient utilization of forest resources, considering constraints and available resources. To be effective, however, research efforts must address the appropriate areas, be transferred to the right clientele at the right time, and be utilized properly. This annex covers the following: priority research areas for NRMP; the forestry research network and its technology transfer activities; and research staffing and facilities requirements for the forestry network.

I. RESEARCH PRIORITIES

The GOP Forestry Master Plan categorized research priorities as follows: management of natural forests, i.e., dipterocarps, pines, and mangroves; forest plantations; watershed management; social forestry; integrated protected areas, including wildlife management; and forest products utilization.

A. Management of Natural Forests

1. Dipterocarps

The natural dipterocarp forest is comprises about 980,000 hectares of old growth and 3.4 million hectares of second growth forest. The old growth forest is recommended for preservation to maintain its biodiversity and preserve its genetic resources. It must be protected and its composition inventoried and properly identified, and the basic chemical, anatomical and physical properties and potential uses of the different species of flora and fauna should be studied. In addition, the production requirements of desirable species should be investigated.

The second growth or residual forest is composed as follows: about 1.0 million hectares (ha.) of good condition stands, where selective logging can be applied; 1.0 million ha. in fair condition, where timber stand improvement is necessary; 800,000 ha. in poor condition, where enrichment planting is needed; 0.2 million ha. in marginal condition, recommended for conversion into rattan and other plantations and other land uses; and 400,000 has. covered by national parks and other reserves.

Research in the second growth forest should concentrate on management systems and strategies to ensure its continuity, considering its technical, social and economic features. This includes an investigation of the harvesting system, as there may be a need to modify the diameter limit, the cutting cycle and slope regulation to suit the varied growing and physical conditions in different regions in the country.

The soil condition also must be studied carefully. The amount of biomass to be left in the forest to ensure the quality and volume of the next crop must be determined, taking into consideration the current soil quality, slope of the area, rainfall pattern and intensity, and other relevant factors. Soil erosion as affected by vegetation type, slope, soil type, rainfall, and forestry activities in the area also must be studied.

Another area of concern in the conduct of relevant studies is the improvement of the forest in terms of timber production and biological stability. The socio-economic and political conditions of communities, especially those close to the forest, also must be investigated, especially as they relate to the protection and rehabilitation of the forest area.

2. Pines

The total pine forest in the country currently is estimated at about 238,000 ha. Pines are found mainly in the northern regions of the country. The estimated volume of pine timber for trees 15 cm in diameter and larger is 32.9 million cu.m., and for trees 55 cm and larger in diameter, 6.0 million cu. m.

Regeneration of Benguet pine, the dominant pine species in the country, is not difficult as long as the area is protected from fire. There are enough seedlings in the forest floor to sustain the regeneration process. Estimates put the number of small trees and seedlings 15 cm and below in diameter at about 449 per hectare in closed stands, and about 524 per hectare in open areas. The harvesting system currently employed is the seed tree method, which requires about 16 to 20 healthy mother trees to be left in the area for regeneration. Research efforts should be focused on protection against fire, pest and diseases, and people.

The major threat to the pine forest is fire. The resinous nature of pines and the grass vegetation underneath make them very susceptible to fire. Pest and diseases are also prevalent, as demonstrated by the Ips and pine shoot borer found in Benguet pine. The social aspect also must not be overlooked considering the fast-increasing population.

The tapping methods of oleoresins from pine trees must be studied in relation to the health of the trees, which will have implications for their resistance to pests and diseases.

3. Mangrove

Mangrove forests are found in tidal flats along the sea coasts, sometimes extending along streams where the water is brackish. They are sources of wood products such as poles, firewood, tanbark, nipa sap and shingles. Fisheries products can also be derived from the area.

The estimated mangrove area in the country at present is 119,000 ha., which has declined from a high of about 500,000 ha. in 1920. The major cause of mangrove degradation is conversion into fishponds, accounting for about 70 percent of the area reduction. The rest is attributed to over-exploitation and pollution from mining operations.

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Mangrove research activities should focus on silviculture management, plantation development, mangrove ecology, resource economics, product development and protection measures.

B. Forest Plantations

One of the main timber sources in the future will be forest plantations, given the increasing population, the long cutting cycle and the decreasing area of the natural forest. Today, only about 466,000 ha. are covered by forest plantations. Progress in this area has been slower than desired due to a number of technical, social and economic factors.

Research priorities include site-species compatibility as well as the utility and marketing aspects of species. For ecological reasons, indigenous species should be used as much as possible. The sources of sufficient, quality planting materials also must be studied. Breeding for quality varieties, both in terms of timber yield and resistance to pest and diseases, should be undertaken and seed orchards established.

Nursery and plantation techniques must be improved in terms of efficiency as well as growth and survival of seedlings. Plantation management techniques to promote sustainable practices must be devised, taking into account technical, economic and socio-cultural factors. In addition, the economic viability of plantation establishment must be dealt with, considering the high investments required, risk involved and the insecurity of land tenure.

C. Watershed Management

The primary value of watershed areas lies in the services that it provides, such as: sufficient, quality supply of water at the right time for irrigation, energy, domestic and industrial use, fisheries and various uses such as recreational; protection of downstream infrastructure; and soil erosion control and other environmental functions.

Protection is a main consideration in the management of critical watershed areas (those officially defined as "in need of immediate rehabilitation"). Current policy dictates that production activities should not be conducted in these areas. This policy, however, is being challenged in the light of the current timber crisis. There is a need to study the effect of some limited production activities on the capacity of watersheds to perform their expected functions.

It also would be useful to determine the performance of different vegetation types and species for watershed purposes, including limited timber production functions. Soil erosion data should be gathered in all important stages of the study, and rehabilitation technologies should be developed, especially for denuded watershed areas. Watershed management systems must be studied in light of the Community Forestry program being piloted by DENR, and considering the technical, social, political and economic dimensions.

D. Social Forestry

One of the major causes of forest destruction is shifting cultivation, where the area is cleared of trees and planted with agricultural crops. Soil conservation measures are not observed, and after two or three years, the soil nutrients are exhausted, mainly through erosion, typically prompting the farmer to transfer to another area and repeat the cycle.

The 1988 upland population was estimated at around 17.8 million, distributed as follows: 3.63 million in urban upland areas; 8.50 million in forest lands; and 5.67 million in alienable and disposable lands. The population in the forest lands include 5.95 million tribal Filipinos and 2.55 million migrants.

The upland population density in 1988 was about 180 persons per square kilometer, while the sustainable population level in shifting cultivation is estimated at about 25 persons per square kilometer. Considering the annual upland population growth rate of about 2.6 percent, the threat to the forest lands is grave.

Poverty pervades in the uplands. Agricultural productivity is low due to poor land quality and the lack of necessary inputs and technologies. Infrastructure is limited, and the delivery of basic services is nil. Marketing is difficult, with the lack of price information putting farmers at a disadvantage. The average annual household income is about 10,000 to 15,000 pesos per year, far below the poverty threshold of about 36,000 pesos. In addition, many upland areas have peace and order problems.

In spite of the poor living conditions, however, the number of lowland migrants is increasing, presumably due to poverty. This indicates that in order for a forest rehabilitation program to succeed, the issue of poverty must not be neglected.

In the early 1970s, the government realized that its punitive approach to the "slash-and-burn" ("kaingin") problem did not work. It then started to enlist the upland farmers as partners in forest development. In 1971, the kaingin management program was formally adopted as a forest development and conservation strategy. It was followed by other people-oriented forestry programs, including Communal Tree Farming (CTF) in 1979; Family Approach to Reforestation (FAR) in 1981; and Industrial Tree Plantation (ITP), Tree Farming (TF), and Agro-Forest Farming (AFF) in 1981.

In 1982, the Integrated Social Forestry Program (ISFP) was launched, which consolidated all previous people-oriented programs. Under the ISFP, forest resources are being mobilized for social and economic progress, as the government recognizes that the less privileged sectors of society, the kaingineros and other forest occupants, can be made effective agents in the rehabilitation of forest lands. The program grants deserving forest occupants a Certificate of Stewardship Contract for three to seven hectares, with a 25-year lease that is renewable for another 25 years. This program partly responds to the land tenure problem, which has been a major constraint in the practice of more sustainable but expensive systems.

There are now many institutions working on upland development. By virtue of its mandate, DENR is at the forefront. Other government agencies, such as the Departments of Agriculture, Agrarian Reform, Education, Health, Justice, Public Works, Local Government, were given responsibilities. In addition, some NGOs and TLA holders also are involved. All of these efforts are directed toward the improvement of the lot of the upland farmers.

The main objective in these development activities is to keep the upland farmer within the piece of forest land he occupies, with minimum soil erosion and environmental degradation, and with the long term prospect of bringing back a forest cover in the area. To attain this objective, the farmer and his family must at least be able to live on the produce of his land, which requires improved, sustained productivity through the delivery of technical and support services from the government and private sector. If the basic requirements for sustained productivity can not be provided, the upland development program is bound to fail.

The effective delivery of technical and support services to the upland farmers requires the expertise of change agents, which requires the training of forestry officers in extension and related fields. There is a need to develop pilot areas where technologies can be demonstrated. Community organizations also should be developed to establish rapport with the people, enlist their assistance in the planning and implementation process, and facilitate the transfer of technologies and delivery of services.

While people-oriented projects in the uplands would help, the optimal solution to the forestry problem is to attract forest occupants back to the lowlands. This option requires better alternatives to their current livelihoods, like jobs in factories and other employment opportunities. Therefore, much depends on overall economic conditions in the country.

Research efforts in upland development must focus on increasing the productivity of upland farmers by developing a suitable and environmentally sound combination of agricultural and forestry crops and animal production. There is also a need to study the cultural background of upland occupants in order to evolve an effective method of organizing their communities for forestry development and the formulation of effective extension strategies.

E. Integrated Protected Area System

One of the main concerns of national and international organizations is the alarming rate of destruction of the Philippines' biological resources, including the tropical rainforest, endemic faunal species and important marine and coastal ecotypes. These resources have not been adequately attended to.

Currently, the Philippines has 68 national parks, 59 of which are under the policy control of DENR through the Protected Areas and Wildlife Bureau (PAWB). Most of these parks either have been destroyed or are seriously threatened. Supposed wilderness areas of 210,000 hectares can not be located because of the inadequacy of records.

From all indications, the Integrated Protected Area System (IPAS) has not been able to solicit priority attention from the government. The primary

legislation for the establishment and management of national parks was passed 55 years ago. Because population pressure was not an issue then, the legislation did not provide for the protection of the areas. The problem of obsolete legislation is aggravated by the lack of policy guidelines in the management of such areas.

Another problem is the lack of representativeness of the present protected areas system. Because of widespread destruction, the present protected area system no longer represents the different Philippine ecosystems. Another constraint in the effective management and development of the IPAS is inadequate institutional arrangement. The management structure at DENR, particularly the functional divisions of PAWB and the regional offices, combined with the agency's current orientation toward development and resource utilization, relegate the protected areas to the background.

Considering the gravity of the problem, the IPAS requires a strong organization with clearly defined responsibility and authority. In addition, the need for the full support of the public, NGOs, the tourism sector and local officials is imperative. Research in this area should be directed toward the conservation and management of parks and wildlife. There is a need to study the interrelationship between the plants and animals in the protected areas to determine their degree of dependence.

F. Forest Products Utilization

The utilization of forest resources during the 1960s and earlier was very wasteful. Only the best quality logs of premium species were removed from the forest. The rest, about 0.8 cu.m. for every cubic meter transported to the mill, was left in the forest. The main reasons for this practice were the high profitability of the logging business and the government policy that all timber materials brought out of the forest, regardless of species, quality and size, were charged against the TLA's allowable cut. In addition to the logging residues, the miscellaneous timber species with properties not clearly known were left untouched and allowed to over-mature and rot, preventing the full development of other smaller trees.

Wood wastes are found not only in the forests; processing mills contribute their share. In sawmills and veneer and plywood plants, about 50 percent of the log is left as slabs, edgings, trimmings, shavings or sawdust. Improving the efficiency of the mills has not been a priority. The main reason for this was the low value of the raw materials -- one did not have to be efficient to make money. In those times, the main concern was log exportation, and in most cases, the processing plants were there only to satisfy the requirements of the law.

The above practices, together with laxity in the enforcement of forestry laws, contributed to the fast depletion of forest resources. Today, the country is in a timber crisis. Less than a million hectares of virgin forest, the traditional source of timber, remain. From all indications, logging the virgin forest will be banned in the near future, which will leave the secondary forest and forest plantations as the main source of wood.

Most of the country's timber-processing facilities were designed for large-diameter logs. Considering the future size and quality of timber from the second growth and plantation forests, there is a need to re-tool the processing plants to make them competitive.

The research thrusts in forest products utilization should be in the following areas: properties, potentials and processing techniques of plantation species, second-growth dipterocarps and lesser-known species; development of high-value products from available materials; improvement of the efficiency of the processing machineries as well as of the different stages in the manufacturing process; and the strategic location of processing plants relative to timber source and product distribution centers.

II. FORESTRY RESEARCH NETWORK AND TECHNOLOGY TRANSFER

The national forestry research network is composed mainly of government institutions. Forest production research is conducted by a number of agencies including DENR, through the Ecosystems Research and Development Bureau (ERDB) and regional offices; the College of Forestry at the University of the Philippines/Los Banos; other state colleges and universities; and some private companies. Forest products utilization research is undertaken by the Forest Products Research and Development Institute (FPRDI), UPLB College of Forestry, other state colleges and universities, and the private sector.

Forestry research is coordinated and monitored by the Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD). PCARRD has a network of research and development institutions throughout the country, which are organized into regional consortia with activities focused on regional concerns. PCARRD provides the national research direction in consultation with members of the network. The different research agencies are assigned research commodities based on their staff capabilities, resources and the priorities of their respective regions.

Most of the forestry agencies have their own technology transfer programs. DENR has an extension arm in each region. FPRDI has its own techno-transfer system. The UPLB College of Forestry has a forestry extension program. PCARRD has an Applied Communication Division, which coordinates a Regional Applied Communication Office for technology transfer purposes in each regional consortium. Many state colleges and universities also do technology transfer work.

The media used in technology dissemination by the above agencies include the following: technical journals, press releases, radio, documentary films, seminars and workshops, demonstration plots and walk-in consultations. In spite of these technology transfer activities conducted by many agencies, the adoption of forestry technologies have been dismal. The defunct Inter-Agency Group for Forestry Research Application (IAGFRA) reported that only about one percent of forestry research results have been adopted by end users. This could be due to a number of reasons. While many people may have been reached by the media, there are still many questions to be answered before the technology is adopted, and follow-up activities are critical during this

phase. There is a need for personal contact and good logistics, important requirements that are not adequately met by the individual agencies.

The limitations of each agency in the implementation of its own technology transfer programs point to the need for a concerted effort. A pooling of staff, facilities and financial resources, backed up by a strong push from the administrators, could significantly advance the transfer of technology. A strong, effective organization is required. The organization should be led by DENR by virtue of its mandate and capabilities, with national and regional groups composed of permanent representatives from each concerned agency and sector who will plan and implement technology transfer activities. A strengthened and fully-supported IAGFRA could be used as a model in forming the groups. The members, who should come from all concerned sectors, must be carefully selected and have long tenure.

III. RESEARCH STAFFING

The current research staffing in the forestry network is estimated at 519 persons (Table L-1), including 57 with Ph.D. degrees, 157 with Masters' and 305 with Bachelors' degrees. The strongest staffing areas are in forest management and silviculture, with 69 and 75 researchers, respectively. Most of the Ph.D. holders in the network (40 out of 57), however, are based in Los Banos, leaving only 5 with the DENR regional offices and 12 in the rest of the regional educational institutions.

To support the national emphasis on forestry development, research staffing must be augmented in the national centers and the regions. A breakdown of the needed expertise is shown in Tables L-2 and 3. To complement research staffing, adequate facilities must be provided, including experimental forests and laboratories in soils, pathology, entomology, and seeds. In addition, the national center should have laboratory facilities for genetics and tissue culture, physiology, and wildlife management. The following forest products utilization laboratories should be established or improved: sawmilling, veneering, machining, furniture testing, fire testing, pulping, and natural chemicals.

The estimated investments for research staffing and facilities from 1991 to 2000 is about 165 million pesos (Table L-4), divided into 81,810 million pesos from 1991 to 1995 and 82,925 million pesos from 1996 to 2000.

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Table L-1. Current Research Staffing in the Forestry Network

Area of Specialization	BS	MS	PhD	Total
Forest management	35	22	12	69
Silviculture	43	23	9	75
Tree improvement	3	3	1	7
Tree physiology	2	10	3	15
Soil science	8	6	2	16
Ecology/environmental science	4	5	2	11
Taxonomy/systematics	0	4	1	5
Watershed management	5	8	3	16
Forest policy	1	1	0	2
Forestry economics	15	7	1	23
Forest pathology	5	7	1	13
Forest entomology	2	3	0	5
Agroforestry	13	14	4	31
Parks/wildlife management	3	3	1	7
Range management	2	0	0	2
Extension/communication	10	3	2	15
Wood anatomy	0	8	3	11
Wood physics	1	2	2	5
Wood chemistry	11	5	2	18
Wood preservation	2	2	1	5
Veneer/plywood/panel products	6	5	1	12
Sawmilling	1	2	0	3
Wood machining	1	2	0	3
Seasoning	4	2	1	7
Pulp/paper manufacture	2	6	1	9
Biomass energy	3	0	1	4
Forest product pathology	2	0	1	3
Forest product entomology	4	0	0	4
Wood finishing	0	1	0	1
Timber engineering	7	2	2	11
Others (unidentified)	110	1	0	111
Total	305	157	57	519

Table L-2. Expertise to be Developed at the National Forestry Research Centers

Area of Specialization	MS	PhD
A. Forest Production		
1. Forest genetics	-	2
2. Tree physiology	1	1
3. Tree improvement	1	1
4. Forest resources management	-	1
5. Timber harvesting	-	1
6. Silviculture	-	2
7. Soil science	-	1
8. Watershed management	-	1
9. Environmental science/ecology	1	1
10. Wildlife management	-	1
11. Social forestry/agroforestry	-	1
12. Forestry policy	-	1
13. Forestry economics	2	2
14. Extension and communication	2	2
Subtotal	7	18
B. Forest Products Utilization		
1. Sawmilling	1	1
2. Wood seasoning	1	1
3. Wood preservation	-	1
4. Wood chemistry	-	2
5. Veneer, plywood and panel products manufacture	3	1
6. Pulp and paper manufacture	-	2
7. Timber engineering	-	2
8. Biomass energy	2	1
9. Wood machining	-	1
10. Wood finishing	1	1
11. Extension and communication	1	1
Subtotal	9	14
TOTAL	16	32

Table L-3. Research Expertise to be Developed in the Regions

Area of Specialization	MS	PhD
1. Forest resources management	-	11
2. Silviculture	1	14
3. Seed technology	14	-
4. Pests and diseases management	14	-
5. Watershed management	11	-
6. Social forestry/agroforestry	12	-
7. Parks and wildlife management	14	-
8. Extension and communication	14	-
Total	80	25

Table L-4. Investment Requirements for Research Staffing and Facilities
(Pesos 000)

	1991-95	1996-2000	Total
Professional Training			
MS	2,610 (30)*	3,045 (35)	5,655
PhD	3,200 (20)	2,880 (18)	6,080
Laboratory facilities			
Regions	56,000	56,000	112,000
National centers			
Production	12,000	9,000	21,000
Utilization	8,000	12,000	20,000
Total	81,810	82,925	164,735

* Numbers in parentheses are the number of trainees in each of the degree programs.

ANNEX M

POLICY DEVELOPMENT AND REFORM PROCESS

ANNEX M: POLICY DEVELOPMENT AND REFORM PROCESS

I. OBJECTIVE

The purpose of this annex is to present the sources of Philippine forestry policies, identify the structures that influence policy, and describe the mechanisms and processes that lead to policy development and reform in the natural resources sector.

II. SOURCES OF PHILIPPINE NATURAL RESOURCES POLICIES

A. The Philippine Constitution and Natural Resources

The state's policy framework on environment and natural resources is embodied in the 1987 Philippine Constitution, which declares it as a state policy that all lands of the public domain, waters, minerals, coal, petroleum and other mineral oils, all forces of potential energy, fisheries, forests or timber, wildlife, flora and fauna and other natural resources are owned by the State. This principle of State ownership is known as the Regalian Doctrine, and embodies the will and intent of the State to take control of the administration, protection, management, utilization and development of at least 15 million hectares of the public domain through direct involvement or through one of three modalities: co-production, joint venture, or production sharing agreements with Filipino citizens, corporations or associations, at least 60 percent of whose capital is owned by Filipino citizens, and for a period of 25 years, renewable for another 25 years.

The Constitution classifies land of the public domain into agricultural, forest or timber, mineral lands, and national parks, and mandates Congress to determine the specific limits of forest lands and national parks, marking clearly their boundaries on the ground. Thereafter, such forest lands and national parks are to be conserved and may not be increased or diminished, except by law. Congress also is mandated to adopt measures to prohibit logging in endangered forests and watershed areas.

The 1987 Constitution likewise calls for: the protection and advancement of the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature; rural development and agrarian reform; promotion of the rights of indigenous cultural communities; the encouragement of non-governmental, community-based, or sectoral organizations that promote the welfare of the nation; and expanding productivity as the key to raising the quality of life for all, especially the underprivileged.

B. Forestry Laws and Regulations

The basic law regulating forestry activities in the Philippines is Presidential Decree No. 705, otherwise known as the Forestry Reform Code. Passed in 1975, it was the codification of all the existing forestry laws at

the time, and attempted to introduce needed reforms in the forestry sector, especially in the areas of social forestry and trade policy. Specific provisions of P.D. 705 have been amended several times. A draft bill ostensibly to fully supplant P.D. 705 and integrate other forestry laws has been pending in Congress since 1987.

Other important laws on forestry and natural resources include Executive Order 192, Reorganizing the Department of Environment and Natural Resources; Letter of Instruction No. 1260 on Integrated Social Forestry; Executive Order No. 277 on Forest Protection; and the law on Log Export Ban from Natural Forests.

Under the Constitutional framework and existing implementation guidance, the Secretary of the Department of Environment and Natural Resources is empowered to further re-define existing policies, make rulings on unprecedented matters, and issue rules and regulations through administrative orders, memoranda circulars and other administrative instruments. State policies are also formed or amplified in GOP commitments to international treaties and in trade agreements such as with ASEAN, ITTO, and GATT. Policy thrusts of the government are reflected in GOP programs such as the National Reforestation Program, the Comprehensive Agrarian Reform Program and the Integrated Social Forestry Program.

III. THE PHILIPPINE POLITICAL SYSTEM

Like most democratic countries, the Philippines has three major branches of government: legislative, executive and judicial. Theoretically, they are equal and are designed to protect democratic institutions and ensure development. As such, the legislative branch only makes laws and may not enforce or interpret them; the executive branch implements and enforces laws and may not make or interpret them; and the judiciary only interprets laws and may not make or enforce them. In reality, however, owing to the complex political system and its institutions, and for expediency, overlapping is allowed within prescribed limits.

These limits provide ample powers to the executive branch to initiate administrative measures to define or supplement state policy within the bounds of the budget. However, in order to commit more resources and incorporate other sectors in the pursuance of policy, legislation is required. This is the implicit limit to the administrative powers of the executive branch. The primary executive branch agency tasked with the management of natural resources is the Department of Environment and Natural Resources (DENR). The Department of Agriculture (DA) and the Department of Agrarian Reform (DAR) are also tasked with managing fishery resources and tenanted agricultural lands, respectively. The legislative and judicial branches -- mainly Congress and the courts of law -- are to provide the necessary legislation and decisions supporting sustainable management of natural resources under the Constitutional mandate.

A. The Law-Making Process

Legislative enactment is the most important source of major policy development and reform. The present GOP legislative arrangement is a bicameral body composed of the Upper House (Senate) and the Lower House (House of Representatives). All appropriations, revenue or tariff bills, bills authorizing increase in public debts, bills of local application, and private bills are to originate exclusively in the House of Representatives, but the Senate may propose or concur with amendments.

The law-making process itself has three stages, namely: (1) First reading, which involves only the announcement of the title of the proposed bill and its referral to the appropriate committee that determines its priority and coordinates it with other similar legislation; (2) Second reading, where the bill is subjected to debates, committee study, public hearings and other consultations; and (3) Third reading, when no further debate is allowed and the House votes on the measure. As the Philippines has a bicameral legislature, the bill as approved by one house must be approved by the other house (which may have its own version of the legislation) before it is finally forwarded to the President for approval and formal enactment into law.

Depending upon the urgency of a bill and the public support it generates, a bill may be enacted into law quickly or shelved for a long time. Many forestry bills introduced by members of Congress or proposed by DENR have not yet been acted upon. Examples of these bills are the amendments to P.D. 705 and a bill on ancestral land rights of cultural minorities. The formal structures that facilitate the legislative interface between Congress and the Executive Branch are the Cabinet Legislative Committee and an Assistant Secretary for Legislative Affairs in every GOP department.

B. The Budget Process

The instrument for implementing state policies, and therefore the vehicle of policy reform, is the national budget. Through the budget, the Executive Branch is able to carry out plans and programs, and the Legislative Branch can re-direct, re-allocate, or even increase the levels of resource commitments to policies of the national government.

The budget execution process is a complex set of bureaucratic procedures that involves budget allocation and sub-allocation, disbursement, accounting and audit. The Department of Finance (DOF), the Department of Budget and Management (DBM) and the National Economic and Development Authority (NEDA) play major roles in the budget execution process. DOF coordinates with DBM in setting the budget ceiling based on projected government revenues and committed expenditures. NEDA ensures that the budget allocation and ceilings are in accordance within the Medium-Term Philippine Development Plan and the Medium-Term Public Investment Plan.

In the first quarter of the fiscal year, DBM issues a budget call to all agency central and regional offices, and schedules consultations to determine the sectoral and regional allocation and expenditure ceiling as agreed upon by the Cabinet. National line agencies allocate funds for the operation of their respective central and regional offices.

Budget preparation by the agencies is done during the second quarter. A draft regional line agency budget is presented to each Regional Development Council (RDC) for deliberation, comments and clarifications. Regional budget hearings are further conducted by DBM and NEDA to ensure that the budget is within the prescribed ceiling. The final regional budget is then presented to the RDC for endorsement to the agency's central office. RDC-approved regional budgets are then consolidated at the agencies' central office level.

The third quarter is devoted to the review of national budget proposals by DBM's Executive Review Board and presentation of the same to the President and the Cabinet for review, reconciliation of differences, and final approval by the President. The budget as approved by the President then becomes the proposed national budget introduced into legislation as the Appropriations Bill for that fiscal year. The Appropriations Bill then goes through the usual Congressional processes. Once approved by both Houses, it becomes the government's budget for the ensuing year.

IV. POLICY REFORM PROCESS

The Constitution only provides general principles that govern state policy; state policy embodies government's orientation and biases. The specific instruments employed to achieve the constitutional mandate are left to the executive and legislative branches to determine. Thus, the present government has expressed its bias in favor of agricultural development and social equity. Its chief policy instrument is agrarian reform, and the Comprehensive Agrarian Reform Program is the vehicle for pursuit of its main policy thrust.

The intent of policy reform is to redirect society's attention and efforts toward a specific course determined by the priorities of the incumbent government. It represents a reallocation of society's total resources to meet social objectives that are perceived to be critical in their time. President Magsaysay's "land for the landless" helped spur the development of Mindanao; President Quirino's encouragement of foreign investment promoted rapid economic and social development; President Garcia's "Filipino First" policy fostered Filipino entrepreneurship; President Macapagal tried to limit power of the economic elite; and President Marcos' emphasis on science and technology resulted in increasing the proportion of highly-skilled labor in the population, a large portion of whom ended up in foreign labor markets, but who helped cushion the effects of capital flight.

The policy reform process is not a rigid cycle of pre-determined events, but does involve at least four major components: formation of a policy agenda; policy formulation; policy adoption and implementation; and policy monitoring and evaluation.

A. Formation of a Policy Agenda

Initiating the preparation of a policy agenda is normally the work of a newly-installed government administration, because reform is necessarily associated with change, be it organizational, social, or political. A "fresh

mandate" is a free hand to seek what was not previously achieved, and connotes a change of instruments, a change of policies, or a change of pace. The separation of the natural resources sector from agriculture in the early 1970s was a change of instruments (organizations). The recognition of upland settlers' rights to co-exist inside the public forest estate is a policy shift of major proportions.

The task of preparing a policy agenda is sometimes vested in a neutral group. Thus, former Natural Resources Secretary Ernesto Maceda called upon a group of colleagues from the University of the Philippines/Los Banos to initiate the process. Former DENR Secretary Dominguez initiated policy reforms much larger than Maceda's. Armed with funds from the Ford Foundation, he tasked a composite group of academicians, scholars, technocrats and NGO representatives to prepare a comprehensive policy agenda to introduce meaningful reforms in the environment, energy, and natural resources sector. The resulting policy agenda proved to be an indispensable asset to the incoming Secretary, Fulgencio S. Factoran, Jr. Many of the innovative policy reforms that Factoran has introduced came from the Dominguez policy document.

Concerted external efforts to initiate policy reform can come from donor agencies, whose "donor bias" determines the areas of reform to which the technical assistance or investment funds contributed will be applied. These donor funds will thus have maximum leverage in helping recipient countries to internalize and institutionalize their planning mechanisms and capabilities. USAID's approach is reflected in the current Natural Resources Management Program (NRMP), which will help motivate and enable policy change by rewarding GOP for investing political and financial capital in policy reforms.

Other government and non-government agencies contribute to the process by using their internal resources and influences to fund, support, study and disseminate specific policy initiatives. Natural resources-related agencies that enjoy appreciable credibility with the executive branch include: the University of the Philippines System; Ateneo de Manila University; Development Academy of the Philippines; Philippine Institute for Development Studies; Haribon Foundation; World Wildlife Fund; and Silliman University.

Other external mechanisms or unofficial participants in the forestry policy-making process include interest groups such as the media, congressional lobbyists and pressure groups, political parties, and professional organizations.

Government structures directly or indirectly affect the policy reform process by pursuing their own mandates. DA's policies in upland agriculture and the planning process are initiated by the following: the National Food and Fishery Council; the research and development policies of the Department of Science and Technology, through PCARRD and the National Agriculture and Resources Research System (NARRS); the land reform policies enunciated by the Department of Agrarian Reform; the sectoral thrusts embodied in the Medium Term Philippine Development Plan and the Medium Term Philippine Investment Plan; the investment policies and priorities set by the Board of Investments; water resources and energy policies set by the National Irrigation Administration and the National Power Corporation; population policies set by

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the Population Commission; and housing and human settlements policies pursued by the National Housing Authority. All these agencies contribute to the overall development of meaningful policy reforms in the environment and natural resources sector.

Still, the bulk of ENR policy reform initiatives emanate from DENR itself. Because of its role on the "front lines" of environment and forestry services, DENR has the inside knowledge and motivation to generate public enthusiasm for policy reform. Internally, it has a bureaucratic structure, the Planning and Policy Studies Office (PPSO), to handle policy matters, and a top-heavy stratum of officials -- five undersecretaries, eight assistant secretaries, eight bureau directors, 14 regional executive directors, 68 assistant directors, and six department service chiefs -- which, if properly coordinated, can serve as a potent think tank to churn out fruitful ideas from planning to operations.

The policy initiative starts with the identification of issues and problems. In order to focus on specific policy recommendations, a set of principles are adopted to serve as guide in the identification of the appropriate policy instrument. For example, social equity, political stability, sustainability and efficiency are four of the basic principles adopted by the Ford Foundation-funded "Policy and Program Agenda for the Environment and Natural Resources Sector" in 1987. Once the appropriate policy recommendation is decided upon, program recommendations are formulated. The policy agenda itself is the prioritized aggregation of all policy and program recommendations.

B. Policy Formulation

Policy formulation is the sorting, curing, and packaging process by which the tasked agency discriminates what is "do-able" and what is not. This decision is made through "agency bias" and an assessment of agency resources and capabilities. The products at this stage are administrative instruments such as administrative orders and memorandum circulars containing rules and regulations or guidelines concerning a specific policy pronouncement.

When a particular policy is beyond the agency's administrative limits, it must be submitted to Congress for legislation in the form of a draft bill cleared through the Cabinet Legislative Committee. In Congress, lobbyists and pressure groups may work for or against the measure. Unfortunately, many Congressional forestry bills have been pigeonholed since 1987 because of strong opposition from various pressure groups with vested interests and strong financial backing or influence.

C. Policy Adoption and Implementation

When a policy is adopted and implemented, it registers the commitment of resources, the creation of organizational structures, and their preparation for tackling implementation. Additional rules and regulations or implementing guidelines may have to be promulgated to properly institutionalize the policy adopted.

Often, policy implementation is accomplished through programs and projects that are designed to achieve specific policy thrusts. Thus, the policy of legitimizing the existence of upland farmers inside the public domain finds its implementation in the Integrated Social Forestry Program, and environmental policy in the uplands is carried out by the National Forestation Program.

D. Policy Monitoring and Evaluation

Policy monitoring and evaluation is an internal function of DENR, which is the main reason for the existence of the Policy Studies Service in the PPSO. That office is tasked with the responsibility of tracking specific policy issuances, pronouncements, orders and bills, and identifying proposals contrary to existing laws and constitutional provisions. It also determines specific policy gaps or overlaps and recommends corrective action. The PPSO also gathers specific policy indicators to evaluate the success of implementation of specific policies. Very often, e.g., in reforestation, performance or output indicators are themselves the policy indicators, as the effects of policy are often directly reflected in physical accomplishments. In many cases, policy effects are better reflected in impact measures rather than in performance measures. This is true in social forestry as in impact indicators that measure the change in real income or in the quality of life of the farmer beneficiaries.

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ANNEX N

FOREST MANAGEMENT POLICY STRATEGIES

ANNEX N: FOREST MANAGEMENT POLICY STRATEGIES

I. DYNAMICS OF FOREST MANAGEMENT

The forested area of the Philippines has contracted from about 57 percent of total land area in the 1930s to approximately 21 percent in 1988. This is largely due to the clearing of forests to make room for expanding agriculture and to a rapidly growing population. The conversion of forests also is related to commercial logging for "Philippine mahogany," referring to several genera of the family Dipterocarpaceae.

Particularly after World War II, the cutting of dipterocarp timber for both log exports and domestic manufacturing became a major Philippine industry and foreign exchange earner. Only in the 1980s has log output contracted, due to depleted timber supplies, implementation of a log export ban, increased forest encroachment by shifting (kaingin) agriculture, worsened security in the rural areas, macroeconomic problems in the Philippine economy, and GOP attempts to limit numbers of authorized logging and wood-processing companies. According to recent satellite images and other assessments, logging and shifting agriculture have reduced the size of the Philippine forest estate to not more than 6-7 million hectares (ha). A few salient points on the remaining forest follow (Dames and Moore 1989; DENR 1990; GOPA 1990).

Old growth dipterocarp forests comprise less than one million ha., mainly in the steepest and remotest areas of the country, and especially at upper elevations. A continuation of current trends will result in the liquidation of all but tiny fragments of old growth forests; this conversion is likely to occur in the next 10-15 years.

Non-production forests are those that should be incorporated into protected status based on elevation, slope of over 50 percent or ecological characteristics. Preliminary estimates indicate that 56 percent of the six to seven million ha. of Philippine forests may be classified as non-productive.

Production forests of some three million ha. are found mainly on Luzon (35 percent) and Mindanao (50 percent). Second-growth ("residual") dipterocarps comprise nearly 90 percent of production forests, while the rest consists mainly of pine forests and timber plantations. According to the Philippines' Master Plan for Forestry Development, sustainable log production from the dipterocarp forests may amount to 3 million cu.m. annually. This is concentrated in Regions 10 and 11 (Mindanao) and Regions 2 and 4 (Luzon and Palawan).

The existing forest plantation base is poorly evaluated with respect to extent, growth, and commercial yield. Many such plantations will be harvested between 1990-1995. Many reforested areas likely will have no commercial value due to poor location, poor growth, small areas or other constraints.

Little is known of the availability and use of medicinal plants, forest food products (e.g., fruits, nuts, game), firewood and charcoal, and other non-timber products of Philippine forests. Likewise, data on the availability of rattan, bamboo, and palm show many discrepancies despite the major commercial importance of these resources.

Legally-reported log production grossly understates actual timber cutting. Various informal estimates suggest that illegal logging accounts for one-half to several times the legal cut.

Information on the extent and condition of second-growth dipterocarp forests is meager. Extensive areas are thought to have inadequate growing stock and species composition for timber production, but little can be said with certainty in the absence of a national inventory.

The ecological development of dipterocarp forests is not well understood. Careless logging has made it difficult to evaluate whether the Philippine Selective Logging System (PSLS) is in fact an appropriate choice for harvesting and silvicultural systems for dipterocarp management. Since the 1950s, the PSLS has been the only method of cutting and regenerating dipterocarp forests allowed by the GOP.

Management of the natural forests is governed by ideas and approaches inherited from the 19th century Spanish colonial era. Many present forestry problems can be explained by inadequate adjustment of past policies to take account of current realities. Hence the system of forest management still depends on various kinds of concession rights granted to private enterprises for the extraction of timber and other forest products from public forests at extremely low "forest charges." These forest charges are established administratively, and bear little relation to market prices of logs and log products. Low forest charges lead to excess profits in logging and rent-seeking behavior (i.e., corruption to obtain and operate forest concessions). The little revenue collected from the concessionaires does not return to forest management, but flows to the general treasury. Concession periods are granted for 25 years (renewable for another 25 years), but this tenure period is considered short in the long-term context of forestry.

Moreover, concessions can be cancelled by administrative directives through DENR, so that possession of a concession is never a truly secure proposition. Concession insecurity contributes to careless and hurried logging and explains why concessionaires often have little incentive to care about forest regeneration. Cancelled and subsequently abandoned forest concessions are easy targets for kaingin agriculture and other encroachments leading to deforestation. The goal of NRMP is to break this cycle by means of strategic policy changes, helping a poorly performing sector to eventually reform itself and progress toward sustainability.

II. GOP OBJECTIVES AND STRATEGY FOR FOREST MANAGEMENT

As reflected in the Philippine Strategy for Sustainable Development (PSSD), the GOP has been actively formulating a strategy for sustainable

development of natural resources. In addition, the Master Plan for Forestry Development (MPFD) articulates a detailed strategy for management of Philippine forest resources. The Master Plan strategy will likely be formally adopted by the GOP before the start of NRMP. The following vision of forest management has emerged from the Master Plan and discussions with DENR staff:

A. Lands available for forest management:

-- Some 6.7 million hectares of presently non-forested lands will be devoted to industrial plantation forests, agro-industrial forest estates, community forests, timber estates, and community settlements.

-- Some 3.0 million hectares of second-growth forests will be protected and managed mainly for the production of timber, rattan, bamboo, and other forest products.

-- Some 1.0 million hectares of primary old growth production forests will be preserved for future generations.

-- Some 5.3 million hectares of protected forests, conservation forests and other special-purpose forests will be protected from human exploitation.

B. Future role players:

-- Communities will manage forests that are communally titled to them with use restrictions or leased to them under stewardship agreements. Communities consist of tribal/ethnic groups, organized forest settlers, groups granted participation under the Integrated Social Forestry (ISF) program, and others.

-- Industrial forestry firms will manage industrial forest plantations at high levels of productivity and yield.

-- Industrial firms will manage agro-industrial forest estates devoted to high-value perennials like rubber, mango, ilang-ilang, coffee, cacao, lanzones, citrus, etc.

-- Competent forestry consulting firms will obtain contracts for forest resource inventory, boundary survey, infrastructure development, forest management planning, reforestation, timber stand improvement, community training, and silvicultural treatments.

-- Rights to harvest timber, rattan and other forest products will be sold through competitive bidding.

-- Private voluntary organizations (PVOs) will help communities organize cooperatives to take control of technical and marketing aspects of forest management.

-- DENR's size will be reduced. It will be staffed by a highly professional corps of project administrators, contract managers,

planners, trainers, and extension agents. Responsibilities will consist of encouraging the economic development and environmental management of specific forest areas; contracting out reforestation, timber stand improvement, forest inventory, and similar activities; and installing monitoring and evaluation systems to objectively assess successes and failures in the field.

C. Activities in community forests will include:

-- Labor-intensive timber harvesting methods (e.g., carabao logging) in small-scale operations.

-- Portable sawmills in combination with chippers and log splitters to utilize small-size timber and to salvage logging wastes.

-- Cottage industries like wood-carving, furniture making, cabinetry, joinery, and manufacture of novelty items to maximize wood utilization and value-added in manufacturing.

-- Agro-forestry combinations to make optimal use of the different sites, and to provide more family income than either agriculture or forestry alone.

-- Multi-purpose trees planted near water sources.

-- Enrichment of second-growth forests through labor inputs provided by the communities.

D. Activities in production forests will include:

-- On-the-ground supervision by DENR to prepare areas of timber and other forest products for sale to the highest bidder above an appraised minimum price.

-- Contracts from DENR to private forestry consulting firms and other management entities to perform specific tasks such as road design, road construction and maintenance, timber appraisal, timber scaling and grading, post-harvest damage and regeneration inventories, etc.

-- DENR foresters engaged in stand-level forest management, including silvicultural prescriptions, harvest supervision, post-harvest evaluation, and monitoring and control of contract operations.

E. In protected forests, conservation forests, and other protected areas:

-- Inventories will determine resource values at stake in relation to biological diversity, rare and endangered species, critical habitats, watershed protection, and cultural and historical values.

-- Human settlements will be relocated from these areas to designated community forest zones.

-- A "no-compromise" policy of non-occupation of protected areas will be legislated and enacted using both incentives and sanctions to achieve results.

III. CONSTRAINTS TO ACHIEVEMENT OF OBJECTIVES

The constraints to achieving this vision of forestry development were described earlier, but a few issues deserve further emphasis.

These are years of enormous uncertainty regarding the policy environment for forestry. The Philippine Congress has been debating total and partial logging bans with no clear outcome in sight. A total ban would be highly costly in terms of lost employment and national income, while a partial ban to protect the remaining old-growth dipterocarps and other special areas is also controversial, but probably justifiable. The issues are clouded by possible conflicts of interest at the legislative level and by the lack of objective data to clarify economic and environmental tradeoffs. Many timber license agreements (TLAs) have been cancelled in recent years in the interests of gaining control of illegal logging. Yet without immediate transfer of user rights to the forest, the cancelled TLAs become an invitation for even more illegal logging and ensuing deforestation.

Forest management is challenging in a technical and economic sense under even the best of circumstances, but it is even more difficult under the strain of widespread kaingin agriculture and the pressures this exerts on the remaining forests. Further, insurgent activities in and around forested zones have resulted in unmeasured but apparently costly losses of working time for foresters and forest industries. Peace-and-order problems are a constant threat to property and human life, and are particularly problematic for the forestry sector because of its vulnerability in remote areas of the country. Various TLA concessionaires employ armed patrols for forest protection and view this as a cost of doing business. The number of forest guards employed by DENR to protect the forests, and their capability to function effectively, are inadequate in relation to the problems they face. Ironically, according to available reports, there has never been a single conviction for illegal logging in the Philippines.

Previous discussions to increase forest charges in order to shift resource rents from the logging companies to the GOP have been successfully resisted by the affected companies and their Congressional contacts. Moreover, because DENR does not receive this revenue, there has been little incentive for DENR to make collection of forest charges a high priority.

The advantages of social and community forestry in the Philippines have been much discussed for at least a decade, but the number of functioning examples is not well documented. Data on actual costs and returns from such projects are extremely rare. Implementation is inadequate because of uncertainties in tenure arrangements, insufficient fiscal resources to initiate needed programs and investments, and inadequate extension services to provide information and training. A particularly complex tenure issue is the matter of ancestral land rights, given the substantial forested areas that are claimed by tribal and ethnic groups.

The role of the Philippine government in forest management has been restricted to planning and regulatory functions. Reliance on rules and regulations to coax positive forest management behavior, logging methods, and other forest practices has proved frustrating and largely ineffective. Enforcement capability is limited, and field foresters are easily persuaded that logging practices are acceptable. Each new regulation generates creative responses to circumvent it, continuing the deeply entrenched pattern of patronage.

Finally, the government's forest estate has proved too large for management in relation to available resources. Forest inventories, detailed maps, separation of production and protection zones, etc. are missing. Thus the information framework for decision making is not adequate for the development of policies or implementation plans.

IV. NEEDED POLICIES AND PROGRAMS

In view of these constraints, actions required to improve sectoral performance include the following:

-- Old Growth Logging Ban: Apply legislative and executive authority to prohibit logging in the old growth forests.

-- Forest Protection: Reform and strengthen institutional mechanisms for the control of illegal logging and deforestation.

-- Timber Pricing: Increase forest charges to create incentives for careful and efficient extraction and efficiency in forest products industries, using the proceeds from timber sales ("economic rent") for forest management and protection.

-- Tenure: Reform property rights and revenue flows so as to empower and motivate communities and local governments to protect and manage forests.

-- Forest Management: Reform institutional structures in order to develop and implement forest management methods and management unit plans that sustain the long-term productivity of the forest estate.

V. USAID AND OTHER DONORS' STRATEGIES

USAID's principal experience to date in natural resources management is under the Rainfed Resources Development Project (RRDP). This project pioneered contract reforestation, and has laid much groundwork for community forestry in the Philippines. However, RRDP has not been involved with policy analysis and reform. Several other initiatives by USAID are indirectly related to forestry in the Philippines, although similarly without a policy focus. These initiatives provide bridging interventions to the program assistance under NRMP in the following areas: improving the effectiveness of PVOs; determining the role of natural resources in national income accounts; and increasing the design capabilities of DENR.

The level of commitment of other donors to forestry and forestry-related natural resources in the Philippines is high and growing. Projects and programs that appear to have the greatest interaction with NRMP are funded by the World Bank, Asian Development Bank (ADB), and the Australian International Development Assistance Bureau (AIDAB).

The World Bank's proposed structural adjustment loan (SECAL) promotes policies that are related to those of NRMP. SECAL backs policy reforms that prohibit logging in old-growth forests, raise greater forest revenues from higher timber prices, improve forest protection enforcement and provide secure tenure to forest users. It is expected that USAID and the World Bank will work closely in the implementation of these parallel initiatives. NRMP has policies on trade liberalization and industry deregulation that are absent from SECAL, while SECAL places heavy emphasis on the Integrated Protected Areas System (IPAS).

The ADB's forestry sector loan concentrates on contract reforestation and implementation of the Master Plan for Forestry Development. The reforestation loan is likely to be expanded, and this entails a concomitant set of policies, of which one of the most important is prohibiting old growth logging. The ADB also proposes to increase revenues from timber removals, but suggests that this be collected at processing plants rather than the forest. Also, the ADB siggests that concession rights in natural forests be combined in a single institutional package with establishment of forest plantations.

The AIDAB project is noted because it works with land use, mapping and cadastral surveys. Although the focus is land reform, similar expertise is needed under NRMP for the implementation of its natural forest management policies.

VI. NRMP POLICIES

A. Old Growth Logging Ban

1. Policy: Apply executive and legislative authority to prohibit logging in the old growth forests.

2. Rationale: The old growth dipterocarp forests are becoming seriously limited. Although resisted by the forest products industries, there appears to be a well-recognized need to preserve these forests in their relatively undisturbed condition for future generations. The withdrawal of these forests from timber production will cause some trauma in the Philippine economy. Amenity and protection values of these forests are unmeasured, but seem to be accepted as both socially and economically important.

3. Implementing Actions: Carry out the existing policy of banning logging on slopes over 50 percent, and prohibit further logging in the remaining old growth forests.

4. Conditions for Successful Implementation and Implications for Support Services: Implementation of the existing policy to prohibit logging on slopes over 50 percent requires a technical determination and practical

approach to classify where cutting is and is not permitted. This takes the form of site surveys, slope measurements, and boundary establishment.

The ban on all old growth logging will require strong political support, and will not succeed unless the lobbying power of the logging concessionaires is overcome. The ban depends on a comprehensive, practical plan to actively protect the old growth forests after timber concessions are no longer active. In this respect, a major effort will be undertaken to gain the active participation of non-government organizations (NGOs), communities, the military, local government units (LGUs) and people's organizations to protect the most threatened tracts of old growth forest. This will need to be coordinated with other DENR programs, especially the Community Forestry Program. Assessments will evaluate the ecological and economic feasibility of allowing forest dwellers to process non-timber forest products in some old growth forests in return for forest protection services.

5. Performance Indicators: Inspection reports from DENR's field offices will indicate the degree of compliance with the existing logging ban on slopes over 50 percent. The complete ban of logging in old growth forests will be signalled by: (1) an Administrative Order from DENR; (2) delineation of old growth areas on the ground; and (3) tangible evidence of site management plans.

B. Control of Illegal Logging

1. Policy: Reform and strengthen institutional mechanisms for the control of illegal logging and deforestation.

2. Rationale: Illegal logging comes about because of attractive log prices and low risks of apprehension and punishment. The latter is explained by weak and weakly enforced laws and DENR's inadequate capability to monitor log flows. Illegal logging takes many forms:

-- Enterprising local operators with chainsaws cut trees and convert them to lumber. The lumber is transported manually or by using draft animals to the nearest road, and then transported to buyers.

-- Local businessmen with or without political connections provide financing and facilities for upland farmers to cut trees for conversion and sale as lumber.

-- Organized illegal loggers maintain routes by land and sea for log smuggling.

-- Legal TLA holders underreport harvested volumes.

Illegal logging can be controlled only by vigorous, consistent, and effective enforcement of log removal regulations. These regulations are in place, with powers and responsibilities for enforcement assigned. However, enforcement is limited by the following constraints:

-- Wide expanse of forests to be protected, and lack of personnel for adequate forest patrol.

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-- Shortages of vehicles, horses, and radios for surveillance and apprehension of illegal loggers.

-- Lack of military support to face well-armed loggers; and

-- Inadequate political will and judicial interest to mount a well-organized effort to stop illegal logging, and to prosecute loggers who are apprehended.

Various estimates of illegal log removal from Philippine forests range from 1/2 to 3 times the legal cut. Management plans spell out the volume of wood to be removed in managed forests. However, current forest conditions indicate that much more than the allowable volume has been removed. The resource has been depleted and productivity of the forest reduced. As long as harvested volume exceeds growth, there will be no opportunity for the forest to recover productivity over time. The large range of estimates of illegal logging, and the current conditions of forests in general, imply that illegal log removal is seriously limiting the Philippines from managing forests for sustained production.

The draft Master Plan for Forestry Development presents the goal of reducing deforestation by half every five years. The goal is to reduce deforestation to less than 10,000 ha. shortly after the year 2005 or earlier, keeping the natural forest at the level of at least 5.5 million ha. in 2015 from about 6.2 million ha. in 1990.

3. Implementing Actions:

-- Make sanctions against illegal logging more effective.

-- Use improved information management and communications systems to control log movements.

-- Provide improved, timely information to officers charged with forest protection by using air photos and air patrols to locate sites of illegal logging and illegal settlements causing deforestation.

-- Assess the problem of abetted deforestation, and develop sanctions and policies to control the problem.

-- Improve control of the logging practices of timber concessionaires and restrict access of unauthorized settlers to the logged-over areas.

4. Conditions for Successful Implementation and Implications for Support Services:

a. Illegal Logging: Forest protection requires political and judicial will. This means strong sanctions, prompt prosecution and increased vigilance. Technical assistance provided under NRMP's Support Services component will be used to assist a public information campaign to heighten

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public awareness about illegal logging and to promote a citizens' watch to inform authorities of illegal cutting and the purchase of illegal logs. A management and communications system to control log movements, as proposed by DENR, draws upon the Support Services component for technical assistance, including assistance for air patrols.

Conditions for success depend on the extent to which: (1) the courts, military, and LGUs regard illegal logging as a serious offense; (2) the citizens' watch can be made into a successful campaign; and (3) improved technologies to trace log movements actually lead to increased arrests and log confiscations. In matters of illegal logging, the NRMP faces deeply entrenched attitudes and behavioral patterns that are difficult to reverse over the short term.

b. Unauthorized Settlement Causing Deforestation: Policies in this area require little outside technical assistance since they are mainly internal to the GOP. Conditions for success are similar to those described for illegal logging.

c. Logging Practices Causing Deforestation: This will require increased presence by GOP foresters (or contracted foresters) to monitor logging practices on the ground. A necessary condition is that these field foresters are not compromised by timber concessionaires on questions of professional judgment.

5. Performance Indicators:

a. Illegal Logging: Before the release of Tranche One, a baseline report will detail frequency of arrests, confiscations and convictions for illegal logging in 1989 and 1990. Also needed prior to Tranche One are detailed plans for DENR's proposed log control system and for increasing the effectiveness of forest guards. DENR will convene a meeting of donors to develop a funding strategy for these initiatives. Before the release of Tranche Two, an air control consultancy for forest protection will be completed. These steps lead to the performance benchmarks for Tranches Three and Four, which are defined in terms of increased seizures (e.g., logs and equipment), arrests, and convictions in relation to the 1989/1990 baseline.

b. Unauthorized Settlement: Prior to the release of Tranche Two, DENR will have completed evaluations on how GOP programs in the uplands are related to deforestation and on the issue of abetted deforestation. Evaluation for the release of Tranches Three and Four will focus on numbers of policy changes, budget allocations, sanctions and convictions (abetted deforestation) as indicators of progress.

c. Logging Practices: Improved logging practices will be tracked through the policy on forest management.

C. Increased Forest Charges

1. Policy: Increase forest charges to create incentives for careful and efficient extraction and efficiency in forest products industries. Use

the proceeds from timber sales (i.e., "economic rent") as an indicator for government investment in forest management and protection.

2. Rationale: The current method of setting prices paid for the rights to harvest timber is an administratively established charge of 30 pesos ($1.20) per cubic meter (cu.m.) of logs removed. Current log prices and production costs are such that a logger can make from $30 to over $100 in excess profit above a "fair" profit margin of 25 percent. This indicates the magnitude of the economic rent that the GOP is losing under the present system.

The advent of Administrative Order 62 (June 1990) will test the ability of the GOP to collect revenue in the form of an environmental fee of 500 pesos per cu.m. in addition to the forest charges of 30 pesos per cu.m. This increased price of raw material will lead to far-reaching changes in the structure of the forest industries. High-cost loggers and wood processors will drop out. Over the long run, logs will be available to only the most efficient processors. Also, it is expected that the new higher prices will make it less possible (although more attractive) for log producers to bribe log scalers, field foresters, and others who stand in their way.

Just as importantly, DENR now should have greater negotiating leverage with the GOP's finance and budget authorities in asking for increased allocations for forest management. If even a modest share of these revenues are returned to DENR, the amount going into forest management increases significantly.

3. Implementing Actions: Collect higher revenues from forest concessions by implementing A.O. 62, subject to adjustments from early experience; and relate the level of government budgets for forest protection and management to increased forest revenues.

4. Conditions for Successful Implementation and Implications for Support Services: The GOP's assessment of higher timber prices will be strongly resisted by timber concessionaires. Political battles regarding the environmental fee are expected to be fierce, and DENR will have to respond to appeals for exemptions and special circumstances ("hardship cases"). NRMP's Support Services component has a role mainly in the completion of baseline studies and other analyses, but implementation is entirely the role of the GOP.

5. Performance Indicators:

a. Timber Price Reforms: This begins with a scope of work to analyze the economic, social and environmental effects of the new pricing policy, followed by recommendations and corresponding adjustments. Increases in forest revenue are tracked from Tranches Two through Four, based on conservative forecasts of timber harvest and price.

b. Promote Financial Sustainability: Beginning with Tranche Two, it is expected that DENR can negotiate successively higher budget amounts for forest management.

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D. Reform of Property Rights

1. Policy: Reform property rights and revenue flows so as to empower and motivate communities and local governments to protect and manage forests.

2. Rationale: Deforestation and forest degradation occur primarily on land considered in the public domain. To a considerable degree, the economic use and replenishment of forest resources is determined by GOP policies that assert the property rights of the state. However, the GOP cannot adequately oversee the use and management of such vast resources. As a result, destructive practices and land settlement have proceeded at an alarming rate. Communities located in forested regions are apt to have a strong affinity for the land and forests, as they often depend on products and services from the forest for their income. Thus, the sustainable management of forest resources rests on the willingness of the GOP to transfer more responsibilities and benefits to local entities for the use, protection and management of forest resources.

The GOP must clearly outline its policies and eligibility requirements for tenure agreements pertaining to the different types of natural forests. These rights must not displace prior land occupancy claims ("ancestral domain"). The minimum standards for meeting forest management and protection obligations should be laid out for each type of forest agreement.

An important tenure issue is a procedure for obtaining "just compensation" for enrichment planting, timber stand improvement and reforestation if a forest agreement is revoked prematurely when these minimum standards have been met. In this respect, the GOP should explore options that compensate forest dwellers for maintaining the environmental and biological quality of protected areas and critical watersheds. Alternatives include the transfer of development rights, priority eligibility in other DENR programs such as contract reforestation, exclusive non-timber forest product rights, or other mechanisms.

NRMP will focus on the Community Forestry Program (CFP) because it is the component of social forestry in the Philippines that most directly links communities with the stewardship of natural forests. The CFP as a program is relatively new, and only 12 to 13 signed agreements exist in 1989-1990. Security of tenure has to be affirmed; understandings of rights and responsibilities need clarification; and NGOs need to be brought into partnership with DENR and USAID to help implement the CFP. The ultimate test of CFP success is evidence of management plans and initial forest treatments.

A second line of action under NRMP's tenure policies is investment of funds by LGUs for forest protection and management. DENR should prepare a detailed proposal for allowing local governments to retain a portion of revenues generated from the sale of local timber and non-timber products. This revenue could be used to finance forestry law enforcement and protection, environmental improvements and the establishment of local processing facilities for forest products.

3. Implementing Actions:

-- Implement the recommendations in the Master Plan for Forestry Development on the CFP components of people-oriented forestry.

-- Train NGO personnel to help develop managment plans for the CFP.

-- Establish due process to provide compensation to holders of forest use agreements whose agreements are revoked for reasons other than non-compliance, and who have invested time and money in forest improvements.

-- Provide funds and technical expertise to LGUs to enable and motivate them to protect and manage forests.

4. Conditions for Successful Implementation and Implications for Support Services: DENR will need to test these concepts incrementally, with initial efforts targeting selected communities or groups. The work will need to be carefully tracked and assisted as needed. Once some successes are noted, training and technical assistance can be expanded. Training will concentrate on forestry concepts, specifically on field activities used in forest management. Training also will be provided in business management, financial accounting and technical aspects of product manufacturing and marketing.

Conditions for the success of NRMP's tenure initiatives are: (1) early financial returns for communities and LGUs in order to sustain their interest; (2) early examples from which to learn lessons; and (3) a sufficient number of enthusiastic and competent NGOs working in the forestry sector, particularly with the Community Forestry Program.

5. Performance Indicators

a. People-Oriented Forestry: Early indicators focus on process and positioning. This will require an Administrative Order to affirm and publicize the CFP; brochures (or other media exposure) about the CFP to be distributed at provincial levels; and DENR's confirmation to work in partnership with NGOs. Successive indicators chart the number of community forestry management agreements signed, followed by completion of management plans and evidence of management treatments.

b. Provide Fair Compensation: Before the release of Tranche Two, it is expected that DENR will have worked out the process by which compensation can be made for revoked forest use agreements.

c. Enhance LGU Participation: By Tranche Two, DENR will have submitted a proposal outlining procedures to encourage LGUs to undertake forest protection and management. Indicators thereafter will chart the number of LGUs observed to be engaged in forest management.

E. Improved Forest Management

1. Policy: Reform institutional structures in order to develop and implement forest management methods and management unit plans that sustain the long-term productivity of the forest estate.

2. Rationale: At present, management plans in forestry are made by the companies that hold TLAs, subject to inspection and approval by DENR. Forest site and stand conditions that exist today indicate considerable difficulty with this system in reaching the desired site and stand conditions. Even if management plans are adequate, compliance with plans is spotty at best.

Individuals with a strong interest in long-term productivity of the forests must be responsible for developing and applying the management plan for a specific area. The entity with the most vested interest in the timber is the "land owner," or the GOP. It is therefore incumbent on the DENR to ensure the development of and compliance with adequate management plans for all forest lands under its charge.

Management units should be defined geographically, and have appropriate professional and service staffs. These management units will of necessity be of varied sizes but will need to be manageable in terms of staffing and physical feasibility. Site-specific management plans should be aggregated into management units designed to provide a sustained output of sufficient volume and value to warrant economic interest. Custodial plans with specific management objectives emphasizing protection and preservation should be developed for forests withdrawn from production.

3. Implementing Actions:

-- Complete forest type maps in two regions (e.g., Regions 10 and 11) at a scale of 1:50,000 or larger.

-- Inventory, demarcate and assess the productivity of production forests for areas of 500,000 ha. or larger.

-- Develop procedures through which DENR will contract forestry management services to private professionals, such as for preparation and implementation of Timber Production Sharing Agreements (TPSAs).

-- Promote research and development aimed at improving the management of the residual forests.

4. Conditions for Successful Implementation and Implications for Support Services: These efforts must be coordinated with the other mapping and marking activities under NRMP, such as for prohibition of logging in old growth forests. Mapping and inventory demand large numbers of field technicians with adequate transportation and per diem, and this must not be a bottleneck. Inventory relies on sampling techniques and data management to be contracted outside of DENR.

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DENR's contracting for forestry services assumes that field offices can manage these arrangements successfully. Progress toward the establishment of TPSAs will be helped by the extent of achievements in forest type maps and inventories. Conditions for useful research and development on the residual forests include sufficiently long time frames to observe results. The process for selecting projects to be funded must be fair and efficient, and the usual gap between scientific investigation and practical application must be filled for demonstration aspects to be possible.

5. Performance Indicators:

a. Type Maps: An Administrative Order directing forest typing in two regions is followed by benchmarks tracking the proportions of forested area covered by such maps.

b. Inventory: The sequence is from inventory plans (Tranche Two) to survey design (Tranche Three), followed by completed inventory of 500,000 ha. (Tranche Four).

c. Management Responsibilities: Administrative Orders spell out how forestry services will be contracted for the different categories of licenses, followed by another Administrative Order laying out responsibilities and procedures for TPSAs. Subsequent benchmarks chart the numbers of TPSAs completed and functioning.

d. Research and Development: This begins with a comprehensive plan followed by indicators on numbers of research progress reports, technical bulletins and field workshops.

ANNEX N, SUPPLEMENT 1: GROWTH/DRAIN PROBLEMS IN THE OLD GROWTH AND RESIDUAL FORESTS

There are apparent problems in the growth/drain data for production forests and forest harvest. Existing conditions reveal a history of overcutting and other forms of misuse. However, an examination of current data covering timber growth and harvested volumes leads to little understanding why these conditions were generated. Growth in the forests being harvested in 1988 was sufficient at the reported growth potential of 2.33 million cu.m. in old growth areas and 8.19 million cu.m. in the residual forests. These growth estimates give a total production potential of 10.56 million cu.m. (calculated by using 2.4 cu.m. per year average growth, 988,300 ha. of old growth and 3,412,800 ha. of residual forests [GOPA 1990]). If one uses only the production forests as a base, annual growth is estimated at 6,637,800 cu.m. If these values are correct, this volume can be harvested annually without depleting the resource.

The reported log harvest in dipterocarp forests in 1988 was 3.2 million cu.m. If these values are fairly accurate, the balance between harvest and growth in 1988 was very conservative, and would indicate that the forests should be able to recover growing stock rapidly at the current level of harvest. Why then are the forests so depleted?

Two possible explanations exist. First, the estimate of volume in growing stock and growth rates are not correct. Personal interviews with operators and foresters in and outside of DENR indicate this possibility. Contributing factors are known estimates without field work, different volume estimations using different methods and definitions, and different interpretations of the definition of merchantable volume. Continuous forest inventories started several years ago were abandoned due to funding problems and peace and order problems in remote areas.

A second explanation is that the amount of forest depletion due to illegal logging and shifting agriculture is not accurately reported. Of course, there is no hard data providing the magnitude of either. Estimates of illegal logging range from 1/2 to 3 times the volume of legally reported log removals. With no solid data one can easily and unfairly blame these agents for poor forest condition.

The only solid tool available for use is the relationship of legal log removal to growth. The tabulation of estimated volume growth and legal log harvest for 1988 is on the next page, with data from GOPA and Philippine Forestry Statistics (1988).

With a recovery ratio of about 50 percent, the log equivalent needed by the milling capacity is 9.7 million cu.m., which means some adjustment may be needed in the industry to ensure that excess harvest does not occur. Some of the above capacity probably will never be in production again; however, the mere existence of capacity would be a threat to the forest in case of a substantial rise in market value for lumber or plywood.

At current levels of legal logging, the forests should be able to sustain the allowable cut if the data are correct and if illegal logging is contained. Without the containment of illegal logging, and if one assumes an equal amount of legal and illegal log removal, the forest drain is at least 4.6 million cu.m. Adding to that the waste of 47 cu. m. that is cut but not removed, the total removal from the stands is about 6.8 million cu.m., which exceeds the estimated growth by 3.8 million cu.m. per year. Adding to that amount the forest conversion of shifting agriculture, the existing situation is clearly understandable.

Table N-1. Estimated Volume of Growth and Legal Log Harvest

	Production Forests (1989) (000 ha)	Estimated Growth (000 cu.m.)	Legal Removal (000 cu.m.)
NCR	--	--	246
1	52.0	59.3	22
2	497.7	568.2	264
3	87.1	99.5	107
4	451.0	514.9	57
5	21.1	24.1	5
6	17.8	20.3	--
7	1.9	2.2	2
8	147.8	168.7	16
9	176.3	201.3	94
10	517.7	591.0	298
11	545.6	622.9	439
12	121.8	139.1	146
Totals	2,637.8	3,011.5	2,311

Table N-2. Capacity of Sawmills and Veneer Plants

Region	Installed Plant Capacity (000 cu.m.)
NCR	490.3
1	61.0
2	562.8
3	284.0
4	216.7
5	—
6	—
7	—
8	24.0
9	257.6
10	928.4
11	1,218.6
12	474.4
Total	4,517.8

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ANNEX N, SUPPLEMENT 2: VOLUME CALCULATIONS AND ALLOWABLE CUT AND WASTE IMPACTS

In the Philipines, volume growth and annual allowable cut (AAC) are established using the merchantable stem, defined as follows:

> That portion of the tree stem from one meter above the butt swell to the first product limiting defect or diameters of 60 percent of diameter at breast height (DBH) of small trees, 50 percent of DBH of medium-sized trees, or 40 percent of DBH of large trees. For example, a large tree will have the top merchantable limit of 0.4 x DBH or to the first branch of the crown or to the first evidence of rot or other defect that impacts the useability of that section of the tree. A small tree, on the other hand, would have a top merchantable limit of 0.6 x DBH or to the first limiting characteristic of the tree stem.

This definition presents a major underestimate of the useable volume of the tree and the growing capacity of the timber site. Even when useable parts of the stem exist above the defined merchantable top, they are not counted in the volume and growth calculations. Given these considerations, there is a strong possibility that the actual removal volumes of merchantable sized logs could exceed the AAC without reducing the growing stock and productivity of the forest site. The extent of this volume is not precisely defined for the most part. However, this method of volume calculation promotes inefficiencies in volume utilization in log production. There is no incentive for the operator to use any but the clear bole of the tree and to waste all other parts regardless of the potential recovery of products or profitability. In fact, there is no incentive to even examine the ability of the rest of the tree to return a profit in processing.

The definition of wastage in log production is problematic. Is a section of tree that may be potentially useable considered wastage if it was not in the AAC volume in the first place? The argument could be made that it is not wastage and therefore should be of no concern to the landowner. Formal definition of waste indicates that any usable part of the tree left after logging is in fact waste; this definition will be used in this discussion.

In their discussions of waste, Tamalang et. al. (1977) and Virtucio (1970) identified logging wastes as stumps, tops, branches, abandoned logs and residual trees. Of these, branches and a portion of tops are obviously outside the calculated AAC. Those wastes in stumps, butt trims, abandoned logs and possibly residual trees are a part of the allowable cut. The implications are that any salvagable volume lost due to waste is actually a part of the allowable cut, and as such needs to be included with log volume removed to determine whether or not AAC is actually removed or exceeded. The converse is true: any salvaged logging of material outside the stem portion used in determining growing stock and growth should not be charged against the allowable cut.

Any analysis of wastage in log production needs to recognize the above problem. A legitimate assumption is that any useable portion of the bole left on site, even if it comes from outside the part of the tree used in volume determination, should be considered usable wastage. Even if the wastes are not a part of the AAC, they are in fact usable material that can be processed. The limiting factor is whether or not the material left is larger that the breakeven log. If it is, then it is not only volume inefficient but also economically inefficient.

During field visits, three sets of data were collected to estimate of logging and sawmilling wastage. These measurements were taken on a felled and bucked tree, 12 logs being sent to a headrig, and 25 8/4 boards from the green chain of a sawmill. These measurements were not intended to be statistically reliable, but results of the checks confirm previous reports that there is sizeable opportunity for improving both volume and economic efficiency in log production and log processing.

There was an overall loss of about 14 percent of the tree stem for the felled and bucked tree, with a loss of about 10 percent of veneer block volume. All of this volume was from the part of the stem measured for volume and growth calculations. Of the logs sent to the headrig, 10 feet of log processed would not make a product, representing wastage of about 6 percent of the volume of the logs. Sawing variations and oversizing used about 5 percent more log than was necessary to produce the product. These three wastages are not necessarily additive. The volume waste in logging is additive to milling wastes, and represents about 20 percent of waste that could have been recovered, given efficient logging habits and efficient milling machine operation.

The above data combined with wastage data indicated by other authors show that almost 50 percent more lumber could be realized from the felled trees than is now being used. The merchantable sized logs in tops, high stumps, abandoned logs, volume lost in improper log manufacture and volume lost in improper milling practices all contribute to wastes, and can be captured with proper operating procedures and by using efficient, well maintained and properly adjusted equipment.

Proper work techniques could salvage an additional 47 cu.m. per 100 cu.m. removed in logging. Proper operation techniques and use of efficient and well-maintained sawmill equipment could convert an additional 19 percent of log volume into lumber. Potential improvements are similar for veneer and plywood production.

Given the 1988 log production of 3.8 million cu.m., an increase of 47 cu.m. per 100 cu.m. of production would yield an additional 1.8 million cu.m. of logs from the same logged area. This would mean that about 47 percent less timber would need to be harvested to provide the same amount of product. If an additional 19 percent could be recovered from the same log input, this would translate into an additional 1.05 cu.m. of lumber or plywood from the same log input.

Using a 50 percent conversion efficiency rate for the industry, an additional 1.945 million cu.m. of final product could have been produced from the same harvest in 1988 (1.79 x 0.5 plus 1.05). The financial returns from successful investment and waste reduction efforts would be appreciable.

Systematic methods have been developed to identify logging and milling wastes and their sources, and much improvement has been achieved. It is recommended that the GOP establish a training and assistance program to provide assistance to the forest products industry to analyze and attack the problem.

Table N-3. Log Lengths and Diameters Going to the Headrig at Aras Asan Sawmill, Tandag

Log Number	Length	Dia. L.E.	Dia. S.E.	Usable Length
1	14' 4"	--	--	14' 4"
2	13' 0"	35.0"	32.0"	12' 4"
3	18' 8"	41.0"	36.0"	18' 4"
4	14 0"	34.5"	32.5"	12' 4"
5	13' 6"	42.0"	37.0"	12' 4"
6	14' 4"	38.0"	36.0"	14' 4"
7	13' 3"	41.5"	38.0"	12' 4"
8	13' 8"	25.0"	21.0"	12' 4"
9	14' 2"	32.0"	27.0"	12' 4"
10	14' 8"	26.0"	25.0"	14' 4"
11	14' 5"	34.0"	33.0"	14' 4"
12	15' 0"	32.0"	30.5"	14' 4"
Total	173' 0"			163' 0"

Note: This represent a loss of 10 feet of usable log that did not make lumber because of trimming, or 6 percent of the log lengths.

Table N-4. Lumber Measurements at Green Chain
Aras Asan Timber Co.

Board No.	Board Thickness (cm.) T1	T2	Dif.	Avg.	Board Width (cm.) W1	W2	Dif.	Avg.
1	6.0	6.5	0.5	6.25	10.1	10.9	0.8	10.50
2	5.2	5.6	0.4	5.40	16.0	16.1	0.1	16.05
3	5.0	5.5	0.5	5.25	21.2	21.6	0.4	21.40
4	5.0	5.3	0.3	5.15	21.3	21.4	0.1	21.35
5	5.2	5.7	0.5	5.45	15.9	16.1	0.2	16.00
6	5.1	5.5	0.4	5.30	21.1	21.2	0.1	21.15
7	5.2	5.4	0.3	5.30	21.0	21.4	0.4	21.20
8	5.1	5.5	0.4	5.30	10.8	11.0	0.2	10.90
9	5.4	5.7	0.3	5.55	11.3	11.5	0.2	11.40
10	5.2	5.6	0.4	5.40	10.0	11.1	1.1	11.55
11	5.1	5.6	0.5	5.35	11.4	11.6	0.2	11.50
12	5.4	6.1	0.7	5.80	21.2	21.5	0.3	21.35
13	5.3	5.5	0.2	5.40	16.1	16.4	0.3	16.25
14	5.4	5.7	0.3	5.55	16.1	16.2	0.1	16.15
15	5.4	5.8	0.4	5.60	16.1	16.1	0.0	16.10
16	4.9	5.2	0.3	5.05	26.6	26.9	0.3	26.75
17	5.0	5.7	0.7	5.35	21.0	21.3	0.3	21.15
18	4.9	5.4	0.5	5.15	21.0	21.1	0.1	21.05
19	5.0	5.2	0.2	5.10	11.1	11.5	0.4	11.30
20	5.0	5.9	0.9	5.45	16.1	16.3	0.2	16.20
21	5.0	5.5	0.5	5.25	16.0	16.2	0.2	16.10
22	5.2	5.8	0.6	5.50	16.0	16.1	0.1	16.05
23	5.4	5.8	0.4	5.60	31.5	31.7	0.2	31.60
24	5.5	6.4	0.9	5.95	31.0	31.5	0.5	31.25
25	5.2	5.6	0.4	5.40	15.4	15.6	0.2	15.50
Total			110.0	135.85			70.0	448.90
Y			4.4	5.43			2.8	17.96

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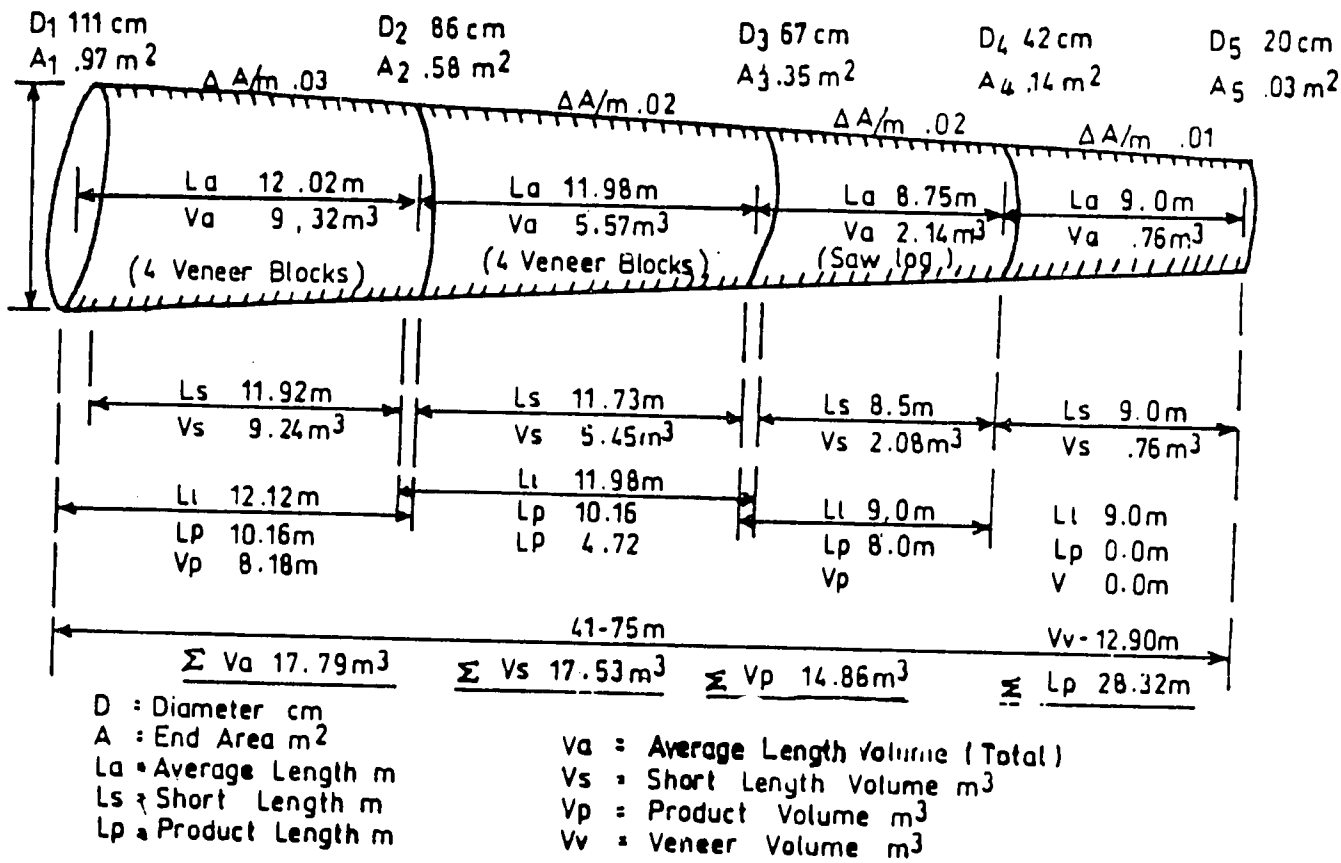
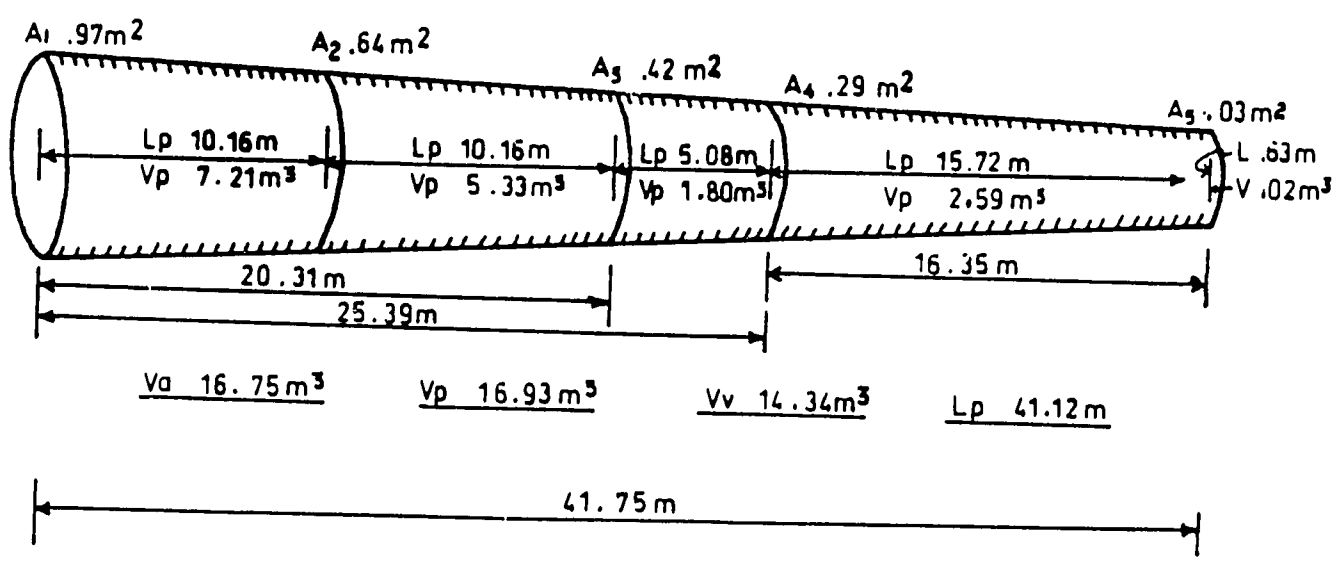
Figure N-1. Bucked Tree PICOP Side as Actually Bucked



D : Diameter cm
A : End Area m2
La : Average Length m
Ls : Short Length m
Lp : Product Length m

Va : Average Length Volume (Total)
Vs : Short Length Volume m3
Vp : Product Volume m3
Vv : Veneer Volume m3

As could have been bucked



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ANNEX O

FOREST PRODUCTS INDUSTRIES POLICY STRATEGIES

ANNEX O: FOREST PRODUCTS INDUSTRIES POLICY STRATEGIES

I. DESCRIPTION OF THE FOREST PRODUCTS INDUSTRIES

The forest products industries have been an important segment of the Philippine economy since the Second World War. However, their role began to decline in the 1980s due to decreasing timber resources, general problems in the Philippine economy, and economic diversification toward new growth industries. The forest products industries seem to have regained strength since the mid-1980s, but their share of GNP continues to be modest. Figure O-1 shows the location of primary wood processing mills in the Philippines.

In terms of output and value added in the solid wood industries, the most important component is veneer and plywood; sawmilling is second. Production of woodwork (e.g., moldings, boxboards, cabinetry, parquet) is third, and wooden furniture comes fourth. Inclusion of rattan furniture, a highly dynamic industry in terms of output and exports, raises furniture's position.

Market structure conforms to the familiar dualistic pattern in the forest products industries: a formal sector of large enterprises and capital-intensive technologies, and an informal sector of cottage industries and artisan enterprises. Until log exports were prohibited in 1986, the formal sector had been primarily oriented to foreign markets, while the informal sector had filled niches in domestic markets where aspects of product standards and quality were less important. These patterns continue, but market separation is less clear than before. For example, several small firms are furniture exporters, while several large ones concentrate on plywood for Philippine construction.

In the pulp and paper industries, there is only wood-based paper plant in the Philippines (Paper Industries Corporation of the Philippines or PICOP). PICOP holds a 70 percent share of domestic newprint production. The other paper mills (most of them non-integrated) use abaca, bagasse, rice straw, imported pulp, and wastepaper.

The following statements from GOPA (1990) and the U.S. Agricultural Counselor in the Philippines (unpublished) provide a perspective for the state of development of the forest products industries:

- Apparent consumption of lumber and plywood are about 100 percent and 50 percent higher, respectively, than official statistics. These substantial differences are attributable to illegal logging, black markets, deficient statistical methods, and other factors.

- Logging is presently allowed in only 12 provinces. The logging ban was recently expanded by means of a DENR Memorandum Circular to prohibit logging in forests on slopes of over 50 percent.

-- The number of timber license agreements (TLAs) was trimmed from 142 in 1986 to 75 as of May 1990, with the intention of reducing them to 30 by 1991. However, areas covered by cancelled TLAs are suffering rapid and severe encroachment from shifting agriculture. A recent study by the College of Forestry, University of the Philippines, showed that lands covered by 15 of 24 cancelled TLAs were totally destroyed or denuded and the lands covered by nine others were partially destroyed.

-- DENR reduced annual allowable cut (AAC) from 6.9 million cu.m. in 1988 to about 3.0 million cu.m. in 1989 and to 2.2 million cu.m. in 1990.

-- Some 236 sawmills out of a total of 400 (1987 figures) have been ordered closed. Approximately 16,000 workers have been laid off as a result of the mill closures.

-- Due to increasing restrictions on Philippine timber supply, log imports may reach 600,000 cu.m. in 1990 and continue to expand in the future. Log imports in 1989, mainly from Malaysia, were valued at about $23 million.

-- As of January 1990, exports of lumber, from unprocessed to kiln-dried surfaced-four-sides (KD S4S), were prohibited. This will result in a considerable loss of foreign exchange ($137 million in 1989). This issue has now reached the Philippine Congress, where it is expected to engender much debate.

While the outlook for supply of forest products is highly uncertain, demand prospects are strong. The largest consumer of lumber is the construction industry, which accounts for 80-90 percent of total consumption. Recovering from a depression in the mid-1980s, the construction industry posted large increases by 1989 (20.8 percent in residential projects, 19.1 percent in government projects and 5.7 percent in other projects). The construction industry is expected to continue to expand over the next five years (17 percent per annum, as estimated by the U.S. Agricultural Counselor) due to buoyant demand for low-cost housing, condominiums and shopping center floor space. Many housing projects and commercial developments (hotels, plazas, etc.) are already underway. Speculation over reduced log supply has combined with this strong demand, resulting in steep price increases for lumber (50 percent in 1989).

Similar trends exist for plywood, of which 75-85 percent is sold to the construction industry. Domestic demand is expected to grow by 3-4 percent per year over the next decade. Plywood prices doubled in real terms between 1984 and 1988, registering another steep increase in 1989 (20 percent). Philippine exports of plywood have fallen well behind those of neighboring countries (Indonesia, Malaysia) due to higher costs and lack of product diversification. Capacity utilization for all plants in the veneer, plywood, blockboard, and other wood-based panel industries is only 35 percent, which rises to 47 percent when considering veneer and plywood (especially integrated plants). Low recovery is due to over-aged equipment and inadequate technologies.

Demand for paper products, as projected by the Board of Investments (BOI), is expected to grow by 5.1 percent annually. In the mid-1980s, the pulp and paper industry fell into serious financial trouble. By 1988, a full turnaround was achieved, which increased capacity utilization to 75-85 percent. Eight new paper mills have since registered with BOI, and a handful of old ones are being rehabilitated. The restoration of freedom of the press in 1986 spawned the production of many new newspapers and magazines (Metro Manila alone has 23 daily newspapers). In 1989 PICOP raised the price of its newsprint by seven percent, which has forced some publishers in turn to raise their prices. Likewise, prices have increased for school and office supplies. The domestic industries are highly inefficient, but survive behind high tariffs on final paper products, low tariffs on imported pulp and wastepaper, and monitoring of paper imports to reduce smuggling. The main importer of wood pulp is PICOP, which buys mainly long-fibered unbleached kraft pulp.

In comparison with inefficiencies in certain segments of pulp and paper production, the Philippines appears to enjoy very strong comparative advantage in rattan furniture and handicrafts. Exports of rattan products jumped by a factor of 20 in real foreign exchange earnings between the mid-1970s and late 1980s. This places the Philippines as the world's single largest exporter of rattan products, generating very substantial employment. However, supplies of large-diameter rattan have become increasingly restricted. At current extraction rates, supplies of large-diameter canes may be exhausted within five years. This implies that the Philippine rattan industry may have to rely increasingly on imported canes, although this strategy could be thwarted by Indonesia's attempt to ban exports of unfinished rattan.

In summary, the Philippine forest products industries are suffering the dilemma of insufficient raw material supplies in present and future eras of apparently strong product demand. The uncertainty created by various logging ban proposals and cancellation of operating permits produces high levels of insecurity, which exacerbate illegal logging and speculative behavior. The current poor investment climate surrounding the forest products industries explains much about the failure to modernize processing facilities, even though such modernization is badly needed.

One strategy for the forest products industries to meet increased demand is to become more efficient in their harvesting and processing technologies. Utilization of material currently called waste can go a long way toward improving efficiency. Another strategy is increased use of alternative domestic raw materials such as coconut lumber, rubber wood, lesser-known species in the forest, and plantation-grown timber.

II. OBJECTIVES AND STRATEGY FOR THE FOREST PRODUCTS INDUSTRIES

The Master Plan for Forestry Development indicates the following general objectives of the GOP for forest products industries:

-- To develop industries that are efficient, competitive and economically profitable.

-- To satisfy the country's growing demand for forest products.

-- To maintain present employment levels and to increase them in the future.

-- To increase export earnings.

-- To promote further processing and downstream industries for forest products; and

-- To develop community-based forest industries.

The strategy for developing industries that are efficient, competitive and economically profitable requires a favorable business environment, as follows:

-- Provide stable tenure to timber license holders and wood processors.

-- Ensure long-term availability of suitable raw materials on a sustainable basis.

-- Provide incentives and financial assistance for investment and retooling at reasonable terms.

-- Improve basic infrastructure such as electricity, communications, transportation and training.

-- Reduce bureaucracy and regulations; and

-- Improve the legal and institutional framework for industrial development.

III. CONSTRAINTS TO ACHIEVEMENT OF OBJECTIVES

A. Constraints

Constraints to achievement of the above objectives are technical, economic, social and political in nature. Technical constraints refer to worn-out capital stock and inappropriate technologies for the emerging mix of plantation wood, imported raw and semi-processed materials, and second-growth logs. Economic constraints refer to rising prices of logs under the expected logging ban of old growth timber. Constraints also include the enormous capital sums required for industrial modernization and reforestation, and other investments needed to keep the forest products industries alive and growing.

Social constraints refer to the unresolved problems of kaingin agriculture in the forests, disturbances to peace-and-order, and other elements of rural unrest. Political constraints include the swirling debates about alternative types of logging bans, competition of special interests in shaping these debates, and new-found influence by environmental groups in stirring up sentiment to close forest industries. Government ownership of PICOP is important from both political and economic perspectives (the GOP holds

81 percent equity), as is its control of several other sequestered forest products and agro-forestry enterprises.

Regulatory and institutional constraints merit particular attention. The forest products industries are subject to numerous rules and regulations that limit their choices of technologies, production lines, market outlets and investments and serve as barriers to enterprise entry, exit, and competition. Intervention in operational decisions is not the most advantageous role for DENR, which instead should concentrate on providing a broad and secure investment framework. DENR's tendency to impose increasing layers of new regulations only tests the imagination of affected enterprises to find new loopholes and exemptions, which is continues to destabilize the forest products industries.

B. Policies to Relax Constraints

Of the several policies that might be proposed to relax these constraints, two are particularly critical: (1) the reduction of barriers to entry and exit in the forest products industries, and facilitation of rehabilitation and modernization through non-regulatory approaches; and (2) increased trade liberalization in forest products through the reduction of tariff and non-tariff (especially regulatory) barriers.

IV. USAID AND OTHER DONOR STRATEGIES

Considering the wide range of donor assistance to the Philippine natural resources sector and the substantial magnitude of the donor effort, surprisingly little effort is being directed toward policies for forest industries. Both the World Bank and the Asian Development Bank support reforms banning logging in old growth forests, increasing the level of economic rent collected from timber harvests, improving tenure agreements for tree growing and processing, and removing policies that discourage the participation of private enterprises in the forestry sector. However, these initiatives seem closer to forestry than to forest industries, and neither gives direct attention to deregulation in the forest products industries or trade in forest products.

However, these issues have not gone unnoticed. The Asian Development Bank funded a comprehensive engineering and investment study by GOPA Consultants, which clearly calls for DENR to reduce its regulatory intervention and to allow markets to bring about an efficiency-oriented restructuring of the forest products industries (GOPA 1990, p. 23).

V. NRMP POLICIES

A. Entry/Exit Barriers

1. Policy: Reduce barriers to entry and exit in the forest products industries, and encourage rehabilitation and modernization through non-regulatory approaches.

2. Rationale: The forest-based industries must operate in a business climate that encourages growth and development. Reductions of constraints to entry and exit would permit the more efficient firms to grow, resulting in a more vigorous and competitive industry.

One of the principal reasons that the forest products industries have been under close regulatory scrutiny is to control illegal logging. In theory, this close scrutiny also provides the GOP with control over payments for harvested resources. Whether the rules and regulations actually meet these objectives is questionable. It is more certain that the regulatory framework imposed on the producing sector leads to distorting actions that do not promote efficiency. For example, requiring timber concessions to have processing facilities has resulted in mills being installed only to meet the requirement, not to operate efficiently. Restrictions on where and how raw materials and final products can be procured or sold inhibit management's ability to take advantage of better markets when they become available. Taxing timber on private lands, and restricting the cutting of such timber, discourages investments in tree growing.

Owners and operators of wood-processing plants need sufficient tenure security to capture their investment advantages in improved efficiency and modernization. They also need to be able to plan and accomplish such improvements without government approval affecting the timing and limiting the scope of such improvements.

GOPA (1990) estimated that investments totaling $642 million will be required to rehabilitate and modernize the Philippines' forest products industries during the 1990-2000 period. Much less than that may actually be invested over that period. Table O-2 shows the value added expected from various levels of investment. The present values and annual equivalents of the value added estimates were calculated using a social rate of time preference of 15 percent and assuming that the investments are evenly spread over 10 years (1990-2000). If relaxation of regulatory barriers contributes even modestly toward this investment, the resulting benefits will be substantial (Table O-3).

Finally, the GOP should divest itself of PICOP and of the forest-based enterprises it has sequestered and is holding under the Asset Privatization Trust. After many years of "red ink," PICOP posted its second year (and highest level) of positive net income in 1989, assisted by a major financial restructuring in 1988. The company has been reorganized into three distinct business units in order to increase the profits of each unit. Moreover, PICOP has announced the implementation of a long-postponed ambitious plant modernization program for its mills. PICOP's positive business outlook suggests that GOP's controlling equity in the company has outlived its usefulness, and that divestiture is now in order.

3. Implementing Actions:

-- Revoke or amend current policies or regulations of the kind illustrated in Table O-1, but only after confirming net benefits through careful analysis.

-- Encourage industry rehabilitation and modernization through research and development programs.

-- Divest GOP equity in PICOP by open auction to private sector, and release control of sequestered firms in the forest products industries.

4. Conditions for Successful Implementation and Implications for Support Services:

a. De-Regulate Industry: Deregulation cannot proceed without a careful baseline analysis of consequences for efficiency, social welfare and control of illegal logging. A preliminary list of regulations that need analysis is given in Table O-1. Upon signing of the NRMP grant agreement, it will be necessary for a consulting team to add to the list and perhaps modify it. The team would be composed mainly of policy analysts and economists who would interact closely with DENR's policy units and with representatives of the forest products industries (e.g., through PWPA). A refined list of perhaps 8-10 key regulatory impediments would be developed after extensive consultation and field visits. Of these, perhaps four or five would be analyzed in greater detail through data collection and testing of empirical models.

"Policy dialogue" on industry deregulation should continue throughout the life of the program, rather than completion of a one-time study at the outset. Hence the baseline studies should be followed by ongoing analysis and discussion of regulatory impacts. It is inevitable that key regulations to be modified will shift through the life of NRMP, implying that NRMP must have flexibility to adapt to these changes.

Conditions for the success of policy dialogue on industry deregulation are: (1) DENR's openness to discuss its regulatory policies frankly and realistically; and (2) sufficient common ground between DENR and the forest products industries to define regulation issues of mutual interest, and to agree on methods and criteria by which to evaluate these issues.

b. Technology and Modernization: This will require DENR's collaboration with DOST and FPRDI to develop a detailed plan for new technology in the forest products industries. Most likely, such a plan would follow the major GOPA recommendations, but would focus specifically on a phased program for a narrower subset of producers. NRMP's Support Services component will provide limited funding for the research and development design and for the follow-up technology transfer program.

Conditions for the success of these activities are: (1) the GOP provides sufficient budget for a program in this area; and (2) the forest products industries have genuine demand for the technologies being proposed and participate actively in their testing and transfer.

c. Divest GOP Equity: Conditions for success of GOP divestiture are: (1) genuine commitment by GOP to relinquish control of the subject firms; (2) assurance of sufficient economic and political security for private

buyers to extend serious offers; (3) sound financial analysis to justify divestiture; and (4) suitable political climate for divestiture.

5. Performance Indicators:

a. De-Regulate Industry: Performance indicators will use a "report card" approach. The team of specialists that conducts the baseline analysis will describe a reasonable path of progress for each regulatory issue. The aggregation of these descriptions will become the basis for a "report card," which is an itemized evaluation of the extent of change across all regulations being examined. Quantifiable targets will be specified whenever possible, and a clear and objective system will be devised to weight progress across the different deregulation elements to determine a "passing grade" for the release of NRMP disbursements.

b. Technology and Modernization: Performance will be marked against the development of a program plan, provision of a budget, subsequent workshops, and evidence of adequate participation by private producers.

c. Divest GOP Equity: Indicators of progress begin with detailed plans and schedules for divestiture, including an analysis of constraints on buyers. Subsequent indicators will track the amount of GOP's equity actually divested.

B. Trade Liberalization

1. Policy: Increase trade liberalization in forest products by reducing tariff and non-tariff barriers.

2. Rationale: The Philippine forest products industries have shown strong comparative advantage in the past (delos Angeles et al., 1989). This was due mainly to low costs and the high quality of logs, rattan poles, and other raw materials. This advantage is eroding as domestic raw materials from the forests become scarcer. As an interim measure and perhaps over the longer term, the Philippines may turn increasingly to imports of logs, veneer sheets, wood pulp, rattan poles, bamboo canes, and other raw and semi-processed materials to keep alive its processing industries.

This will require a comprehensive look at tariff and non-tariff barriers in terms of consequences for industry structure and efficiency. The whole mix of raw and semi-processed raw materials, not just logs, should be analyzed. While current tariffs on logs are zero, tariffs on lumber and veneer sheets are 20-50 percent. Over the life of NRMP, prices of logs and wood products may rise to such levels that import levels of even lumber and veneer will depend on tariff and non-tariff barriers.

Concurrently, forest products exports must be permitted without restrictions, both for short-term industry survival during these years of transition and to stimulate long-term reinvestment and modernization. The recent ban of lumber exports must be analyzed for its effects on producers and consumers in the Philippine economy and on the control of illegal logging. Because lumber is a large component of the Philippine forest products industries, liberalization of lumber exports has a major economic impact.

3. Implementing Actions:

-- Maintain low tariff barriers on raw and semi-processed forest products.

-- Reduce non-tariff barriers to imports of raw and semi-processed forest products.

-- Assess the economic and environmental impacts of the lumber export ban, and eliminate the ban if the assessment points to this conclusion.

4. Conditions for Successful Implementation and Implications for Support Services:

a. Tariff and Non-Tariff Import Barriers: Baseline studies will document tariff and non-tariff barriers across the range of relevant products and identify the economic consequences of current tariff and non-tariff policies. This baseline work will be contracted under the Support Services component to a team of specialists similar to (or the same as) that described for industry de-regulation. This team will work in close consultation with DENR and representatives of the forest products industries as well as with the Tariff Commission, Bureau of Customs, port authorities and other GOP entities. Policy dialogue will take place along lines similar to those identified for industry de-regulation.

Conditions for the success of policy changes on tariff and non-tariff barriers are: (1) openness by DENR, the Tariff Commission, and the Bureau of Customs to discussing their tariff and non-tariff trade policies for forest products; (2) sufficient common ground between the GOP and the forest products industries to define mutual tariff and non-tariff trade issues and to agree on methods and criteria by which to evaluate these issues.

b. Lumber Exports: This begins with a comprehensive assessment of the economic and environmental consequences of the lumber export ban, funded under the Support Services component in parallel with the baseline analyses for industry de-regulation and tariff and non-tariff import barriers. Because of the significance of lumber exports on the Philippine economy, NRMP must allocate sufficient resources for a thorough analysis.

Conditions for success of policy changes on lumber exports are the same as those earlier discussed for tariff and non-tariff barriers.

5. Performance Indicators:

a. Tariff and Non-Tariff Import Barriers: Performance will be tracked with a "report card" approach, as outlined for industry de-regulation.

b. Lumber Exports: Performance will be marked against the completion of an assessment report and evidence that its recommendations have been acted upon.

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Figure 0-1.

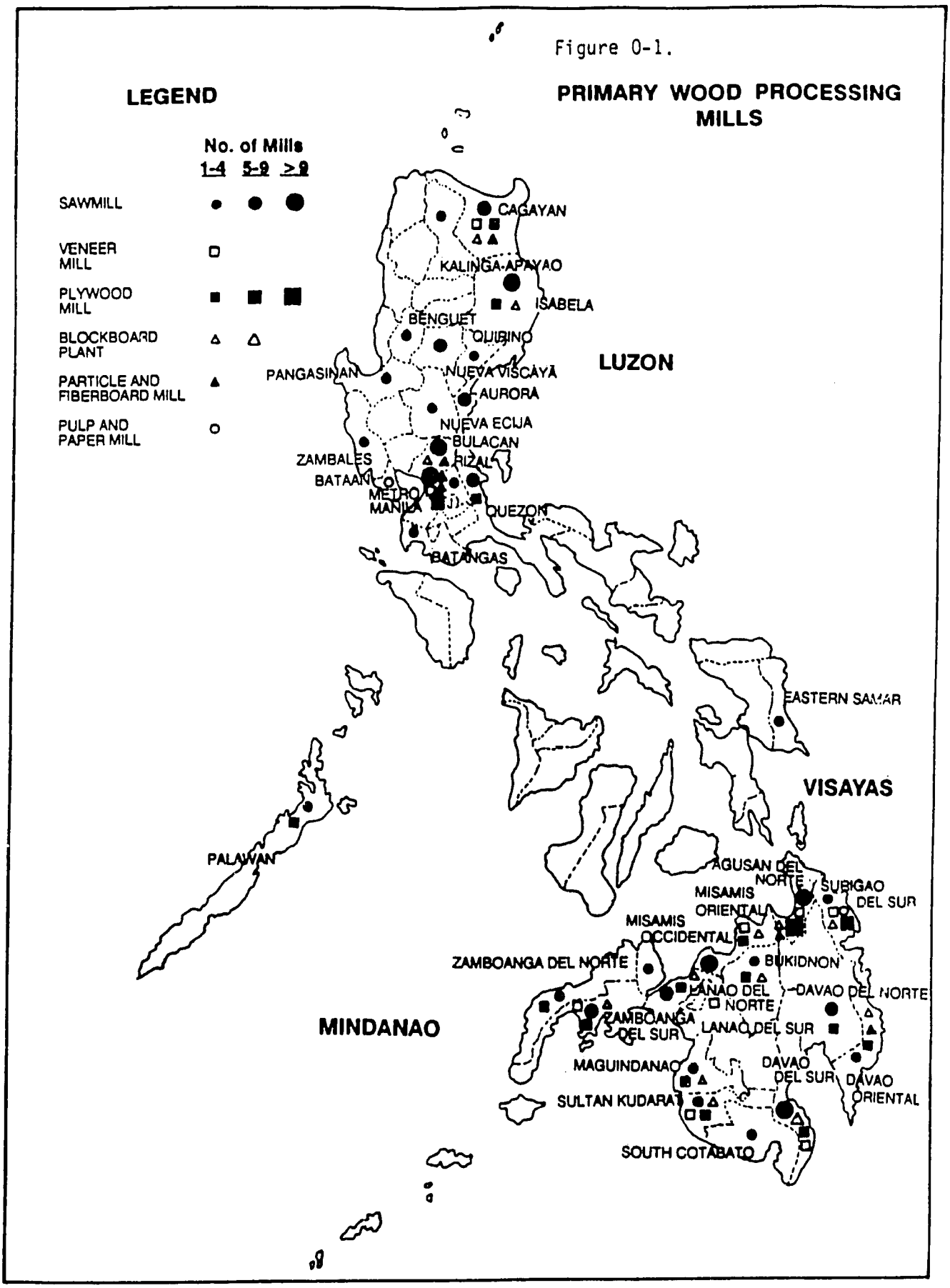

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Table O-1. Barriers to entry and exit of forest-based processing industries and relevant laws and regulations

Barriers	Laws and Regulations
1. TLA holders are required to establish and operate wood processing plants.	FAO 11 (1970) and PD 705 (Sec. 28)
2. Non-TLA holders are required to have a log supply purchase agreement (LSPA) with a timber licensee or other legitimate source of logs.	PD 705 (Sec. 30) and MAO, series of 1986
3. Tenure of permit to operate: Wood processing plant permits issued to holders of existing TLAs are co-terminus with TLAs; for non-TLA-holders with approved LSPAs, the permit is for two years; for others, the duration of the permit is one year.	MAO 50 (Sec. 10)
4. No additional machinery/equipment to increase plant capacity and/or recovery shall be installed unless previously authorized.	MAO 50 (Sec. 13.8)
5. Permit is required to cut trees in agroforestry farms and private lands.	BFD Cir. No. 8 as amended by MNR AO No. 55

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Table O-2. Expected value added resulting from wood industry rehabilitation and modernization, assuming that investments are spread evenly over the period 1990-2000***

	Value Added ($000,000)				
Investment	10%	25%	50%	75%	100%
1991	5.7	14.2	28.4	42.6	56.7
1992	11.4	28.4	56.7	85.1	113.5
1993	17.0	42.6	85.1	127.7	170.2
1994	22.7	56.7	113.5	170.2	227.0
1995	28.4	70.9	141.9	212.8	283.7
1996	34.0	85.1	170.2	255.3	340.4
1997	39.7	99.3	198.6	297.9	379.2
1998	45.4	113.5	227.0	340.4	453.9
1999	51.1	127.7	255.3	383.0	510.7
2000	56.7	141.9	283.7	425.6	567.4
PRESENT VALUE:	96.9	242.3	484.6	726.8	969.1
ANNUAL EQUIV.:	23.1	57.8	115.6	173.4	231.1

*** Total investment for the rehabilitation and modernization program would be $642.2 million during 1990-2000. The expected value added by the year 2000 is about $567.4 million. The present value and annual equivalent of estimated value added associated with various levels of investment were calculated using a 15 percent social rate of time preference (SRTP).

Table O-3. Evaluation matrix on environmental and socio-economic impact of the rehabilitation of the forest products industries

	Logging	Sawmill Sector	Wood-based Panels	Secondary Sector	Tertiary Sector
Forest Conservation	3	2	1	2	1
Utilization of Resources	2	3	2	2	2
Reduction of Pollution	1	3	1	1	2
Regional Development	3	3	3	2	2
Employment	1	2	2	3	3
Indirect Value Added	1	2	2	2	3

-1 = Negative Impact
0 = No Remarkable Impact
1 = Moderate Positive Impact
2 = High Positive Impact
3 = Very High Positive Impact

Source: GOPA (1990), Volume II, p. 478.

ANNEX P

TRADITIONAL FOREST USE AND NON-TIMBER FOREST PRODUCTS

ANNEX P: TRADITIONAL FOREST USE AND NON-TIMBER FOREST PRODUCTS

I. INTRODUCTION

This annex reviews the information available regarding the use and management of natural forests by indigenous forest dwellers and the socio-economic prospects for non-timber forest products. According to de Beer and McDermott (1989), non-timber forest products encompass all biological materials other than timber that are extracted and used from natural forests. These products generally involve simple extraction techniques and tend to be collected and traded by rural people living in or near natural forests.

An assessment of these uses of forest resources is necessary in light of the expected shift from large-scale, mechanized timber extraction to community-based forest management. The draft Master Plan for Forestry Development proposes placing 1.5 million hectares of residual forest under the responsibility of forest-dwelling communities by the year 2005. The establishment of the Integrated Protected Areas System (IPAS) and the proposed ban on further logging in old growth dipterocarp forest will rely on local communities to enforce restrictions on forest use. In return, their rights to certain types of forest exploitation will be strengthened, and community development efforts will be initiated by a range of NGOs, academics and DENR. The hope is that, in areas where local people will be asked to refrain clearing forest for agriculture or from cutting timber, non-timber forest products can generate sufficient income to provide the incentive to protect the forest from illegal exploitation by outsiders.

This discussion highlights some of the existing information on forest resource use by indigenous forest dwellers and provides some crude estimates of the overall economic value of non-timber products for the export market. Specific recommendations are made for follow-up investigations to serve the particular needs of NRMP.

II. TRADITIONAL USES OF FOREST RESOURCES

There are a variety of local tropical forest uses that are difficult to quantify but nevertheless have significant socio-economic value. These less tangible forest resource values are not incorporated into calculations of total forest worth, so decision-makers do not recognize the trade-offs implied by developing one commodity such as timber at the expense of these other uses. Using the yardsticks of food security, rural employment and self-sufficiency, forest resources in the Philippines are far more valuable than the monetary value of timber. Even more important (but less quantifiable) are the environmental functions of natural forests for watershed stability, maintenance of global climatic stability, and as treasure houses of biological diversity.

The different ways forest resources serve the rural household economy are summarized best in a recent report for Southeast Asia:

> Food security in the form of staples, or more frequently, nutritional supplements, such as snacks and side-dishes, and buffers against seasonal and emergency shortages; health care in the form of ingredients in traditional medicines (for which substitutes may not be available or affordable); raw materials for building and implements for household use or for use in support of economic activities: agriculture, fishing, hunting or small-scale processing and manufacturing enterprises; and finally, income and employment from the collection, trade or processing and manufacture of non-timber forest products (de Beer and McDermott, 1989, p. 8- 9).

The most essential and basic function of natural forests in the Philippines is to act as the life-support system for millions of rural people. The indigenous "tribal" communities living in and around natural forests number anywhere between 5 and 7 million people. This is compounded by the great ecological diversity evident in the different forest ecosystems of the Philippines and the variety of land use strategies pursued by different cultural groups. There are three general land use systems: hunter-gatherers, shifting cultivators, and mixed systems of wet rice agriculture and shifting cultivation. All these groups depend on forest resources for their survival.

A. Hunter-Gatherers

Most hunter-gatherers belong to one of the many Negrito groups, who are regarded by some as the original inhabitants of the Philippine archipelago. These groups rely almost entirely on natural forest products for all aspects of subsistence and livelihood. It is important to emphasize that hunter-gatherers in general view the forest they live in as an embodiment of their culture and identity so that the two are inseparable. An early anthropological view was that hunter-gatherers represented the most "primitive" of societies and are modern examples of Neolithic people (the "stone age man" syndrome). This view is under increasing attack as empirical evidence grows showing the talents and sophistication of hunter-gatherers. A single family may hold vast quantities of information on wildlife distribution and habits, the micro-climatic requirements of a myriad of plant species, flowering and fruiting history of edible fruit trees, and similar practical knowledge for thousands of species. Some anthropologists suggest that hunter-gatherers have consciously chosen their lifestyle (having abandoned agriculture), partly to take advantage of the lucrative trade opportunities in commercial forest products. For example, the Ati of Iloilo, Panay survive by selling orchids, charcoal, firewood, medicinal plants, wildlife and handicrafts (Madulid, 1990).

B. Swidden Agriculture

The traditional shifting cultivators include Lumads or non-Muslim hill tribes of Mindanao, and the Mangyan, Palawan, Tagbanua and Carabello tribes, among many others. The terms "swidden agriculture" and "swidden cultivator" are used in this discussion to avoid the more confusing terms "shifting cultivation" or kaingeros. These labels are applied generically to all forms

of upland agriculture that involve burning, including cash cropping, dryland agriculture by lowland immigrants and traditional land use systems. The strong bias against swidden cultivation in the Philippines, partly due to the destructive slash and burn practices of lowland migrants, has prevented sufficient investment in research on the ecological and socio-cultural features which make these systems so suited to tropical forest management.

Traditional forest dwellers employ what Conklin calls "integral" swidden cultivation, i.e., a rotational system of cutting and burning a patch of forest, cultivating it for several years and the letting the land go fallow until it is reused. This type of "fallow forest" system relies on natural regeneration processes, sometimes assisted through enrichment planting, and often involves shifting fields rather than moving human settlements. This remains the most ecologically sustainable agricultural system for most tropical forests on highly leached podzolic soils. What is often forgotten by foresters is that swidden cultivators clear mostly secondary forest for their fields, not primary forest.

If only annual crops are measured as the output from swidden agriculture, they show extraordinarily poor returns for invested labor. If the entire system of cultivated fields, young fallow fields and secondary forest are considered, then these systems can be seen as productive and at times quite lucrative. The fallow secondary forests yield a range of products and attract game, and in some cases provide 30 percent of a household's food and protein needs as well as marketable items. In San Jose, Palawan, (Eder, 1981, cited by Russel, 1986) the estimated returns per person-day for rice swiddens are 3-8 pesos, compared to 15 pesos for nearby forest tree crops. In Napsaan, Palawan, swidden farmers obtain 6-10 pesos worth of crops from their upland rice swidden, compared to 32 pesos per person-day for collecting forest tree fruit. There are some indigenous models of intensive fallow forest management in the Philippines that deserve more attention and documentation. One is the woodlot system used by the Ifugao where forest wildlings of valuable species are favored and additional tree seedlings are planted; the resulting forest has greater tree species diversity than the nearby natural forest (J. Klock, pers. comm., 1990).

Swidden cultivators also rely heavily on surrounding natural forests to supply additional food and sources of income. Several types of forest palms, wild taros and wild yams provide starchy foods that are widely used as emergency staples in times of failed harvests and adversity. In many cases, forest sources of food are an integral part of the overall livelihood system. For example, a case study of a community in Leyte reveals that 86 percent of the households are not self-sufficient in rice and rely on non-timber forest products to generate sufficient cash to purchase food (Siebert and Belsky, 1985).

Forest products are also a major source of cash income for swidden cultivators, and are an impetus for gradual changes from subsistence to market-oriented forest production systems. For example, The Tagbanuas of Palawan consistently obtain more income from rattan and copal collection than from agricultural wage-labor, and are now concentrating on these items rather than collecting food or hunting game in the forest (Connelly, 1985). In

Ifugao, elementary school children produce carved one-foot long spoon and fork figurines, earning 21 pesos a week. Older children make larger figurines, earning on average 87.5 pesos a week.

III. CURRENT ECONOMIC VALUE OF NON-TIMBER FOREST PRODUCTS

Commercial trade in non-timber forest products has flourished in Southeast Asia for nearly 2,000 years. Historically these products were the major impetus to economic growth, leading to flourishing communities along the coasts of Borneo and elsewhere for trade in tree latex, aromatic oils, hornbill ivory, medicinal products derived from animal, plant and insect species, and edible products such as oils, swallow nests and honey. Further, forest dwellers have enthusiastically experimented with the propagation of a range of primary and secondary forest species, successfully producing major domesticates such as banana, coffee, cloves, cinnamon, citrus fruits, yams, taro as well as wildlife like chicken, pig and banteng. It is only in the latter half of this century that hardwood timber has overshadowed this vigorous trade. Although the relative export value of non-timber forest products dropped as timber booms were experienced throughout the region, the export importance of non-timber products began to climb again in the late 1970s (de Beer and McDermott, 1989).

A. Rattan

Rattan deserves special attention as a "major" forest product that contributed 2.5 percent of total Philippine export revenues in 1988. The Philippines has emerged as the world's largest exporter of rattan furniture and handicrafts, yielding nearly $200 million annually. In 1976, rattan furniture exports began to expand rapidly in response to a favorable international market and good comparative advantage over countries with higher labor costs, such as Taiwan. The value of furniture and handicraft exports leaped from $2.9 million in 1975 to $135 million in 1988, nearly a twentyfold increase in real dollar terms (Silviconsult, 1989). Presently, the combined employment from rattan collecting, handicraft production and furniture manufacturing is on the order of 62,000 person-years.

Rattan is a generic term for climbing palm vines that grow naturally in dipterocarp forests. There are about 70 identified species, of which 13 are presently commercially used. The most important species is *Calamus merrillii* or *palasan*, which produces much of the large diameter cane. A recent study sponsored by ADB (Silviconsult, 1989) concluded that the use of rattan cane by the furniture and handicraft industries is about 180 million lineal meters (mlm) per year, of which 20 mlm are imported. This means that about 160 mlm are collected from natural forests, although DENR issues permits for only 60 mlm. The high rate of unrecorded rattan collecting is due to the highly dispersed nature of the resource and the fact that most collectors are local forest dwellers who sell to traders and middlemen. The ADB team, assessing data from the GOP-German Forest Resource Inventory, concluded that the supplies of large diameter species (larger than 2 cm), used primarily for top-quality export furniture, may not last longer than five years at the current cutting rate. The smaller diameter cane supplies do not seem to be imperiled.

Manufacturers face a number of problems with the supply of large diameter cane for high-quality export products. One problem is the absence of preservation techniques when the rattan is first collected, which allows color-disfiguring fungi to grow while the rattan moves through an intricate trade and marketing network (Rivera, 1988). Another problem is that gatherers are marketing undersized poles (less than 4 meters), which are of less use for furniture making, so that the percentage of wasted raw material is very high. The suppliers of palasan have proved less than reliable, and sometimes provide poor quality material, so that some manufacturers are resorting to importing large diameter cane although it costs twice the local price. Indonesia's rattan export ban may make the import option less viable, although the industry has found sufficient sources to date.

The potential for establishing small plantations of palasan rattan are fairly good, as the propagation technology is known in the Philippines. Rattan grows well in residual forests because it responds well to overhead light, but it requires a tree to support its climbing habit. In some parts of Southeast Asia rattan is cultivated as an agro-forestry or homegarden crop. Usually these are the smaller diameter species that are of lower commercial value but quicker to mature (5-8 years) than the large cane (about 15 years for palasan). The ADB plans to support a major palasan rattan plantation project in Mindanao that will establish both large commercial and smallholder plantations. The latter will include smallholders both on residual forest land where DENR will issue stewardship agreements and on private land. Approximately 36,000 hectares of plantation will be established over a ten year period. Significant revenues are not expected until the twelfth year of operation, with an estimated FIRR (constant prices) of 13.8 percent over the first 30 years.

The collecting, marketing and processing of rattan provides a good example of labor-intensive industry based on a highly dispersed forest product. Most of the collecting is accomplished by indigenous forest dwellers who either sell to a local trader or are contracted and given an advance to collect for a particular trader. An analysis of the rattan marketing system and structure in the Philippines (Rivera, 1988) reveals the complexity of relationships involved in this one product, ultimately affecting the livelihood of tens of thousands of people. The raw material, in semi-processed form, often passes through three or four persons before reaching the manufacturer. Nevertheless, the marketing system as currently structured does not favor rattan conservation, and substantial wastage is evident. Unfortunately, many of the benefits of the resource are not accrued by the local collectors, who receive fairly low payments for arduous and sometimes dangerous work. Payments for the privilege of selling to a trader or manufacturer account for 20 - 25 percent of the total cost of rattan (Rivera, 1988). Further, the profitability of rattan gathering may be declining because, due to overcutting, gatherers must go farther afield to collect the same amount of rattan.

In order to generate a reliable source of income for rural communities and to promote sustainable cutting rates of rattan vines, more analysis of existing policies and their implementation is needed. DENR has a fairly comprehensive set of regulations for rattan exploitation, which reflect the GOP's desire to accommodate both industry and rural communities. The DENR Special Concerns

Office has tried to assist rattan gatherers by linking them directly to furniture manufacturers, avoiding the middlemen who have traditionally reaped much of the profit from rattan collecting. This initiative has had limited success and may require further assistance to mobilize NGOs to help provide this service.

B. Other Products

The economic value of forest product trade in the Philippines is difficult to calculate, because it encompasses highly dispersed, small-scale enterprises serving very specialized needs. When the values of all products consumed domestically or exported are converted into 1990 peso and dollar values, these products contributed more than $2 million in exports and nearly $1 million in domestic sales. These products include an array of items, such as resins used for high-quality varnishes, bamboo, salago bark, butterflies and birds. The actual value of exports may be grossly underestimated because many products are converted into items such as oils that are exported without being labelled as a forest product. The domestic market is certainly substantially larger than calculated, particularly in terms of the sales of food and medicinal items. A rough estimate of the overall industry (domestic and export) might be on the order of $ 5 million annually. With the addition of rattan, the total non-timber forest product exports will be worth nearly $202 million in 1990. This figure compares favorably to the "bottom line" calculations of $23 million for Thailand (1987), $238 million for Indonesia (1987), and $11 million for Malaysia in 1986 (de Beer and McDermott, 1989).

There is an absence of information regarding the volume of fuelwood and charcoal originating from natural forests; even less is known about how much is sold. The Master Plan for Forestry Development estimates firewood demand in 1990 at approximately 31 million cu.m. for domestic household use and 7.7 million cu.m. for industries. Some have suggested that as much as 70 percent of all wood cut in the Philippines is for fuelwood and charcoal production (Dames & Moore, 1989). Much of this wood is from coconut trees and other sources outside of the natural forest. Nevertheless, a variety of small-scale rural industries rely on biomass fuels, in addition to the larger industries, which consume prodigious amounts. The importance of pinpointing the trends in commercial fuelwood and charcoal uses cannot be underestimated, both for NRMP and other donor programs investing in plantation forestry.

IV. POTENTIAL ECONOMIC VALUE

The coexistence of swidden agriculturalists and tropical forests testifies to the compatibility of this system with forest conservation, although it is sensitive to disruption under conditions of rapid population growth, immigration or dramatic changes in agricultural technologies. The challenge is to prevent further disintegration of these traditional systems by recognizing the territories for swidden cultivation and fallow forest management as part of "ancestral domain" and not part of "public domain." This would strengthen the ability of these communities to resist the influx of migrants, illegal loggers and miners. The next step will be to pinpoint discrete ways in which forest products can be collected and used to increase local incomes without degrading the resource base.

The transition from subsistence swidden agriculture to more land-intensive, market-oriented systems can occur successfully when fallow forest production is increased through enrichment planting of perennial species and when annual cropping methods are improved to retain more soil nutrients. The best known example of such intensification is the work of the Kalahan Education Foundation in Nueva Vizcaya, where improvements in sweet potato cultivation and the development of a forest tree fruit processing and marketing industry have enhanced the material conditions of the community as well as provided substantial reforestation and improved watershed management. The development of an appropriate strategy for a particular community in a particular forest requires the "hands on" approach of grassroots NGOs. In the case of the Kalahan Education Foundation, discovering the best way to use forest products as a means of community development and resource management required trial and error over a period of years.

There is a high potential for many types of forest products, involving either commercial development or small-scale cottage industries. Preliminary research on Philippine medicinal plants was done by Quisumbing (1953), who identified 850 plant species used for medicinal purposes. The National Museum has a modest program supported by the Haribon Foundation (as part of the USAID-funded debt-for-nature swap) to inventory the medicinal plants of four indigenous groups (Palawanon, Maranao, Ibaloi and Ati) and test specimens for their possible use in cancer and AIDS treatment. The Department of Science and Technology is apparently interested in promoting an herbal medicine industry.

Some forest products offer high commercial value but entail fairly substantial marketing investments. One example is the valuable aromatic oil from the "Ilang-ilang" tree flowers, which can be used in perfumes. The domestic market for some products may already be substantial, although forest dwellers may not realize it. For example, the Philippines imported $1.6 million worth of sandalwood oil from Indonesia in 1984 (Menon, 1989). The opportunity for such domestic markets has yet to be explored.

V. CONCLUSIONS AND RECOMMENDATIONS

This analysis has shown the following:

-- Natural forests serve a multitude of functions in addition to commercial timber production, although these functions are not incorporated into calculations of forest value. The most important function is the role of forests as the life-support system for five to seven million indigenous forest dwellers.

-- A wealth of ecological information resides with indigenous forest dwellers, pointing the way to sustainable forest management and providing the starting point for developing new forest enterprises.

-- The current economic value of rattan for the Philippine economy is significant and growing. The most valuable rattan canes are nearly

depleted; considerable attention will be needed to increase the incentives for long-term rattan conservation and management by local people.

-- The current economic value of other non-timber forest products is already very considerable, perhaps representing as much as $5 million per year in sales. Substantial investment in research and development is needed as well as a review of policies that will stimulate more experimentation and innovation by the private sector, particularly by rural communities.

These four issues are directly relevant to the objectives of NRMP. An improved evaluation of the non-timber value of forest resources would help the GOP acknowledge the full worth of its natural forests and improve the assessment of costs and benefits associated with different policy options for forest development. The proposed USAID-funded resource income accounting effort could include both traditional uses of forests and non-timber forest products in its analysis for the forestry sector.

The remaining three issues are directly relevant to the establishment of a viable community forest management program and to increasing the contribution of forest resources to the national economy. The ecological aspects of existing forest use must be the starting point for the development of management plans that serve the needs of local communities and protect the resource base. An analysis of the status of existing research should help guide the priorities for support of research activities. An analysis of policy and implementation issues associated with rattan would help DENR establish the policy climate and implementation mechanisms to ensure sustainable rattan management. A review of the state of knowledge regarding those forest products that already have demonstrated economic value in the domestic or international market can pinpoint the key constraints to increased private sector investment in these products and identify research priorities for the most promising products. Some specific activities could include:

-- An assessment of ongoing research on ecological, socio-economic and cultural aspects of traditional forest use by indigenous cultural communities living in or near natural forests. The purposes of the assessment would be to: (a) evaluate the coverage and quality of existing field studies; (b) determine the level of research effort that will be needed to support community-based resource management initiatives under the Community Forestry Program and the IPAS system; and (c) identify promising research efforts that could be usefully linked with NGO initiatives promoting community development.

-- A review of the regulatory environment affecting rattan collection, marketing and manufacture, in order to provide recommendations to DENR regarding possible refinements in existing policies and procedures that would promote: rattan conservation and management; the production of high-quality rattan by indigenous forest communities; collection of full economic rent; improvements to the income and employment accrued by local communities; and mechanisms for assisting the formation of rattan collector associations, with the assistance of NGOs, in areas targeted for community buffer zone development under the IPAS.

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-- A review of information on the top twenty forest products (other than rattan) that already have some economic value in the domestic or international market. The analysis should identify key constraints to increased private sector investment in these products and research priorities.

These activities should be conducted in close coordination with DENR and with members of the environmental NGO community most concerned with the establishment of a viable IPAS and with community-based forest management. This includes consulting with existing social science research networks engaged in participatory research with forest dwellers. The leading national and regional research and scientific institutions should also be contacted, particularly in heavily forested regions.

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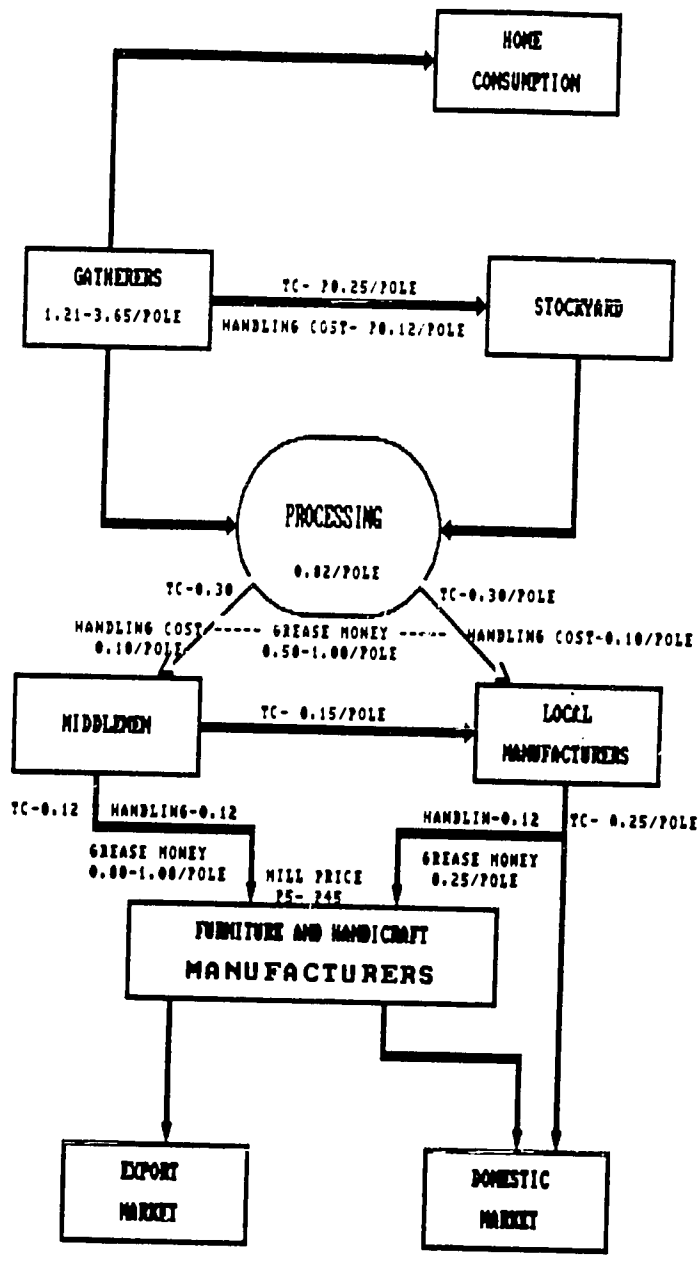
Figure P-1. RATTAN MARKET



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