



**PARAMETERS AND INDICATORS FOR MEASURING SUCCESS
OF REFORESTATION PROJECTS IN LUZON, PHILIPPINES**

ANALYSIS OF REFORESTATION POLICIES (ANNEX C)



FORESTRY DEVELOPMENT CENTER
College of Forestry and Natural Resources
University of the Philippines Los Baños

UPLB FOUNDATION INC.

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OCTOBER 2022

Project Staff:

Priscila C. Dolom
Hanna Leen L. Capinpin
Leonida A. Bugayong
Ma. Magdalena B. Villanueva
Ma. Cynthia S. Casin
Judith F. Castillo
Diorella Mari T. Garcia
Jean C. Nicmic
Michiko Karisa M. Buot
Reuel Allan J. Tandang

Implementing Agency:

FORESTRY DEVELOPMENT CENTER
College of Forestry and Natural Resources
University of the Philippines Los Baños

and

UPLB FOUNDATION INC.
College, Laguna

Funded by:

Department of Environment and Natural Resources
Foreign-Assisted and Special Projects Services

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INTRODUCTION

The deforestation in the Philippines decreased rapidly from 1946-1995 wherein forest became commercialized, and lumber was given economic value, and deforestation became more and more widespread and serious resulted in unprecedented damages. The Philippines even became an important supplier in the world timber market in the 1900's (Maohong, 2012). According to FAO estimates, the Philippines lost a third of its forest cover between 1990 and 2005, but deforestation has decreased since its peak in the 1980s and 1990s.

Because of this, the Philippine government has issued a number of regulations to address the problem of deforestation and its effects on the environment, society, and the economy. One of the objectives of the government's forest policy was intended to support the industrialization and modernization of the Philippines without taking into account the environmental costs as part of its overall national development agenda (Maohong, 2012). In the recent reforestation policies, they focused on engaging the community/stakeholders for a more effective implementation. These policies also set guidelines to ensure the long-term success of reforestation projects.

This policy analysis is part of the study of developing the standards and parameters for measuring successful reforestation projects by looking into the different issues and concerns, gaps, and challenges.

METHODOLOGY

For the analysis of policies, review of related literature was conducted to determine the different effects or implications of reforestation policies in the country, including issues and challenges. Different policies were also reviewed to determine reforestation standards and how they involve thru time.

For the perception survey, awareness of respondents on the reforestation policies and program were determined. Statistical analysis (simple counting) was employed to analyze results.

With respect to issues and challenges, these were supported by information gathered during the conduct of Expert's Consultation which was done at the early stage of the project, and during the conduct of the Key Informant Interview (KII) at the different DENR field offices represented by DENR personnel, representatives from the Peoples' Organizations (POs), Non-government Organizations (NGOs), Local Government Units (LGUs) and the private sector.

RESULTS AND DISCUSSION

The Philippine Reforestation Policies and Programs

Forest policies in the Philippines can be traced back to colonialism, first under Spain and then under the United States of America. Due to the negative effects of deforestation in some areas of the country, reforestation projects were initiated in 1916 under Act 2649, which was an act to reforest an aggregate 4095 hectares in the Talisay-Minglanilla Friar Lands Estate in Cebu province (Pulhin et al., 2006 as cited by Israel, 2015). Following that, subsequent reforestation

programs were implemented. RA 115 was passed in 1947 to provide funds for reforestation and afforestation. Republic Act 2706, on the other hand, was passed in 1960, and it established the Reforestation Administration with the mission of hastening reforestation.

People-oriented forestry programs were developed and implemented during the 70's to encourage people and communities to participate in forest activities. The Forest Occupancy Management Program (1975), the Family Approach to Reforestation (FAR) Program (1978), and the Communal Tree Farming (CTF) Program were among them (1978). Following these is the Social Forestry Program, which is governed by LOI 1260 and consolidates the previous programs.

In the late 1980s, the government's reforestation strategies shifted dramatically to contracting schemes. Decentralization, people's participation, and recognition of socio-political dimensions were also considered in the formulation of forest policy. The participation of non-governmental organizations (NGOs) became critical.

The CBFM is the national strategy for the sustainable development of the country's forest resources and at the same time, achieving social justice. The CBFM program consolidates and unifies all of the government's current people-oriented forestry programs.

The government's most recent reforestation program is the National Greening Program (NGP) and the Enhanced National Greening Program (eNGP), embodied in EO 2011-26 and EO 2015-193. The NGP consolidates and harmonize of all greening efforts and adopting a convergence initiative that involves government-funded reforestation contracts with community organizations, private entities, LGUs, among others.

Republic Act (RA) 115 S-1947: *An Act to Provide Funds for Reforestation and Afforestation of Denuded Areas and Cogon or Open Lands within Forest Reserves, Communal Forests, National Parks, Timber Lands, Sand Dunes, and Other Public Forest Lands in the Philippines, Providing Penalties for Violation of the Provisions Thereof, and for Other Purposes.* The law states the provision of funds from charges collected from timber cut in public forest intended for commercial purposes. Revenues collected from the sale of barks, medicinal plants and other products derived from plantations constitute the Reforestation Fund. This imposes a reforestation fee for every cubic meter of timber cut in public forests. Such fund is used for reforestation and afforestation of watersheds, denuded areas and cogon and open lands within forest reserves, communal forests, national parks, timber lands, sand dunes, and other public forest lands. However, the funds were not enough to pursue the target of reforestation activities. During this period, reforestation activities were undertaken by the then Bureau of Forestry.

Republic Act (RA) 2706 S-1960: *An Act Creating the Reforestation Administration.* The law provides for the creation of the Reforestation Administration to take over the functions of the Reclamation and Reforestation Division of the Bureau of Forestry. All reforestation funds collected pursuant to RA 115 are spend exclusively for reforestation. The reforestation administration is led by an Administrator and such Administrator organize branches in the provinces and coordinates with the Bureau of Forestry.

Republic Act (RA) 3701 S-1963: *An Act to Discourage Destruction of Forests, further Amending for the Purpose Section Twenty-seven Hundred Fifty-one of the revised*

Administrative Code. The law prohibits unlawful occupation or destruction of public forest including entry to public forest, proclaimed timberland, communal forest, communal pasture and forest reserve. This also include “kaingin” or any manner that destroy the forest or cause damage to timber stand and other forest products and forest growth. RA 3701 also describes the penalties for various offenses.

Letter of Instruction (LOI) 145 S-1973: *LOI to Accelerate the Rehabilitation of Extensive Denuded and Degraded Lands of the Philippines.* This LOI was issued to ensure an ecological balance and broaden the resource base of wood industries. It directs the Presidential Committee on Wood Industries Development to submit a program to promote the development of industrial plantations and tree farms by undertaking a) survey and inventory all available public forest lands, b) re-evaluate all pasture leases and permits and untitled alienable or disposable lands, c) formulate incentives to attract investors to go into industrial plantations and tree farms, d) determine sources of funding, and e) promote cooperatives and/or joint ventures.

Presidential Decree (PD) 389 S-1974: *Codifying, Revising and Updating all Forestry Laws and for other Purposes of the Forestry Reform Code.* PD 389 is the revision and updating all forestry laws to conserve the country’s public forests, including watershed areas, to protect and preserve national parks, and to provide suitable agricultural land for our people. Some of the provisions of the Code include: a) the gradual phasing out of log importation and development of the local wood processing industry, b) additional revenue to support the Bureau in the management of the forest, forest research and development, c) abolition of short term licenses and granting of long-term licenses, d) acceleration of land classification and immediate proclamation of permanent forests as forest reserves, e) resettlement of settlers in public forests, and f) revitalization of the Forest Agency (Bureau of Forest Development). The reforestation policy was embodied in the Forestry Reform Code.

Presidential Decree (PD) 705 S-1975: *Revising Presidential Decree No. 389, otherwise known as the Forestry Reform Code of the Philippines) as amended by PD 1559.* PD 705 was issued since during that time, the laws and regulations governing forest lands are not responsive enough to support government programs, projects and efforts regarding the management, utilization, protection, rehabilitation, and development of forest lands. The law provides for the merging of all Forestry Agency into Bureau of Forest Development which is responsible for the protection, development, management, regeneration and reforestation of forest lands to ensure sustainability.

Under the Code, the system of land classification was established including the boundaries of forest lands. The law also provides the guidelines for the utilization and management of forest lands, and special uses including wildlife, recreation and other uses. License agreement, license, lease and permitting systems were established for the utilization, exploitation, occupancy, possession or any activity within forest and grazing lands. Silvicultural and harvesting system for different types of forests were put in place including the determination of annual allowable cut.

PD 705 further strengthen the wood processing industry by providing incentives, rationalization of the wood and forest products industry, and local production of logs and processing. The law also promotes reforestation in all public and private lands, establishment

of industrial tree plantations, tree farms and agro-forestry farms. Incentives are provided to encourage individual to engage in industrial tree plantation and/or tree farming.

The law also includes the regulation of mining operations in forest lands as well as mineral reservations, which are not subject for mining operations. It also regulates the construction of roads and other infrastructure, and logging roads in forest lands. Apart from these uses and activities, PD 705 also considers the regulation of other uses such as pasture in forest lands, wildlife, recreation, and other special uses of forest lands.

Presidential Decree (PD) 953 S-1976: *Requiring the Planting of Trees in Certain Places and Penalizing Unauthorized Cutting, Destruction, Damaging and Injuring of Certain Trees, Plants and Vegetation.* The decree requires the planting of trees on lands adjoining the edge of the rivers and creeks for beautification and reforestation, and planting of trees along roads and private areas in subdivisions to provide shade and healthful environment. The responsibility is not only limited to planting but also taking care of them. It also requires owners of land subdivided to develop and maintain not less than thirty percent (30%) of the total area of the subdivision, exclusive of roads, streets and alleys, open space for parks and recreational areas.

A punishment of imprisonment or a fine is impose for offenses of any person who cuts, destroys, damages or injures naturally growing or planted trees of any kind along public roads and in other public areas. The same is impose to any person who violate any provision of Sections one and two or any regulation promulgated.

Letter of Instruction (LOI) 423 S-1976. Through LOI 423, the Presidential Council for Forest Ecosystem Management was created which is composed of different national government agencies. Functions of the council include: 1) formulate programs, rules, guidelines, regulations, and policies to maintain and enhance forest ecosystem and prevent further destruction, 2) organize the secretariat and technical staff to assist it in the performance of its functions, and 3) formulate program for forest ecosystem management (PROFEM), delineate the role of each member agency and other agencies in the formulation of the program, create Regional Councils for Forest Ecosystem Management (RECOFEM), and initiate other activities to support the program. The role of the council members are clearly stated to support reforestation, afforestation and agro-forestation program of the government. LOI 423 also promotes active cooperation and participation of NGAs in government reforestation programs.

LOI 423 approved for the establishment of ITPs to enhance and accelerate forest ecosystem management and lead to the creation of the Program for Forest Ecosystem Management (ProFEM). However, there was no clear definition of land ownership or tenure where planting was conducted. In addition, the underlying objective of forest plantation development is environmental consideration and not wood production. During this period, the emphasis was merely on planting seedlings and area planted with no or little planning for sustainable and long-term supply of timber (Acosta, 2004).

Presidential Decree (PD) 1153 S-1977: *Requiring the Planting of One Tree Every Month for Five Consecutive Years by Every Citizen of the Philippines.* Presidential Decree 1153 aims to achieve a holistic ecosystem approach to forest resource management, to prevent irreversible effect of human activities on the environment and to promote healthier ecosystem. In order to conserve and develop the country's resources, every citizen at least 10 years of age are

required to plant one tree every month for five consecutive years. Apart from planting trees which may either be fruit-bearing, shade, ornamental or forest trees, every citizen is obliged to take care of the trees for at least two years after each planting and do replanting, if needed.

In 1978, the **Family Approach to Reforestation (FAR)** under PROFEM 1 was launched. This encourages participation of local families in the reforestation. During this time, rate of reforestation outpaced forest destruction for the first time with a figure of 78,435 ha against the destruction rate of 65,958 ha. This achievement can be attributed to PROFEM due to increase in government funding through PROFEM 1, in addition to regular reforestation fund, multi-agency involvement, issuance of PD 1153 (Tree Planting Act).

Presidential Decree (PD) 1559 S-1978: *Further Amending Presidential Decree No. 705, otherwise known as the “Revised Forestry Code of the Philippines.* Presidential Decree 1559 was issued to further strengthen the Code to be more responsive to existing conditions and to the government’s thrust to further realize its objectives of forest development and conservation, and rationalization of the wood industry. The decree also states the provision of incentives to encourage and expand the participation of private sector in forest management, protection and development as well as in wood processing.

Among others, amendments pertain to lands to be reforested and/or afforested, lease agreement for industrial tree plantations, tree farms and agro-forestry farms, incentives, criminal prosecutions for offenses, wildlife conservation, equity sharing and cutting, gathering and/or collecting timber or other products without license.

Ministry Administrative Order (MAO) 11 S-1979: *Establishing the Communal Tree Farming (CTF) Program.* The program is designed to establish tree farms or plantations on open or denuded public forest lands and idle private lands and make upland farmers and communities’ protectors of the forest. Families are provided with one (1) year provisional life, which can be converted to a 25-year title, renewable for another 25 years. Timber licensee are required to reforest one hectare of open, denuded and brushland forest areas for every hectare logged-over with the same species tree cut. Licensees are complying but more on area requirement than species.

Letter of Instruction (LOI) 818 S-1979. This is a reforestation program through PROFEM and other allied projects. LOI 818 compels for full participation of timber licensees, lessees, and permittees towards partnership in reforestation activities. They are required to reforest one hectare of open, denuded and brushland forest areas for every hectare logged-over with the same species tree cut. This means that all holders of timber licenses, leases or permits engage in cutting of trees have to plant the same species as the trees cut for every hectare logged-over. Failure to do so leads to suspension of operation of the timber license, lease or permit or revocation of log export permit for log exporter.

Letter of Instruction (LOI) 423 S-1980. This LOI provides for the sanctioning of the establishment of industrial tree plantations to intensify and accelerate forest ecosystem management and led to the creation of the Program for Forest Ecosystem Management (ProFEM). This also provides for the establishment of Industrial Tree Plantations (ITP) to intensify and accelerate Forest Ecosystem Management.

Executive Order (EO) 725 S-1981: *Facilitating the Establishment of Industrial Tree Plantations.* Under LOI 423, establishment of ITPs is encouraged in support of the Forest Ecosystem Management and this order is to accelerate forest plantation program. This is to hasten the country's reforestation efforts and further promote ecological balance and ensure adequate wood supply. Extensive planting of fast growing tree crops primarily to supply raw materials required of WPPs and other industries. LOI 423 mandates the Government for the immediate implementation regarding the establishment of ITPs in open, denuded, brushland and inadequately stocked areas. The Minister of Natural Resources with the assistance of the licensees, accelerate the identification and delineation of suitable areas within their concessions for reforestation and conversion into industrial tree plantation. The Order also include planting of suitable dipterocarp or other premium species as well as fast-growing species in line with their reforestation program.

Letter of Instruction (LOI) 1260 S-1982: *Integrated Social Forestry Program –* reforestation/forest protection is a component of the program. The ISF program is geared towards environmental protection, poverty alleviation and promotion of social justice. It integrates all social forestry projects of the government with CTF and FOM as the priority projects. Direct participation of forest occupants in the rehabilitation and protection of forest resources at the same time, making them self-reliant through forest livelihood projects.

- DENR Administrative Order (DAO) 1988-97: *Revised Rules Implementing the Integrated Social Forestry Program Under LOI 1260.* DENR Administrative Order (DAO) 1988-97 provides security of tenure for kaingineros and other forest occupants who are dependent to forest lands for livelihood, as well as assist them. Forest occupants are allowed to cultivate and further develop the allocated parcels of land for agroforestry farms. This also includes homelots or settlements as long as it will not impair forest ecosystem. Communal forest leases in the present land is also allowed on a communal basis for non-commercial purposes.

Based on the DAO, the ISF Program components include information drive, identification and assessment of project areas, preparation of development plan, census of forest occupants, community organization, perimeter and parcel surveys, processing and issuance of certificate of stewardship, nursery and demonstration farm establishment, development of agroforest farms, training program, and program assistance.

The Regional Executive Directors (RED) are responsible for the identification of ISF projects areas which is assessed by the Project Team or the Social Forestry Officer (SFO) following a certain criterion. With regards to the development, it contains information on a) description of the project area, objectives, technology package, operational strategies, resource requirements, schedule of activities, marketing schemes, among others. Survey of the parcels of land if required, allocation to individual is three (3) to seven (7) hectares. Allocated land to the individual program participant is made contiguous unless economic feasibility, indigenous cropping patterns or natural barriers prevented it.

To ensure continuity of supply of high-quality planting materials, each ISF project is required to have a central nursery. This also serves as a demonstration farm as a show window of appropriate agroforestry technology for upland farmers.

Regular monitoring of the of the project areas is conducted to ensure success of the program. The Regional Offices are in-charge of the monitoring, evaluation, and documentation. Reports highlighting problems and opportunities and recommendations are submitted to DENR Central Office to further improve the program.

- **DAO 1989-38:** Development of a Minimum of Twenty Percent (20%) of the Land Allocation in Integrated Social Forestry (ISF) Projects into Tree Farms and or Tree Plantations. Pursuant to DAO 97 S. 1998 and in line with the National Forestation Program (NFP), portions of lands covered by stewardship contract/community forest stewardship agreement are develop into tree farms and/or plantations. In ISF project areas, at least twenty percent (20%) of the land is allocated for tree farming and/or tree plantation development.
- **DAO 1990-54:** Guidelines on the Selection, Establishment and Management of Integrated Social Forestry (ISF) Model Sites. The purpose of establishing an ISF model sites are the following: to showcase various agroforestry technologies and appropriate upland farming practices; to develop an ISF project to serve as venue for hands-on, practical and process-oriented type of training and in-situ social laboratory; to demonstrate effective linkages between and among government agencies and NGOs involve in the program implementation; and to demonstrate the effectiveness of active community participation.

Several activities involved in establishing the model site include site identification, assessment and selection, information dissemination, perimeter and parcel survey, processing and issuance of certificate of stewardship contract (CSC), preparation of site development plan, training of project leaders and participants, development of agroforestry farms, extension and community organizing, infrastructure and other program assistance, and livelihood projects.

The criteria in site identification, assessment and selection are also presented in this order (Sec. 5.1). Aside from the site development plan, other plans are also required including the indicative work plan, five-year development plan and the individual agroforestry farm plan. Features of the agroforestry farm are presented in detail in Sec. 5.7.1 of this order. Part of the monitoring and evaluation activities of the CENRO are the submission of monthly reports (PPPOM Form 1a) and the quarterly submission of the ISF Form No. 19, containing the accomplishments of all the project sites.

- **DAO 1990-77:** *Amending Paragraph A Section 7 of DAO 97-1988 re: Revised Regulations Implementing the Integrated Social Forestry Program.* Specifically, inclusion of incentives is the feature of this order. This is to encourage participation in the program wherein no fees are collected for the use of the allocated land under the Stewardship Agreement.
- **DAO 1991-04:** *Revised Regulations Governing the Integrated Social Forestry Program.*

Under the ISF program, the government provides security of land tenure and other assistance to individuals, families, groups or communities who commit themselves to

the stewardship role. Specifically, the feature of this DAO comprises program management, general consideration, program components, available areas, prohibited areas, stewardship qualifications and requirements, incentives, responsibilities of the program participants, transfer of stewardship rights and responsibilities, cancellation of stewardship agreements and compensation, institutional linkage, technical assistance and services, monitoring and evaluation, and the ISF funds.

The ISF program is managed and implemented by the Executive and assisted by the National Coordinating Office, the Social Forestry Division of the FMB and program assistance team and the community development officers. The components of the program include information drive, identification of project areas, listing of project participants, perimeter and parcellary surveys, processing and issuance of certificate of stewardship, processing and issuance of certificate of community forest stewardship, preparation and approval of stewardship development plan, planting stock production, stewardship development program, performance evaluation of stewardship agreement holders, community organizing, training programs, program assistance.

Available areas for the ISF project are areas within public forest land specifically open and denuded areas suited for ISF, areas formerly covered by projects like Forest Occupancy Management (FOM), Family Approach to Reforestation (FAR), etc., areas within existing TLA, PLA, ITP or AFLA which were developed as of 31 December 1981, and communal forest, communal pasture and other leases which were ceased to serve their original intention, neglected or abandoned. On the otherhand, prohibited areas are those areas wherein continued occupancy would result to massive soil erosion, sedimentation of rivers and streams, reduction in water yield and impairment of other resources, areas already covered by existing DENR reforestation projects, CFP, FLMA and other similar projects, and those areas strictly for protection purposes.

Incentives are provided to encourage qualified person to participate in the program. Aside from incentives, technical assistance and services are also provided. Technical assistance provided particularly on community organizing, agroforestry development, marketing of agroforestry products, soil and water conservation and forest livelihood projects. To ensure responsiveness of the program to issues and needs in each project area, regular monitoring is conducted. The Regional Offices are in-charge of the regular monitoring, evaluation and documentation of existing social forestry projects to look at their adherence to development plans. Problems, opportunities and recommendations are highlighted to improve the ISF program implementation.

The responsibility for ISFP was transferred from DENR to LGUs under the Local Government Code but there is no corresponding budget and manpower to continue the program thus, maintenance became a problem. Unavailability of funds in some period of the project's implementation has also become a problem. Also related to this is the lack of capital, credit and other support services for the community. It was also mentioned that

LOI 1312 S-1983: *LOI mandating the establishment and development of local government forest or tree parks all over the Philippines.* Letter of Instruction (LOI) 1312 was issued to enhance the beauty and improve the ecosystem, to provide a healthy and wholesome environment for rest and recreation, and to increase people's appreciation on the need for

preserving our forests and restoring our denuded areas. This mandates every barangay and municipality to establish, develop and maintain a forest or tree parks. The Ministry of Natural Resources, now the DENR, is mandated to allocate lands of the public domain appropriate areas for the establishment and development of forest and tree parks. The Ministry is also in-charge of providing seedlings and technical assistance. The LOI also mandates other concerned government agencies such as the Ministry of Human Settlements and the Ministry of Local Government to ensure that forest and tree parks are established and developed.

Executive Order 278 S-1987: *Prescribing the Interim Procedures in the Processing and Approval of Applications for the Development or Utilization of Forestlands and/or Forest Resources.* Under the National Program, contract reforestation provides initial funding to protect and maintain the planted trees for 3 to 4 years. After this year, agreement is signed between the government and the communities, NGOs or other qualified parties and this agreement is called the Forest Land Management Agreement (FLMA).

- *DAO 1990-71: Implementing Guidelines for the Award and Administration of Forest Land Management Agreement.* The Forest Land Management Agreement (FLMA) is the agreement signed between the government and forest land managers (FLM). The FLMA entitle the holder to harvest, process, sell or utilize the products grown on land covered by FLMA. One of the major objectives of FLMA is to establish a community-based system for implementing maintenance, protection and management of man-made forest established within the community.
- Specifically, the DAO encompasses the qualified participants, tenure/duration/transferability, coverage, sharing of benefits, reforestation guarantee fund and production share payment arrangements, application for and approval of an FLMA, penalties and additional provisions. The FLMA remains in full and effect for 25 years and renewable for another 25 years provided that the FLM complied with the terms and conditions of FLMA. The covered area includes reforested land or developed by virtue of a contract implemented under the National Forestation Program.
- *DAO 1991-33: Amending DAO 1990-71, otherwise known as the "Implementing Guidelines for the Award and Administration of Forest Land Management Agreement (FLMA).* This DAO amends certain provision on the previously issued DAO specifically Sec. 16.1 of Article VI wherein the government's production share is equivalent to 30% of the gross sales, computed at farm gate price, inclusive of any amount paid for forest charges or taxes arising from the sale. Under Sec 16.6, FLM are no longer require to pay production share on the products stated therein. Sections 18, 19 and 20 of Article VII were deleted and revised which pertains to amount deposit into the Fund equivalent to not less than 40% of the gross income derived from the sale, withdrawals of fund, and the payment for the production share.

National Forestation Program (NFP), 1988. The program provides a broad policy framework to rehabilitate and conserve the country's forest resources towards a sustained and comprehensive efforts. The NFP have three main components, namely contract reforestation,

watershed rehabilitation and timber stand improvement. Contracts are awarded to corporations, communities, and families. The Forestry Sector Projects (FSP) I and II were established under NFP. This program involves “contract reforestation” which involves families, local communities, NGOs, LGUs and the private sector.

With an expected survival rate of 80% and an average height of 0.8 m, contractors were paid under the contract reforestation program to reforest and manage a certain area for three years. These were turned over to DENR after the contract period (Pulhin et al., 2006).

- **DAO 1991-31: Revised Guidelines for Contract Reforestation.** The implementation of reforestation is governed by the following policies: 1) undertaken in close coordination with the private sector through family, community or corporate contractors; 2) promote social equity and rural development, contracting with local upland families and prioritize organized communities; 3) reforestation is consist of three phases namely surveying, mapping and planning; comprehensive site development; and monitoring and evaluation; 4) prior to implementation, objectives of establishing the plantation is clearly set and designed and species diversification is encouraged and that single species is discouraged; 5) intensive site preparation is emphasized consistent with the recommendations of the Master Plan for Forestry Development; 6) construction of access roads using heavy equipment is strictly regulated while plantation roads are not allowed, instead construction of graded trails and footpaths is fostered; and 7) monitoring and evaluation of reforestation projects through independent groups or entities is encouraged to ensure an objective view of their status and progress.

Survey, mapping and planning is contracted out to a duly qualified community or corporate contractors. This is also undertaken by the DENR using its manpower and resources provided that they have the capability to implement them. The minimum contract area for survey, mapping and planning is 100 hectares. The boundaries of all contract reforestation projects are clearly delineated and marked on the ground in accordance with the standard surveying procedures. Results of the activities including the recommendations are presented in the Technical Report. The report contains the detailed description of the physical/socio-economic characteristics of the project area, climate, topography and drainage, soil, vegetative cover/existing land use, photographs of the site, number and profile of occupants, and other information necessary for development planning. Recommendations on the strategies, location of the nursery and other facilities, choice of species, planting scheme/design, maintenance and protection techniques, other silvicultural treatments, schedule of activities and cost estimates are also included.

The activities involved in the comprehensive site development includes construction of infrastructure, seedling production, site preparation, planting/replanting, maintenance and protection. These activities are implemented through contract with family, community and corporate contractors. Maintenance and protection is implemented throughout the duration of the contract but the establishment of firebreaks can be undertaken immediately after site preparation.

The development plan also incorporates the plantation objectives which may either be for production or for protection; fuelwood production; inclusion of fruit trees; site preparation; method of cultivation; planting density; minimum survival rate which is

80% each of the final crop and nurse trees or other perennials based on the prescribed density; road construction; contract duration; and conversion to FLMA.

The monitoring and evaluation are undertaken through contract with accredited NGOs. Activities to be monitored are the construction of infrastructure, seedling production, site preparation, planting/replanting, maintenance and protection, among others. Frequency of inspection and assessment is undertaken pursuant to the work and financial plan prepared by the contractor and approved by the DENR. Inspection chart mapping (ICM) is done at the minimum once during the first two years and twice during the third year. While systematic sampling is done at least twice each year during the 36-month period of contract. The DENR conducts inspections and assess performance in response to progress billing. The primary purpose of M&E implementation by DENR therefore is to determine the amounts due and payable to the contractors.

This DAO also promulgates reforestation costs and budgets which are consistent with the objectives of plantation establishment. Budgets for plantation development is not necessarily uniform for the entire site due to factors like slopes and other features. The order also presents the contract management as to mode of awarding, timing of award and implementation of contract, performance bond, releases of funds, payment of billings, retention fee, subcontracting, penalty and force majeure, resolution of disputes, and termination of contract.

DENR Administrative Order (DAO) 1989-123: *Community Forestry Program (CFP)*. The program is designed to provide upland residents with alternative source of livelihood to shifting cultivation. This gives rise to the formation of People's Organization (POs) to be able to obtain a Community Forest Management Agreement (CFMA). The Community Forestry Program (CFP) aims to initiate community-based forest development of management and utilization of natural resources within second growth upland forests and residual mangrove forest to promote social equity and prevent further degradation of natural resources; protect the remaining primary forests with the help of the community; and enhance institutional capacity of the DENR, LGUs, educational institutions and NGOs in catalyzing community-based forest management.

The community forestry projects are implemented in all lands in the public domain except in critical watersheds, protected areas, government reservations and those areas covered by existing permits, leases and/or contracts. The initial project area is not exceeding 1,000 hectares and can be increased if the community demonstrates adequate managerial capability. A comprehensive and development plan prepared jointly by the community and the NGO, with assistance from DENR, is required. The plan contains the technical, socio-economic and financial aspects of the project. Updating of the plan is conducted at the end of the third year and five (5) years thereafter.

Under the CFP, community residents are awarded 25-yr Community Forestry Management Agreements (CFMA) which is renewable for another 25 years. The CFMA grant privilege in the utilization of forest products subject to different conditions as presented in Sec. 3. The program started in 1989 with the launching of twelve (12) projects. The DENR provided assistance to the awardees in the area of community organizations, training in forest management planning and conservation, livelihood opportunities, and developing other livelihood opportunities.

A Manual of Operations was also developed which serves as guidelines for implementation of community forestry projects. The community forestry projects were implemented in public lands including those in the upland, lowland and mangrove areas with the exception in areas established in critical watersheds, wilderness areas, government reservations, and areas covered by existing permits, leases and/or contracts.

- *Community Forestry Program Manual of Operations.* The manual set the guidelines for implementing the Community Forestry Projects. The manual incorporates site selection; NGO participation; consultation and issuance of Community Forestry Agreement (CFMA); resource inventory; preparation of management/development plans; approval of management/development plans; community organizing and training; resource development and operations; cost recovery; project implementation funds; co-production, profit sharing, joint venture; and monitoring and process documentation.

Sites for community forestry projects offer sufficient livelihood opportunities to encourage participation. NGO participation is required to assist in project implementation. They provide assistance in community organization; resource inventory; preparation of the management/development plan; training; marketing and consultation with the community. The NGO also takes the lead in sourcing social service, initiating new livelihood opportunities and establishing credit and marketing linkages.

Prior to the issuance of CFMA, the participants have to be organized and registered as a legal entity by a duly authorized government agency, preferably with the Securities and Exchange Commission (SEC). CFMA is issued by the RED for areas up to 500 hectares, the Asst. Secretary for Field Operations for areas more than 500 hectares and up to 1,000 hectares and by the Secretary or a duly authorized Undersecretary for areas larger than 1,000 hectares.

A comprehensive resource inventory is a requirement to provide baseline information for monitoring and evaluation and inputs to the management/development plan. Inventory of forest resources cover 100% of all trees 10cm diameter at breast height (dbh). While timber inventory covers bamboo, minor forest products and commercial palms. In the manual of operations, a competent forester with the assistance from a competent agriculturist prepares the management/development plan. These two however should be part of the NGO staff or contracted by the NGO.

Another activity conducted by the NGO is the community organization and training. Major output of which is the preparation and approval of the rules and regulations covering forest management operations and sharing of financial benefits by the community.

The management plan contains provisions for co-production, profit sharing or joint venture, which may be on a case to case basis. Also, the government share in the proceeds of co-production, profit sharing or joint venture delivered in the form of reforestation under at the expense of CFMA on lands designated by DENR adjacent to or near the project site.

DAO 1993-22: Revised Guidelines for Community Forestry Program. This DAO features the different phases of implementations which are pre-implementation, preparatory phase and the community management phase. Pre-implementation activities include information dissemination, site selection, census of forest occupants, selection of assisting organizations and orientation training. The site selection and approval of sites is in accordance with DAO 1993-16.

The preparatory phase of the project is geared towards capability development of the community as natural resource managers. The assisting organizations and the DENR assist the communities in establishing the organizations; issuance of CFMA; training on forest management planning and conservation; resource inventory, surveying and the preparation of management and development plan; developing alternative livelihood opportunities, preparation of the Community Resources Management Plan (CRMP); and organizational development in general. Each of these activities are discussed in detail in this order. In the community management phase, the management responsibilities and utilization privileges are carried-out by the organized community with the assistance from DENR. The organization manages natural resources and other livelihood projects.

The resource inventory and the RRSA provide basis for the preparation of CRMDP and for monitoring and evaluation. It will include minerals, timber, bamboo, rattan, commercial vines and other minor forest products. For areas subject for product utilization, 100% inventory of resources is required during the first two years. And inventory of 5% sampling intensity for areas to be operated from third year onward.

Each CFP project has a CRMDP which is jointly prepared by the community and the AO. The plan provides detailed information for the first 3 years of the project and indicative plans for the succeeding years. It needs updating at the end of the third year and every 5 years thereafter. Forest extraction is not authorized until plan has been approved. All activities in this stage of implementation are undertaken as a participatory training especially on resource planning, management and conservation.

At the community management phase, the assisting organizations (AO) phases-out and the management responsibilities and utilization privileges are handled by the organized community.

All projects are closely monitored to document the experiences and dynamics of project implementation. Monitoring and evaluation is the responsibility of the concerned RED. The work is contracted out to a competent independent organization or entity. In the absence of independent entity, it is done by the regional office with inputs from the concerned PENRO and CENRO.

- *DAO 1993-65: Integration of Community Forestry Program (CFP) to the DENR Regular Structure.* This DAO aims to promote efficiency in the successful and meaningful implementation of the community forest program; enhance institutional capacity of the DENR for effective community organization and mobilization; and attain a responsible people empowerment for effective national development. The existing CFP offices from Central down to CENRO are integrated to the corresponding regular

existing structures. The experiences and lessons from the implementation of CFP is collated and discussed as part of the activities of the DENR.

- *DAO 1994-16: Amendment to DENR Administrative Order No. 65, Series of 1993 which Integrated the Community Forestry Program to the DENR Regular Structure.* Amendment include the establishment of an organizational set-up for effective planning, implementation and monitoring of CFP. Thru this order, the Regional CFP Coordinating Unit (RCCU) was created at the regional level. The unit provides technical and administrative support to the program. Specific functions of the RCCU are enumerated in Sec. 5.2 of this order.

DENR Administrative Order (DAO) 1993-23: *Forest Land Management Program.* The objective of the program is to use reforestation as a tool for addressing rural equity issues, creating new jobs and providing wider opportunities for profitable self-employment; promote community-based participation in the rehabilitation, establishment, management, protection and sustainable utilization of forest resources; and achieve optimum environmentally-sound land use and sustainable productivity of forest lands and resources.

The component of the program includes security of tenure, community organization services, technical and financial assistance, and incentives for peoples' participation in the implementation of environmentally-sound land development and livelihood activities. Qualified participants are individuals and/or single-family units, community organizations/associations, and former reforestation contractors except LGUs and OGAs. The rights and obligations of FLM are described in Section 11 as to financial assistance, technical assistance, preparations of project development plan, forest management plan and forest protection plan, among others. The DAO also provides for the establishment of reforestation trust fund that provides capital.

Executive Order 263 S-1995: *Adopting Community-based Forest Management as the National Strategy to Ensure the Sustainable Development of the Country's Forestlands Resources and Providing Mechanisms for its Implementation.* This launched the country's present national strategy for the rehabilitation of open and degraded open lands under CBFM. This integrates and unifies all current people-oriented forestry programs including FA, FOM, CTF, NFP and SIF.

- *DAO 1996-29: Rules and Regulations for the Implementation of Executive Order 263, Otherwise Known as the Community-Based Forest Management Strategy (CBFMS).* The DAO requires the DENR, LGUs, NGOs and other government agencies or entities in the preparation of Community Resource Management Framework (CRMF). The CRMF expresses the communities' aspirations, local and indigenous knowledge, and serves as a guide in the access, development, use and protection of resources in areas currently and eventually utilized and managed by the communities. The key participants of the program are the local communities represented by the organization known as the People's Organizations (POs).

Features of the DAO include incentives, responsibilities of the POs, the different stages of CBFMP implementation, tenure, management of CBFMP, financial and other mechanisms, penalties and sanctions, and transitory provisions. The different stages

of CBFMP implementation are the preparatory stage, planning stage, and implementation stage.

Activities under the preparatory stage include a) information, education and communication campaigns; b) establishing institutional linkages; c) identification of CBFMP areas; d) criteria for area selection; e) processing of conflicting claims; f) application by the community/participants; g) community appraisal and PO formation; and h) application for CBFMA. The identification of CBFMP areas takes into considerations the forest land use plans which should be consistent with the overall watershed conservation strategy and with the Municipality's land use and development plan.

The objective of the planning stage is to assist the PO's in preparations of the Community Resource Management Framework (CRMF); Resource Use Plans (RUPs); and Annual Work Plans (AWPs). Another output during the community appraisal is to identify existing forest-based livelihood systems that may be enhanced to augment income.

During the implementation stage, it aims to (a) enhance organizational and institutional capacities that will make resource use and development sustainable; (b) ensure the economic viability of resource management activities; (c) ensure the flow and equitable distribution of benefits to PO 70 members and to the larger community; and (d) ensure the build-up of capital by the PO for forest management and community development projects. Activities involved in this stage include the implementation and managing the planned activities indicated in the annual work plan; reviewing the outcomes of these activities; replanning and using experiences as bases for the succeeding annual work plan, review and revision of POs constitution and by-laws; sourcing of local and external financial and technical assistance; mobilizing workgroups; strengthening of organizational and entrepreneurial skills; linking and transacting with markets; monitoring and evaluation; and continued membership and leadership skills development.

- *DAO 1999-29: Amendments of DENR A. O. No. 96-29 which Prescribes the Rules and Regulations for the Implementation of Executive Order No. 263, Otherwise Known as the Community-Based Forest Management Strategy (CBFMS).* This DAO was issued to simplify the procedures in the processing and approval of CBFMAs, CRMFs, AWPAs and RUPs. All provisions of DAO No. 96-29 requiring endorsement/affirmation by concerned local government units and other government agencies are repealed. Instead, the concerned LGUs and government agencies provide with copies of approved CBFMs, CRMFs, AWPAs and RUPs for their reference in assisting the DENR and concerned POs in the implementation of the CBFM Program.
- *DAO 2000-44 (Amending Certain Provisions of DAO 96-29 and Providing Specific Guidelines for the Establishment and Management of Community-Based Projects within Protected Areas) and DAO 2004-32 (Revised Guidelines on the Establishment and Management of Community-based program in Protected Areas).* The amendments were made to align the CBFM with the provisions of Republic Act 7586 (NIPAS Act of 1192). The provisions include the key program participants who are the tenured migrant communities as defined under the NIPAS Law. Others are the

provision is the incentives to the participants in addition to the incentives enumerated in DAO 96-29, tenure wherein appropriate pro-forma for CBFM within protected areas are developed for this purpose, and financial and other mechanisms. DAO 2004-32 also present the pro-forma agreement for protected areas.

- *Technical Bulletin No. 20-1: Approval/Affirmation of Community Resource Management Framework (CRMF) and Five-Year Work Plan (FYWP) for the CBFMA.* This technical bulletin clarifies the approval and affirmation of the CRMF and FYWP pursuant to DAO 2016-07 (DENR Manual of Authority on Technical Matters). The CRMF is approved by the Regional Director and affirmed by the Undersecretary for Field Operations.
- *Technical Bulletin No. 20: Enhanced Guidelines and Procedures in the Preparation/Updating of the Community Resource Management Framework (CRMF) and Five-year Work Plan (FYWP) for the CBFMA.* This technical bulletin intends to facilitate the CRMF operation within a CBFMA situated in watershed/river basin with corresponding management plan and/or FLUP. It also intends to provide enhancements in terms of approaches and processes as indicated in Sec 18 of DAO 2004-29. The steps and procedures involved the preparatory activities and planning activities. Preparatory activities include a) creation of CRMF facilitators' team, b) gathering of related documents needed for CRMF preparation, c) map preparations, d) coordination with the community and reconnaissance survey, and e) orientation and planning team's training on CRMF preparation. Planning activities include a) situational analysis, b) defining the vision, mission, goals and objectives, c) vision mapping, d) formulation of strategies and activities, e) integration/consolidation of outputs for the packaging of CRMF, e) consultation and ratification of CRMF, f) affirmation of CRMF, and affirmed CRMF and ECC issuance.
- *Technical Bulletin No. 21-A, 2018: Guidelines in the Assessment, Survey/Resurvey, and Mapping of Areas covered by CBFMA and other Tenure Agreement.* This technical bulletin provides guidelines in the assessment, survey/resurvey, mapping and delineation of areas covered by forest tenure instruments. Preliminary activities include the creation of composite teams at the regional level; stocktaking and verification of available documents; preparation of digital maps; and preliminary map assessment. After the preliminary activities, this is followed by ground assessment and delineation activity. First step is the consultation with authorized representative to tenure holder to be followed by field survey, which involved GPS localization and ground marking. After the field survey, validated forest tenure map is prepared.

An exit conference is required as post ground assessment activity where findings, observation and recommendations/results are presented during the conference. After such, a report on every forest tenure validated is submitted to CENRO/PENRO and endorsed to the Regional Director.

- *Technical Bulletin No. 31, 2020: Guide in Establishing Benefit-Sharing Mechanisms Among Community-based Forest Management – Peoples Organization.* The aim of this technical bulletin is to encourage and guide the CBFM facilitators to determine, design and facilitate the establishment of benefit-sharing mechanism. The processes

involved in the benefit-sharing mechanism involves several steps starting with the orientation of the Board of Directors (BOD) on benefit-sharing and formulation of PO resolution for its establishment/installation. This is followed by the formation of benefit-sharing working group also from the BOD. A workshop is conducted for the organizational benefit-sharing readiness assessment, planning and designing. After the workshop, consultation and ratification is made through the General Assembly (GA) to formalize the benefit-sharing system. After approval, this will be implemented, monitored and document the lessons for further improvement.

DENR Memorandum Circular (DMC) 2008-04: *The 2009 Upland Development Program (Reforestation and Agroforestry)*. This circular integrates other upland programmes consistent with the 2004-2010 medium-term development plan, and integrating the Hunger Mitigation Program. This circular was issued in order to accelerate the restoration of the environmental service functions of vital watersheds and protected areas. Hence, the guidelines were issued to: 1) create immediate additional incomes for upland households in support of the Hunger Mitigation Program, and supporting the development of sustainable livelihoods; 2) develop and manage watersheds of irrigation and municipal water systems, headwaters of major river systems, mangrove, coastal zones, protected areas, and protection forestlands; 3) pump-prime the local economy in the uplands where investments are made; and 4) demonstrate measurable and verifiable positive effects on the environmental services, including water, soil conservation, biodiversity conservation, and climate change mitigation and adaptation.

The different modalities of implementation include the engagement of POs, CBFMAs, Protected Area Community-based Resources Management Agreement (PACBRMA) or similar tenurial instruments involved in CBFM strategy; engagement of small-area farm holders within identified priority areas for implementation of appropriate soil and water conservation activities in their landholdings; and direct implementation of rehabilitation activities by DENR with LGUs, communities and civil society organizations. The priority components in each priority areas were identified under various programs like the Hunger Mitigation Program; the CBFMAs, PACBRMA or similar tenurial instruments; PACBRMA or CBFM areas in protected area and protection forestlands, including coastal and mangroves; and watersheds assessed, characterized and concluded watershed planning.

Executive Order 26 S-2011: *Declaring an Interdepartmental Convergence for a National Greening Program*. The order aims to consolidate and harmonize all greening efforts and adopting a convergence initiative that involves government-funded reforestation contracts with community organizations, private entities, LGUs, etc. Under EO 23 S. 2011, the DA-DAR-DENR Convergence Initiative was mandated to develop a National Greening Program (NGP) in cooperation with other national government agencies. The target of NGP is to plant 1.5 billion trees covering 1.5 million hectares for a period of six (6) years from 2011 to 2016. It also aims to reduce poverty, promote food security, environmental stability and biodiversity conservation, and enhance climate change mitigation and adaptation. Strategies include social mobilization. Harmonization of initiatives, provision of incentives, and monitoring and management of database. Under this Order, the responsibilities of all concerned parties are clearly stated in Section 5.

- *DENR Memorandum Circular (DMC) 2011-01: Guidelines and Procedures in the Implementation of the National Greening Program*. The National Greening Program

(NGP) aims to: 1) contribute in reducing poverty among upland and lowland poor households, indigenous peoples, and in coastal and urban areas; 2) implement sustainable management of natural resources through resource conservation, protection, and productivity enhancement; 3) provide food, goods and services such as timber, fiber, non-timber forest products, aesthetic values, air enhancement values, water regulation values, and mitigate climate change; 4) promote public awareness as well as impart social and environmental consciousness on the value of forests and watersheds; 5) enhance the formation of positive values among the youth and other partners through shared responsibilities in sustainable management of tree plantations and forest resources; and 6) consolidate and harmonize all greening efforts of the government, civil society and the private sector.

One of the key features of this Order is the nursery operations wherein forest tree seed and seedling production, collection and disposition is governed by DAO 2010-11. Criteria for site selection is also established in identifying and selecting areas and sites for planting and plantation development under the NGP. It is the responsibility of the DENR to prepare the selected sites for planting and plantation establishment (i.e. staking, brushing, and digging of holes).

The spacing is determined based on the species, objective/s of planting, site characteristics, among others. However, spacing for some forest trees like mahogany, bagras and acacia spp. Can be 2m x 3m, 3m x 3m, or 3m x 4m. On the otherhand, spacing for fruits trees may range from 5m x 5m to 10m x 10m depending on the species. Premium and indigenous tree species is the primary consideration for the purpose of rehabilitating or restoring degraded forestlands. While fast growing species and production/protection forest tree species and fruits trees for agroforestry, production and multiple use zones. Maintenance and protection of the plantations is the responsibility of the concerned PO with the assistance from different concerned agencies. To ensure successful implementation of the NGP, strategies adopted are social mobilization, harmonization of initiatives, provision of incentives, and monitoring and database management.

- *DMC 2012-01: Implementation of the National Greening Program.* This memorandum circular was issued to all RED to effectively and efficiently implement the NGP. Specifically, the different regions are directed to:
 1. Utilize the watershed as the basic planning unit
 2. Identify, survey and map contiguous or clustered planting sites
 3. Prioritize the identified 609 poor municipalities by the National Anti-Poverty Commission (NAPC) and the NCI areas for development.
 4. Implement a phased approach to a shift from use of exotic to indigenous species.
 5. Identify and propagate on-site species of forest trees, fruit-bearing trees, industrial crops, fuelwood and bamboo species for planting in production forests, giving preference to indigenous species; and for protected areas and protection forests, mangrove and urban areas, plant appropriate indigenous tree species.
 6. Provide continuous technical assistance and support to partner POs and CSOs to ensure high survival rates and achieve the goals of the NGP.

7. Engage the PTFCF's and FPE's assisted CSOs in the production and planting of indigenous forest.
 8. Implement plantation maintenance and protection activities.
 9. Adopt the use of the NGP computer-based reporting system through the NGP website and the NGP geo-tagging M&E system.
 10. Implement the MOAs between the DENR and national government agencies and other partner organizations by providing planting sites, technical assistance, and other appropriate support to ensure successful implementation.
- *DMC 2013-06. Guidelines and Procedure for Plantation Development for the National Greening Program with Area Coverage of 100 Hectares and Above within Public Forestlands through the Engagement of Services of Private Sectors, Civil Society Organization, Non-Government Organizations, People's Organizations/ Indigenous People, Local Government Units and Other Government Entities.* The objective of this circular is to accelerate the attainment of 1.5 billion seedling production and a minimum 1.5 million hectares plantation establishment at the end of 2016 of the NGP through the engagement of services of Private Sectors, Civil Society Organizations, NGOs, POs, Indigenous People, Local Government Units and other government entities.

The engagement of these sectors is for the activities related to comprehensive site development like seedling production, site preparation, planting and maintenance and protection. The engagement of the POs/IPs is in the form of a Memorandum of Agreement (MOA) with the DENR. The MOA is also made for concerned LGUs and other government entities for the development of degraded/denuded open access lands of the public domain within their political jurisdiction. As far as foundations, NGOs and civil society organizations and the private sector, a contract is executed between them and the DENR for the comprehensive site development of degraded/denuded areas. Qualifications and bidding procedure as well as responsibilities of the concerned parties are presented in Sections 4 and 5 of this DMC.

- *Joint Memorandum Circular (JMC) 2013-03: Guidelines in the Establishment and Implementation of Barangay Forest Program in Support of the National Greening Program.* This Memorandum Circular is issued in support to RA No. 10176 which is the "Arbor Day Act of 2012". The guidelines include selection of participating barangays covered by the program, eligible areas for development, and eligible activities like nursery establishment and seedling production.

Executive Order 193 S-2015: Expanding the Coverage of the National Greening Program. Executive Order 193 was issued to accelerate the rehabilitation and reforestation of the remaining 7.1 million hectares of unproductive, denuded and degraded forestlands and extending the implementation of NGP from 2016 to 2028. The government involves the participation and investment of private sector to achieve carbon neutrality.

- *DAO 2016-20: Implementing Rules and Regulations on Executive Order No.193, Series of 2015: Expanding the Coverage of the National Greening Program.* The general objective of DAO 2016-20 is to expand the coverage of NGP, its implementation period in accordance with the Philippine Master Plan for Forestry Development and to contribute to the attainment of National Determined Contribution

(NDC) under the Paris Agreement. Specifically, it aims to accelerate the rehabilitation and reforestation of the remaining unproductive, denuded and degraded areas; enhance and encourage participation of private sector, LGUs, organized upland communities, and other stakeholders in the sustainable management of the plantations and protection of existing forests; involve and enhance participation and investment of private sector to achieve carbon neutrality; and provide appropriate management arrangement/incentives to participants to ensure sustainability.

Features of this Order include survey, mapping and planning (SMP); development components and activities, qualified participants, participation of public sector, program management and supervision, monitoring and evaluation of NGP, mandatory review, support mechanism and funding. The development components activities involve establishment of new plantations, sustainable management of existing NGP plantations and enhancement of existing forests thru assisted natural regeneration and enrichment planting. Private sector maybe engaged during the establishment of new NGP plantations, maintenance and protection of existing NGP plantations, and protection of existing second growth forest.

- *DAO 2017-03: Revised Implementing Rules and Regulations of Executive Order No. 193, Series Of 2015: Enhancing the National Greening Program.* This Order presents the detailed activities for the survey, mapping and planning (SMP). Survey, mapping and planning is conducted to identify, map and allocate areas for production and protection purposes, species-site-market matching including agroforestry species for the establishment of social enterprise. This also include assessment of POs and upland communities' readiness to be engaged in the comprehensive site development and gathering of baseline information through socio-economic survey or participatory rapid appraisal.

This DAO also include sections social enterprise development, enhanced commodity roadmap (Section 7), the need to develop the certification system to ensure legality and sustainability of forest products from NGP plantations, program management and supervision, monitoring and evaluation, and mandatory program review, support mechanism, funding, and recording of enhanced NGP accomplishment.

A third party monitoring and evaluation is done through external auditors, priority of which are the State Universities and Colleges (SUCs) and Civil Society Organizations (CSOs). The third-party monitoring review and assessment is done every five (5) years. However, review and assessment of the Program is done by a composite team of representatives from the DENR, CSO and the LGU. Accounting procedures for reforestation projects under COA Circular No. 2015-007 is strictly observed to ensure proper recordings of accomplishments of the enhanced NGP. Support mechanism include but not limited to the conduct of capacity building, monitoring and assessment, development and maintenance of database.

- *DAO 2019-03: Revised Implementing Rules and Regulations of Executive Order No. 193, Series of 2015: Expanding and Enhancing the Coverage of the National Greening Program.* One of the highlights of this Order are the different processes under the survey, mapping and planning which include identification of areas for development,

actual site assessment and mapping, and planning. For the actual site assessment, survey and mapping, the conduct of information, education and communication (IEC) campaign is important to inform the partners and the surrounding communities about the program. It also includes the conduct of stakeholders' analysis incorporating gender analysis. Potential areas for development are assessed on the ground by conducting soil analysis, submitted to the Ecosystems Research and Development Bureau (ERDB) for analysis and centralized database. A five-year reforestation/rehabilitation/restoration plan is required for submission. The plan covers the areas to be developed for production, protection, or conservation purposes as well as the species to be planted. Species selection, preferably indigenous species, and spacing are important considerations in developing the plan. For the sources of planting materials, these is supposed to come from established Seed Production Areas (SPAs) and/or mechanized nurseries.

Another feature of this Order is the modes of engagement and the requirements. Qualified partners are the POs with CBFMA or PACBRMA, POs without CBFMA or any tenure instruments, LGUs and by administration for proclaimed and critical watershed areas. Partnership is in the form of a Memorandum of Agreement with the government, represented by the DENR, and is effective for five years. Reforestation by Administration can also be done in proclaimed and critical watersheds areas without tenure.

Following the Forest Landscape Restoration (FLR) approach, the development components and activities of the Program are the following: 1) capacity building, 2) site preparation (i.e. contouring, brushing, digging of holes, staking, hauling of seedlings) and amelioration (i.e. soil and water conservation measures, water harvesting mechanisms, fire breaks), 3) nursery establishment and seedling production, and 4) plantation establishment. Among the maintenance and protection activities are ring weeding or strip brushing, organic fertilizer application, replanting, fire breaks maintenance, foot patrolling and watering, and these activities are conducted for five years. The target minimum annual survival rate of at least 85% which is based on the original spacing or density prescribed in the approved operations plans are maintained by the partner.

In the expanded NGP, participation of the private sector is highly encouraged to invest in the Program by engaging in the different activities like the establishment of new NGP plantations, maintenance and protection of existing NGP plantations, and protection of existing forests aside from NGP areas. As for the monitoring and evaluation, physical accomplishment reports, quarterly and annually, are required for submission from the PENRO and CENRO with updated geotagged photos and shapefiles of developed NGP plantations. External evaluation and assessment of the implementation is done every five years. However, annual review and assessment of this Order by the composite team of representatives from DENR Regional Officer, FMB and LGUs is also required. Other features of this Order deals with financial concern specifically unit cost of activities, schedule of payment, release of retention fee, book of accounts and funding as part of the support mechanism.

For the monitoring and evaluation of the program, the Office of the Undersecretary for Policy, Planning and Internal Affairs (OUPPIA) is the lead agency. The PENROs and CENROs submit quarterly and annual physical accomplishment reports supported with shapefiles, drone and geotagged photos. In addition, an external evaluation and assessment of the implementation in every five (5) years. However, a composite team represented by DENR-Regional Office, FMB and LGUs is in-charge of the annual review and assessment of the program.

- *Technical Bulletin No. 1-A, 2016: Surveying, Mapping and Planning (SMP) Development and Other Activities for Expanded National Greening Program Planting Sites.* Technical Bulletin No. 1-A enumerates the different activities for the smooth implementation of the expanded NGP and the prescribed colors to be used for polygons as well as the conduct of SMP. Based on the Technical Bulletin, all identified planting sites are subjected to perimeter survey, assessment and preparation of GIS generated map, in shape file, following the prescribed color, site code which is based on the Philippine Standard Geographic Code, and corresponding data/information.

Indicative plans present the areas to be developed for environmental protection and for production/industrial purposes including the commodity/species planted. The selection of appropriate species is taken into consideration since this is crucial to the growth and survival of seedlings. The standard cost of the SMP is Php 450.00 per hectare.

- *Technical Bulletin No. 1-B, 2019: Revised Guidelines on Surveying, Mapping and Planning Development and Other Activities for Expanded NGP.* Technical Bulletin No. 1-B provides more details of the SMP activities to ensure that plantations are suitable in the area to attain high success rates. This include data on soil analysis as part and requirement of the SMP for eNGP. Activities undertaken under eNGP include: 1) conduct of consultation and IEC campaign, 2) conduct of soil analysis, c) survey, assessment and preparation of GIS-generated map of all planting sites programmed to be established for the succeeding year of implementation, and d) planning. The new standard cost of the SMP is Php 550.00 per hectare.
- *Technical Bulletin No. 4: Specifications/Standards for NGP's High Value Crops: Cacao, Coffee and Rubber.* Technical Bulletin No. 4 enumerates the specifications/standards for cacao, coffee and rubber to have high quality planting materials. The use of good quality planting material is one of the factors that contribute to successful reforestation, with consideration to other factors like soil characteristics, soil type, climate, among others. Specifications/Standards for seedlings were described on how the seedlings are produced (i.e. asexually), the minimum height and age for planting, minimum number of leaves of plantable seedlings, source of seedlings, stem size and the plastic bags/polyethylene used. For planting of high value crops, parameters include recommended spacing and planting stock per hectare for both monocrop and intercrop, recommended species for intercrop, recommended altitude per spacing, and site requirements. The price of seedlings for cacao, robusta coffee and rubber are Php 25.00, Php 20, and Php 35.00, respectively.

- *Technical Bulletin No. 6: Engagement of the Local Government Units in the National Greening Program.* The objective of this technical bulletin is to recognize the importance of partnership between DENR and LGUs. The engagement of the LGUs is for the comprehensive site development activities including seedling production, site preparation, planting, and maintenance and protection. Such engagement is formalized through a MOA/Development Contract which is effective for three (3) years. The roles and responsibilities of the concerned parties are clearly define in the technical bulletin.
- *Technical Bulletin No. 10: Standard Seedling Cost and Unit Cost of Activities of the National Greening Program.* The Technical Bulletin enumerates the activities and its corresponding cost as well as the cost of seedlings for the National Greening Program. Specifically, activities with the corresponding cost are site validation, assessment and planning; social mobilization; site preparation (hauling, hole digging, brushing, etc.) and planting; IEC/transportation/mobilization of partners; and maintenance and protection of established plantations from year 1 to year 3. Cost for seedlings enumerated are those for indigenous species, fast growing, fuelwood, high value crops, bamboo, rattan, mangrove, other fruits trees, and species used for urban greening.
- *Technical Bulletin No. 10-A, 2019: Updated Standard Cost of Seedlings by Commodity and Activities of the Enhanced National Greening Program.* This technical bulletin updates the standard cost of seedlings by commodity and activities. Specifically, activities with standard unit cost are the SMP (Php 500,000.00), preparation of plan for plantation development (Php 200,000.00), labor rate per commodity, and maintenance and protection. Cost of seedling production and maintenance and protection is also presented in details including spacing and density.
- *Technical Bulletin No. 23, 2018: Third-party Performance Evaluation of NGP Plantations Established from 2013-2016 Pursuant to DENR Memorandum Circular No. 2013-06.* The objective of this technical bulletin is to provide guidelines in conducting the third-party performance evaluation and assessment. The evaluator is engaged as a consultants following procedures stated in RA 9184. The third-party evaluator comes from State Universities and Colleges, NGOs or CSOs engaged in environment or forestry advocacies. They are required to evaluate at most ten (10) NGP areas within a particular region. They determine compliance of the developer with the provisions stated in the MOA and determine whether the survival rate (85%) is achieved. Performance of the project is measured by the survival rate of seedlings and extent of area planted, using the formula presented in the technical bulletin.

For monitoring purposes, a 5% sampling intensity is used for a one-hectare sampling plots for the selected sites. Selected 1-ha sampling plots is subject to 100% inventory of planted seedlings. Records of total area planted, spacing, species planted and the health of planted seedlings in each plot also form part the monitoring. Detailed method of sampling including the formula is presented in this technical bulletin. The cost for the conduct of this activity is Php 1,600.00/hectare which includes transportation cost, planning and report writing, and hiring of laborers.

- *Technical Bulletin No. 30, 2021: Implementing the Family Approach as a Strategy in the National Greening Program.* This technical bulletin was issued to facilitate engagement of families and to address the concerns of field offices. The different types of households covered by the Program may either be single family or extended family as defined in the technical bulletin. A Letter of Agreement (LOA) is the instrument used for this purpose which is primarily for Comprehensive Site Development with POs for a period of 3 years. The families are engaged as beneficiaries and managers of certain portions of the engaged area from DENR. Activities conducted by the family include different modes of site development like seedling production, plantation establishment, rehabilitation, and maintenance and protection of forestland covering an area of at least 1 hectare and not more than 10 hectares.

Activities related to SMP of the identified sites for development is still conducted by the DENR in coordination with the PO and the family beneficiaries. While preparation of the work and financial plan for the total area engaged is undertaken by the PO. With regards to the implementation of the program specifically the target survival rate (85%), if found below the target rate, the PO through the individual family beneficiary conducts replanting as recommended by the DENR. The cost then is charged against the fund's allotment for Maintenance and Protection. The schedule of payment equivalent to specific activity and the documentary requirements is presented in details in this technical bulletin.

DAO 2020-18: *Promoting Tree Plantation Development and Liberalizing Harvesting and Transport of Planted Trees and Tree Derivatives for Inclusive Growth and Sustainable Development.* The objective of this DAO is to accelerate the establishment of tree plantations in production forest lands to meet the country's wood requirements by simplifying the requirements in the harvest and transport of planted trees, and encourage tree plantation development in private lands. This DAO covers plantation establishment, certification, harvesting and transport of planted trees and derivatives in forest lands covered by existing tenure or management arrangement and in registered private tree plantations. It also presents the harvesting and transportation guidelines for planted trees in tenured forestlands and in private lands (Section 5 and 6).

The Order provides venue for liberalization and encourage private landowners to establish their own wood processing plant (WPP) to promote vertical integration. Other features of this DAO include tree plantation certification training; monitoring, assessment and reporting; and strengthening research and development.

Analysis of Reforestation Policies

Under Act 2649, reforestation projects were initiated in 1916 due to the negative effects of deforestation in some areas of the country. This intends to reforest an aggregate 4095 hectares in the Talisay-Minglanilla Friar Lands Estate in Cebu province (Pulhin et al., 2006 as cited by Israel, 2015). This started the displacement of "squatters" and planted 73% of the area. However due to lack of funds, planting was stopped which allows the local people to return to the area and make clearings and plant ipil-ipil and other fast-growing species (Rebugio et al., 2007).

In 1947, RA 115 was passed to provide funds for reforestation and afforestation, basically from charges collected from timber cut in public forest intended for commercial purposes. To sustain availability of funds, RA 115 imposes a reforestation fee for every cubic meter of timber cut for commercial purposes in public forests. The cost for reforestation from 1947 to 1960 was estimated to be P581/ha (Pulhin *et al.*, 2006). However, the funds were not enough to pursue the target of reforestation activities. During this period, reforestation activities were undertaken by the then Bureau of Forestry.

Republic Act 2706, on the other hand, was passed in 1960, establishing the Reforestation Administration with the mission of hastening reforestation. All reforestation funds collected pursuant to RA 115 are spent exclusively for reforestation. Reforestation became the major thrust of the government due to rapid deforestation. During this time, deforestation was attributed to excessive logging and land conversion which can be due to upland migration (Pulhin *et al.*, 2006). From 1934 to 1980, the average rate of deforestation is 194,000 ha/year (Pulhin *et al.*, 2006) while 40,000 ha/year from 1980 to 2010 (DENR, 2015).

Most of the reforestation efforts (1900's to 1941 and Martial Law years) were undertaken at little cost to the government. Reforestation budget was spent for nursery, plantation establishment and maintenance. Communities were not yet involved in reforestation initiatives.

Prior to 1970, there were reports of timber companies cutting beyond their allowable cuts and outside of their concessions, as well as excessive log exports and massive conversion of forestlands to agriculture. In response, Republic Act (RA) 3701 (An Act to Discourage Destruction of Forests) was enacted in 1963, imposing stiffer penalties on shifting cultivators.

People-oriented forestry programs were developed and implemented during the Marcos regime to encourage people and communities to participate in forest activities. The Forest Occupancy Management Program (1975), the Family Approach to Reforestation (FAR) Program (1976), and the Communal Tree Farming (CTF) Program were among them (1978). Following these is the Social Forestry Program, which is governed by Letter of Instruction (LOI) 1260 and consolidates the previous programs.

The Forestry Reform Code of 1974 (PD 389) is an attempt to revise and update the country's forestry policy. It is also an attempt to shift from regulatory approaches to control slash-and-burn farming. This was revised in 1975 (Presidential Decree 705) adapting the concept of multiple-use forest management, advancement of forestry-related science and technology, rehabilitation of degraded ecosystems, encouraging wood processing, and gradual phase-out of log exports. Social forestry has become the new direction in forest policy (Sajise 1998). Under PD 705, all reforestation activities are required to have participation of the private sector. By 1976, all holders of timber License Agreements (TLAs) were required to reforest inadequately stocked forest lands within their forest concessions as requisite in their operations plan. Through this law, the establishment, development and maintenance of industrial tree plantations were formalized. PD 705 still remains the legal basis of the country's policies, plans and programs (Rebugio *et al.*, 2007).

In 1976, the Presidential Council for Forest Ecosystem Management was created under LOI 423. This promotes active cooperation and participation of NGAs in government reforestation programs. LOI 423 approved for the establishment of ITPs to enhance and accelerate forest

ecosystem management and lead to the creation of the Program for Forest Ecosystem Management (ProFEM). However, there was no clear definition of land ownership or tenure where planting was conducted. In addition, the underlying objective of forest plantation development is environmental consideration and not wood production. During this period, the emphasis was merely on planting seedlings and area planted with no or little planning for sustainable and long-term supply of timber (Acosta, 2004).

Presidential Decree No. 1153 in 1977 required all able-bodied citizen 10 years and above to plant twelve (12) seedlings annually for five consecutive years.

In 1978, PD 1559 was issued to further strengthen the Code to be more responsive to existing conditions and to the government's thrust to further realize its objectives of forest development and conservation, and rationalization of the wood industry. The decree also states the provision of incentives to encourage and expand the participation of private sector in forest management, protection and development as well as in wood processing.

Also in 1978, the Family Approach to Reforestation (FAR) under PROFEM 1 was launched. This encourages participation of local families in the reforestation. During this time, rate of reforestation outpaced forest destruction for the first time with a figure of 78,435 ha against the destruction rate of 65,958 ha. This achievement can be attributed to PROFEM due to increase in government funding through PROFEM 1, in addition to regular reforestation fund, multi-agency involvement, issuance of PD 1153 (Tree Planting Act).

In 1979, LOI 818 compelled all holders of existing TLAs, leases and permits to reforest one hectare of denuded land for every hectare logged.

In the late 1980s, the government's reforestation strategies shifted dramatically to contracting schemes (Harisson et al., 2004). Decentralization, people's participation, and recognition of socio-political dimensions were also considered in the formulation of forest policy in 1986. Participatory approaches to forest conservation were employed as the main strategy for forest conservation, such as the Integrated Social Forestry Program (ISFP) and Community Forestry Program (CFP).

Executive Order 725 issued in 1981 provided incentives to private sector involved in reforestation through Industrial Tree Plantations (ITPs), tree farms and agroforestry. To encourage establishment of ITPs, the government thru the National Industrial Tree Corporation offered numerous incentives such as nominal application fee, reduced taxes on plantation timber, exemption from certain internal revenue taxes, among others. During this period, around 155,000 ha of forest lands were granted for forest plantation development (Acosta, 2204).

To consolidate all the previous people-oriented programs, the Integrated Social Forestry Program was launched in 1982 under LOI 1260. It provides for security of tenure for kaingineros and other forest occupants who are dependent to forest lands for livelihood. The program introduced the family approach to reforestation through contracting of reforestation with the families. The program also recognized former illegal occupants by issuing land-tenure, provision of extension services, and technical assistance to address poverty and environmental degradation (Acosta, 2004). With the implementation of ISFP, several reforestation components were incorporated in the implementation such as information drive,

identification and assessment of project areas, preparation of development plan, census of forest occupants, among others. With the recent devolution, responsibility for ISFP was transferred from the DENR to LGUs in 1994, except for one model site in each province. Responsibilities were transferred but there was no corresponding budget and manpower, thus, maintenance of established plantations has become a problem.

During the implementation of the ISP, unavailability of funds in some period of the project's implementation has become an issue; lack of capital, credit and other support services. Also, there is no significant outputs that would have improved the conditions of the forest resources, and the program somehow aggravates the upland occupancy problem. During the conduct of the study, most of the personnel involved in the program were no longer in service thus, there was a difficulty of locating the previous ISFP sites.

By 1987, there was a shift in strategy from regular reforestation projects to contract reforestation by corporate groups, families, LGUs, NGOs and communities under the National Forestation Program (NFP). In 1995, Phase II of the NFP was implemented through CBFM.

In 1988, the National Forestation Program (NFP) was launched. The program's breakthrough is the recognition of new players in reforestation like the LGUs, NGOs, local and the private sector through the implementation of the Forestry Sector Program (FSP). Under the contract reforestation scheme, contractors were paid for reforestation and maintenance of a particular area, covering a three-year period. The target survival rate was $\geq 80\%$ and an average height of 0.8 m (Pulhin *et al.*, 2006). The FSP was funded by loans from the Asian Development Bank (ADB) and Overseas Economic Cooperation Fund (OECF) of Japan and a counterpart fund from the government. FSP I and FSP II were implemented for 14 years from 1988 to 2003, covering 576,320 hectares of the 1.4 million hectares targeted which is 1.3 million hectares for FSP I and 460,000 hectares for FSP II. The aforementioned projects were done through contract reforestation and community-based forest management (CBFM) Approach.

Another people-oriented program is the Community Forestry Program (CFP) which was implemented in 1989. The CFP is basically a community-based forest development, management and utilization. This gives rise to the formation of People's Organization (POs) to be able to obtain a Community Forest Management Agreement (CFMA). This is implemented by the national government and contracted out to NGOs and POs. The project is funded by ADB (Loan 1, LIUCP), US Agency for International Development (USAID), German Cooperation Agency (GTZ), SIDA and the World Bank (WB ENR-SECAL).

To further promote community-based participation in the rehabilitation, establishment, management, protection and sustainable utilization of forest resources, the Forest Land Management Program takes effect in 1993 under DAO 23. However, according to some studies, prospective FLMA grantees contend that the economic incentives attached to the agreement are long-term and not attractive enough to induce those groups to enter into it.

From 1975 to 1996, the private sector was able to reforest around 20,000 ha annually. During the 70's, most reforestation activities were undertaken covered by the Timber license Agreements (TLAs). However, in 1990, most of TLAs have expired or been cancelled and policies became unstable. Thus, new tenurial/management agreements for the private sector were instituted which are the Integrated Forest Management Agreement (IFMA) and the Socialized Integrated Forest Management Agreement (SIFMA). This is to revitalize the

ITP program and generate income for smallholders. From 2000 to 2002, IFMA and SIFMA were able to cover 8,568 hectares while only 3,963 ha for TLAs (Pulhin *et al*, 2006).

The participation of non-governmental organizations (NGOs) became critical. Executive Order (EO) 263 (1995) mandated community-based forest management as the national strategy to ensure the sustainable development of the country's forest resources, which strengthened community participation and involvement. The CBFM incorporates social equity, sustainability, and community participation into forest management. The CBFM was implemented under FSP II. The previous contract reforestation areas were then managed by POs through the Forest Land Management Agreements (FLMAs), which soon became CBFM Agreements (Pulhin *et al*, 2006).

President Gloria Arroyo issued Executive Order 318 in 2004 declaring the pursuit of sustainable management of forests and forestlands in watersheds in order to promote sound, effective, and efficient, globally competitive, and equitable forestry practices in both public and private domains through the use of a watershed-based integrated ecosystems management approach. The holistic, sustainable, and integrated development of forestry resources, with a focus on rehabilitation, slope protection, and stabilization, is an important guiding principle (Rebugio *et al.*, 2007). The EO reaffirms the government's faith in CBFM as a means of achieving sustainable forest management (SFM).

The National Greening Program (NGP) and the Enhanced National Greening Program (eNGP), embodied in EO 2011-26 and EO 2015-193, is the government's most recent reforestation program. The NGP consolidates and harmonizes all greening efforts and adopting a convergence initiative that involves government-funded reforestation contracts with community organizations, private entities, LGUs, etc. Based on the records of the NGP Coordinating Office, as of 2022, there were at least 1,756,277,408 seedlings planted covering an area of 2,178,384 hectares.

Awareness on Reforestation Policies

The success of any reforestation program is determined not only by the players (national government agencies, Peoples' Organizations, non-governmental organizations, private sector, academe, and community) but also by the policies that govern such programs. Respondents' awareness on reforestation policies and programs were determined. Awareness somehow contributes to the effective implementation of projects. Awareness focused on major reforestation programs in the Philippines including the ISFP (LOI 1982-1260) and the CBFM (EO 1995-263) which are participatory forest management policies (Seki, 2001). Other reforestation policies are FAR, NFP (Contract Reforestation), and the NGP/eNGP (EO 2011-26, EO 1995-193).

Among the policies, most of the respondents have awareness of CBFM and NGP followed by the ISFP (Table 1). This can be attributed to the profile of the respondents, especially with DENR, wherein only a few have experience in implementing the previous reforestation projects. Most of the DENR personnel involved in the earlier reforestation projects have already retired from the service. The current staffing of DENR is relatively inexperienced and do not have the adequate knowledge about the past reforestation programs.

Table 1. Awareness of the respondents on the reforestation policies and the related policy issues.

Reforestation Policy	Awareness (%)					
	DENR (n=39)	PO (n=32)	NGO (n=3)	LGU/ OGA (n=6)	PRIVATE (n=7)	ACADEME (n=7)
Family Approach to Reforestation	41	19	100	17	14	57
Integrated Social Forestry Program (LOI 1260)	38	41	33	50	29	57
National Forestation Program (Contract Reforestation) (ADB-DECF)	38	25	100	50	29	57
Adopting Community-based Forest Management (CBFM) as the National strategy to ensure the Sustainable Development of the Country's Forestlands Resources (EO 263)	56	47	67	50	14	57
National Greening Program (NGP-eNGP) (EO 26 and EO 193)	64	63	100	67	57	71

Policy Issues Related to Major Reforestation Policies and Programs in the Philippines

The study focused on the major reforestation programs in the country including 1) the Family Approach to Reforestation (FAR); 2) the Integrated Social Forestry Program (LOI 1982-1260); 3) the National Forestation Program (Contract Reforestation); 4) the Community-based Forest Management Program (EO 1995-263); and 5) the National Greening Program (EO 2011-26, EO 1995-193) as presented in **Table 2**.

Table 2. Policy issues related to reforestation programs.

Reforestation Program/ Policy	Policy issues
Family Approach to Reforestation (FAR)	Numerous numbers of contract to be monitored
	Difficulty in doing business with the involved different agencies due to documentary requirements
	The project's primary goal was to help people build capacity to meet the needs but was rather carried-out as a "national project"
Integrated Social Forestry Program (LOI 1982-1260)	Unavailability of funds in some period of the project's implementation
National Forestation Program (Contract Reforestation)	Lack of community organizing and participation especially in planning
	Poor monitoring
	M&E only serves as a basis for payment and does not look at the performance of the reforestation project
	Lack of tenure rights in forestlands

	lack of food security component
	inclusion of patronage criteria in the selection of contractors
	Weak administrative capacity of the government
Community-based Forest Management (CBFM) (EO 1995-263)	Titled land within CBFM areas
	Conflict between CADT and CBFM policies regarding CBFM
	Implementation of the benefit-sharing scheme/system despite the issuance of related TB
	DENR is more focused on the regulatory or enforcement side of tenured agreement rather than providing technical support
	Numerous policies and guidelines issued on CBFM are difficult for stakeholders to fully understand and to follow
	Frequent changes in CBFM rules and guidelines
National Greening Program (NGP/eNGP) (EO 2011-26 and EO 2015-193)	Short contract duration to sustain the maintenance and protection
	Contracting out the project through public bidding (RA 9184)
	Target-based which means that the program focused on planting targets, focus on quantity has also compromised the quality and diversity of planting materials (Kleist et al., 2021) and dictated by the top management
	Limited technical support in the implementation of the project
	Insufficient budget for maintenance and protection activities
	Project's accomplishments vis-à-vis the attainment of NGP's objectives
	Considerations in determining the survival rate
	Inadequate social preparation and capacity building
	Changes in leadership resulting to unstable policy environment
	NGP's failure to apply CBFM's established practices lead to lack of support from the community (Kleist et al., 2021)
	Guidelines for the maintenance of turned over/completed NGPs is provided in DMC 2013-06, which follows RA 9184, however, this is not implemented yet and whether there is already an appropriate legal instrument for the long-term sustainable management of the area
	Compliance to FMB TB 23 regarding Third party monitoring
	Strict policies on native species (restriction on the cutting) discourages the planting of such

The Family Approach to Reforestation (FAR)

The Family Approach to Reforestation (FAR) was part of the Program for Forest Ecosystem Management I (PROFEM I) which was introduced in 1979. The program was established as a cost-effective way to accelerate reforestation in denuded areas through the participation of local families. Financial assistance and training were provided, but no equity in the trees was provided, with participants expected to shift to new locations once the establishment was

completed (Harrison et al., 2004). Forest dwellers and upland occupants received various types of kaingin permits and tenure at this time, ranging from 2 years under the Forest Occupancy Management (FOM) to 25 years under the Communal Tree Farming (CTF). In order to carry out family reforestation projects and communal tree farming, communities and families were employed. The DENR's Integrated Social Forestry Program progressively developed from these earlier experiences working with communities on forest protection, rehabilitation, and kaingin farming regulation (Guiang et al., 2001).

Some respondents from DENR and POs stated that the family approach is preferable because the implementation is more focused and more effective, and the families directly benefit from the project. This is supported by the study conducted by Dizon (1986) which revealed that the Family Approach did provide project participants with a temporary source of income. The family approach is now used as a strategy in NGP (FMB TB No. 30). However, DENR faces the challenge of dealing with numerous families, resulting in several contracts to be monitored. While some respondents preferred this approach, there was mention of the family's difficulty doing business with the agencies involved. This is due to a lack of documentary requirements and the difficulty of conducting business given the distance between their home and DENR offices. As a result, they had to pay an "intermediary" to act on their behalf when dealing with the DENR, which is costly. While the families benefit from the project, the economic benefits received were not proportionate to the social cost borne by the participants. In addition, providing additional income without "building the capacity to meet the families' own needs" would be ineffective. Moreover, the project's primary goal was not to help people build their capacity to meet their own needs, but rather to carry out a "national project" (Dizon, 1986).

The Integrated Social Forestry Program (LOI 1982-1260)

The Integrated Social Forestry Program (ISFP) consolidates all previous people-oriented programs and the major support program for people-oriented forestry (Harrison et al, 2004). It provides security of tenure for kaingineros and other forest occupants who are dependent to forest lands for livelihood by issuing Certificate of Stewardship Contract (CSC) for households and the Certificate of Community Forestry Stewardship (CCFS) for community organizations. With the recent devolution, responsibility for ISFP was transferred from the DENR to local government units (LGUs) in 1994, except for one model site in each province.

The revised regulations governing the ISF Program (DAO 1991-04) include an information drive, the identification of project areas, the listing of project participants, perimeter and parcellary surveys, the processing and issuance of certificates of stewardship, the processing and issuance of certificates of community forest stewardship, the preparation and approval of a stewardship development plan, the production of planting stock, a stewardship development program, and the performance evaluation of stewardship awards.

Each ISF project has a central nursery to ensure a consistent supply of high-quality planting materials. This also serves as a demonstration farm for upland farmers to see appropriate agroforestry technology in action. To ensure the program's success, the project areas are monitored regularly. Monitoring, evaluation, and documentation are the responsibility of the Regional Offices. Reports highlighting problems and opportunities, as well as recommendations, are submitted to the DENR Central Office to improve the program further. One important feature of DAO 1990-77 is the inclusion of incentives to encourage participation

in the program where no fees are collected for the use of the allocated land under the Stewardship Agreement.

According to the respondents, the ISF project encourages people to participate more because they are familiar with the area. The project began with a smooth implementation, however, as with any other project, unavailability of funds was an issue. Because of this, the farmers were forced to sell their rights. Another issue is that the project is self-reliant, and the success of implementation is dependent on the farmers' capacity and knowledge, which is typically a problem.

The National Forestation Program (Contract Reforestation), 1988

The National Forestation Program establishes a broad policy framework for the rehabilitation and conservation of the country's forest resources towards sustained and comprehensive efforts. The program was founded by the Asian Development Bank (ADB) and the Overseas Economic Cooperation Fund (OECF) to finance reforestation activities. One of the program's components is Contract Reforestation. The agreement between the government (DENR), private sector, LGUs, community, and family is valid for three (3) years which include seedling production, site preparation, plantation establishment, and maintenance and protection. The program's breakthrough is the recognition of new players in reforestation like the LGUs, NGOs, and the local communities.

The following policies govern the implementation of reforestation (DAO 1991-31): 1) the NFP is carried out in close collaboration with the private sector and through family, community, or corporate contractors; 2) promote social equity and rural development by contracting with local upland families and prioritizing organized communities; 3) reforestation is divided into three phases: surveying, mapping, and planning; comprehensive site development; and monitoring and evaluation; 4) prior to implementation, the objectives of establishing the plantation are clearly defined and designed, and species diversification is encouraged rather than single species; 5) intensive site preparation is emphasized in accordance with the recommendations of the Master Plan for Forestry Development; 6) construction of access roads using heavy equipment is strictly regulated, while plantation roads are not permitted; and 7) Independent monitoring and evaluation of reforestation projects is encouraged to ensure an objective view of their status and progress.

Survey, mapping, and planning are outsourced to qualified community or corporate contractors. If the DENR can implement them, it will also carry out these tasks using its personnel and resources. All contract reforestation projects have boundaries that are precisely defined and marked on the ground in accordance with standard surveying practices. The Technical Report, contains a detailed description of the physical/socio-economic characteristics of the project area, climate, topography and drainage, soil, vegetative cover/existing land use, photographs of the site, number and profile of occupants, and other information necessary for development planning, presents the results of the activities, including the recommendations. It also contains recommendations for strategies, the location of the nursery and other facilities, the species to be used, the planting scheme and design, maintenance and protection techniques, other silvicultural treatments, the schedule of activities, and cost estimates. The development plan also incorporates the plantation objectives.

Infrastructure, seedling production, site preparation, planting and replanting, maintenance, and protection are among the activities required in comprehensive site development. While maintenance and protection are carried out for the duration of the contract, firebreaks can be established immediately after site preparation.

The monitoring and evaluation is undertaken through a contract with accredited NGOs. The contractor's work and financial plan, which was approved by the DENR, governs the frequency of inspection and assessment. At least once during the first two years, and twice during the third, is spent on inspection chart mapping (ICM). While during the 36-month contract period, systematic sampling is carried out at least twice annually. In response to progress billing, the DENR performs inspections and evaluates performance. The primary purpose of M&E implementation by DENR, therefore, is to determine the amounts due and payable to the contractors.

Reforestation initiatives were initially carried out by government organizations, with the Department of Environment and Natural Resources (DENR) encouraging reforestation by logging companies as part of timber license agreements and planting trees directly. Due to the low survival rates and the fact that less than half of the targeted areas were planted and maintained, this strategy had very little success (Espaldon & Smith, 1997).

Despite the policies governing the implementation of reforestation, the program faced various issues. POs became reliant on dole-out funds as funds became available, which is also evident in current reforestation projects. While one of the main activities that promote active community involvement in forest development and protection is community organizing (Estoria et., 2014 as cited by Le et al., 2012), some respondents mentioned that community organizing is missing. This helps build the capacity of the community for the establishment of sustainable livelihood. Aside from these, there are also policy constraints like 1) lack of tenure rights in forested lands, 2) lack of food security component, 3) lack of community participation in planning, 4) inclusion of patronage criteria in the selection of contractors, and 5) weak administrative capacity of the government (Magno, 1994). With regards to land tenure, secure land tenure and land-user access are important to the achievement of reforestation (ITTO, 2002). In order to prevent further degradation and improper conversion to other land uses, a clear land tenure system must be in place to allow for the sustainable management and use of rehabilitated forests (Le et al., 2012).

Proper monitoring is also missing in the program. The primary purpose of M&E, which only serves as a basis for payment for contractors and does not look at the performance of the trees planted, is also a problem.

Adopting Community-based Forest Management as the National Strategy to Ensure the Sustainable Development of the Country's Forestlands Resources (EO 1995-263)

The Community-based Forest Management (CBFM) is the national strategy for the sustainable development of the country's forest resources and at the same time, achieving social justice. The CBFM program consolidates and unifies all of the government's current people-oriented forestry programs (Sy 1998 as cited by Harrison et al., 2004). The key participants of the program are the local communities represented by the organization known as the People's Organizations (POs).

Incentives, duties of POs, tenure, management of CBFMP, financial and other mechanisms, penalties and sanctions, and transitory provisions are just a few of the program's features. The different stages of CBFMP implementation are the preparatory stage, planning stage, and implementation stage.

The following activities are classified as part of the preparatory stage: a) information, education, and communication campaigns; b) establishing institutional linkages; c) identification of CBFMP areas; d) criteria for area selection; e) processing of conflicting claims; f) application by the community/participants; g) community appraisal and PO formation; and h) application for CBFMA (DAO 1996-29). Further, FMB Technical Bulletin (TB) No. 21-A provides guidelines in the assessment, survey/resurvey, mapping and delineation of areas covered by forest tenure instruments. Preliminary activities include the creation of composite teams at the regional level; stocktaking and verification of available documents; preparation of digital maps; and preliminary map assessment. After the preliminary activities, this is followed by ground assessment and delineation activity. First step is the consultation with authorized representative to tenure holder to be followed by field survey, which involved GPS localization and ground marking. After the field survey, validated forest tenure map is prepared.

Activities in the implementation phase aims to (a) strengthen institutional and organizational capabilities that will enable resource use and development to be sustainable; (b) guarantee the economic viability of resource management activities; (c) guarantee the flow and equitable distribution of benefits to PO 70 members and the larger community; and (d) ensure the building up of capital by the PO for forest management and community development projects. Implementing and managing the planned activities included in the annual work plan, reviewing the outcomes of these activities, replanning, and applying experience as a basis for the succeeding annual work plan are all tasks involved in this stage.

The CBFM also provides for the establishment of benefit-sharing mechanisms as stated in TB No. 31. The processes involved in the benefit-sharing mechanism involves orientation of the Board of Directors (BOD); formation of benefit-sharing working group; workshop; consultation and ratification through the General Assembly; (GA) and approval.

CBFM is a comprehensive forest management policy that involves community participation. Community participation is reflected in various stages of implementation as reflected in the following: 1) environmental NGOs carefully select sites for tree plantations, 2) the PO that manages the CBFM program automatically becomes the reforestation project's contractor, and 3) the POs take responsibility for all of the activities, from planting until harvesting (Seki, 2001). However, the sustainability of CBFM remains uncertain. It is unclear whether international organizations will continue to provide significant funding to assist the program, and whether the program would be more or less successful without this funding (Seki, 2001).

One of the issues is titled land within CBFM areas, which some POs are concerned about because CBFM areas are located within forestlands. There is also a conflict between CADT and DENR policies regarding CBFM, which impedes program implementation. There are no established benefit-sharing systems in any of the tenured lands at the moment, and the DENR pays individual workers. This is supported by the study of Agoncillo et al. (2011) where individual workers and project costs, such as nursery establishment, are paid directly by

DENR. Thus, it is debatable whether the POs should only be compensated for their efforts, especially since the community should benefit from the reforestation project.

Due to staff, budget, and technical constraints, the DENR's role in some areas is more focused on the regulatory or enforcement side of tenured agreements rather than providing technical support to tenure holders on good natural resource management (Agoncillo et al., 2011). Moreover, despite the numerous policy releases now in existence, there isn't a single policy that establishes a strong legal framework to govern the efficient implementation of the CBFM program (Pulhin et al. 2005). This is evident, for example, in the DENR's ambivalence regarding the issuance of Resource Use Permits (RUPs) to participating communities, which has significantly impacted CBFM field operations, particularly the communities' primary source of livelihood. Bacalla (1995) cited the DENR-JICA field review of 40 CBFM sites and confirmed that the numerous policies and guidelines issued on CBFM are difficult for stakeholders to fully understand, let alone follow. This is compounded by the frequent changes in CBFM rules and guidelines that do not create a stable environment to work within.

Declaring an Interdepartmental Convergence for a National Greening Program (EO 2011-26) and Expanding the Coverage of the National Greening Program (EO 2015-193)

The National Greening Program (NGP) consolidates and harmonizes all greening efforts and adopts a convergence initiative that involves government-funded reforestation contracts with community organizations, private entities, LGUs, etc. The NGP is a convergence initiative of DENR, the Department of Agriculture (DA), and the Department of Agrarian Reform (DAR), among other government agencies. The NGP aims to reduce poverty, promote food security, environmental stability, and biodiversity conservation, and enhance climate change mitigation.

The most recent NGP policy (DAO 2019-03) covers the various survey, mapping, and planning processes, including the identification of areas for development, actual site assessment and mapping, and planning. The conduct of an information, education and communication (IEC) campaign is important to inform the partners and the surrounding communities about the program. It also involves the conduct of stakeholder analyses that take gender analysis into account. Potential development sites are evaluated locally by performing soil analyses, which are then sent to the Ecosystems Research and Development Bureau (ERDB) for analysis and centralized database. The areas to be developed for production, protection, or conservation purposes as well as the species to be planted are covered in a five-year reforestation, rehabilitation, and restoration plan. Species selection, preferably indigenous species, and spacing are important considerations in developing the plan.

The requirements and modalities of engagement is another feature of this Order. The POs with CBFMA or PACBRMA, the POs without CBFMA or any tenure mechanisms, and the LGUs are all eligible partners. The partnership is formalized in a five-year Memorandum of Agreement with the government, as represented by the DENR. In designated and critical watershed areas, reforestation by the administration is also possible without tenure.

The policy also provides the different maintenance and protection activities during the implementation. The partner is also bound to maintain the required minimum yearly survival rate of 85%, which is based on the initial spacing or density prescribed in the approved operations plans.

As for the monitoring and evaluation, physical accomplishment reports, quarterly and annually, are required for submission from the PENRO and CENRO with updated geotagged photos and shapefiles of developed NGP plantations. External evaluation and assessment of the implementation is done every five years. However, an annual review and assessment of this Order by the composite team of representatives from DENR Regional Officer, FMB, and LGUs is also required. In conducting the third-party performance evaluation and assessment, a 5% sampling intensity is used for a one-hectare sampling plot for the selected sites. Selected 1-ha sampling plots are subject to 100% inventory of planted seedlings. Records of the total area planted, spacing, species planted and the health of planted seedlings in each plot also form part of the monitoring (FMB TB No. 23).

Despite the various policy issuances, like many reforestation programs, NGP still faces many issues and challenges. An evaluation of NGP in 2015 (Israel 2016) reveals its economic, social, environmental and institutional impacts. The report showed that NGP has been very targeted oriented in terms of hectares planted thus limiting the job to planting the required coverage and less on the attainment of other targets. There were also allegations of corruption against DENR and PO leaders which created conflicts within the community organizations. To address the issue, the DENR has shifted to checkless transaction as fund disbursement system where the money is directly remitted to the PO's account (Calderon 2016, as cited by Israel 2016).

During the early years of NGP implementation, the most commonly used species are exotics and fast growing like *Swietenia macrophylla*, *Gmelina arborea*, *Acacia mangium*, and *Eucalyptus* spp. which were readily available in many nurseries then. There was limited supply of indigenous tree species planting materials due to difficulty in procuring and raising them as well as lack of market demand. In the past few years, DENR promoted the use of indigenous and endemic tree species as well as high value crops (i.e., fruit trees, bamboo, rattan, coffee, cacao, etc.) to address the issues on monoculture cropping and livelihood needs of forest-dependent communities.

Policy issues solicited from the respondents are grouped into institutional cum environmental, social-cultural and environmental. Institutional and environmental issues include the following:

1. Short contract duration to sustain the maintenance and protection. Taking the case of NGP, three (3) years of operation is not enough to say that reforestation project is successful. According to the respondents, the first year of operation is plantation establishment, and maintenance and operation should last for four (4) years at least.
2. Contracting out the project through public bidding (RA 9184). In the case of NGP in Region 5, POs were unable to take part in the public bidding; as a result, NGOs are the entities that are in contract with DENR. This is because they are required to comply with certain documentary requirements, such as registering with the Bureau of Internal Revenue (BIR), Securities and Exchange Commission (SEC), and PhilGEPS, amongst others, which the POs found it difficult to comply. On the other hand, the contracting NGOs engaged the existing organized community in the area thru a Letter of Agreement (LOA).
3. Target-based and dictated by the top management. The implementation of the project is entirely dependent on the work and financial (WFP) requirements that are outlined

in the contract, the terms of which are decided by DENR. There is neither development nor a management plan that specifies in detail the activities that will take place.

4. Short planning horizon resulted to inadequate planning, organization and ineffective implementation. Sound forestry practices are often not used in NGP plantings (Kleist *et al.*, 2021).
5. Limited technical support in the implementation of the project. Despite the fact that SMP is an important component of the project (DAO 2019-03), this was not carried out appropriately. The conduct of SMP, together with the partners, would capacitate them. The presence of EOs is not sufficient enough to provide them with the necessary level of technical support to successfully carry out the project.
6. Insufficient budget for maintenance and protection to carry out the activities.
7. Delayed release of funds. The partners of the NGP are experiencing a delay in the release of project funds, which, like many other government projects, may have an impact on how smoothly the project is carried out.
8. Project's accomplishments vis-à-vis the attainment of NGP's objectives. Since there is no monitoring or assessment tool to determine whether or not the NGP is successful in achieving its social objectives, such as poverty alleviation and ensuring food security, these goals cannot be determined. Although planting goals were met, plantations failed due to a lack of financing for maintenance (Baynes *et al.*, 2016).
9. Determining the survival rate. Concerning NGP's target survival rate of 85% (FMB TB No. 23), it was clear that such a target was established to serve as the basis for payment to the contracting organization, without looking to the over-all performance of the trees planted. Prior to the monitoring of established plantations, the survival rate of most plantations turned out to be lower than 85%. Survival rate of 85% and above is usually attained after replanting, which is a requirement for the release of funds. In general, the target survival rate can be related to economy of scale, however, such target is also dependent on the location or site, the area to be developed and harvest.
10. Monitoring and evaluation are important in determining the success of any project. Such activities are also mentioned in various policies covering reforestation projects. In the case of NGP and other reforestation programs, it was found out that monitoring is weak despite the issuance of NGP Monitoring guide. When it comes field monitoring, the targets outlined in the WFP serve as the indicators for monitoring the project.
11. Guidelines for the maintenance of turned over/completed NGPs is provided in DMC 2013-06, which follows RA 9184, however, this is not fully implemented and whether there is already an appropriate legal instrument for the long term sustainable management of the area.

Policy issues related to social aspect include 1) inadequate social preparation and the absence of capacity building, and 2) weak participation of PO members, 3) lack of sense of responsibility on the part of the POs due to poor consultation. Based on the interview, there is inadequate social preparations as compared to other reforestation projects like CBFM. This is again related to SMP specifically planning, which is absent in NGP. There is no administrative, financial, or technical capacity building provided for the implementing partners, therefore they need to rely solely on their inherent capabilities. Due to the fact that the engagement of POs is limited to specific activities and they are paid on a contract basis, there is a low level of participation from the PO members.

It was acknowledged that changes in leadership (i.e. DENR Secretary) have an impact on project implementation. Taking the case of CBFM and NGP, these programs are constantly under review. However, changes may not be well communicated to LGUs and communities, resulting in inconsistent program implementation across the country. As a result, there are differences in how these programs are implemented on the ground across the country. The findings of Danilo (2015) confirm this, as frequent changes in policy guidelines exacerbate the conflicts and inconsistencies in NGP implementation. The unstable policy environment has prevented many investors from participating in large-scale reforestation projects as they have no guarantee of future benefit.

Issues during the past reforestation initiatives which still remains with the implementation of NGP include: 1) overambitious planting targets; 2) poor scheduling which resulted in poor quality of seedlings; 3) unclear distinctions between production and protection areas on the ground especially for biodiversity conservation; 4) poor planning, management and implementation

RECOMMENDATIONS

In light of the above issues, some key recommendations for reforestation policies are provided, as follows:

Harmonization of related policies. Reforestation policies from various agencies need to be harmonized, just like any other policy, to prevent conflicts and policy differences while also preventing project implementers from being confused.

Development and approval of guidelines for graduated NGP and other completed reforestation projects. Reforestation projects have been carried out in the Philippines for quite some time, however, only few has been sustained. Thus, guidelines must be developed in order to sustain the rehabilitation efforts.

Development of a realistic and attainable reforestation plan with clear objectives and outputs. The objectives of reforestation must be clearly defined. The general objectives of reforestation projects include both physical and non-physical. The physical objectives are generally to increase forest and land cover, increase timber production, protect watersheds, and conserve biodiversity. While the non-physical objectives are usually to increase community incomes, create livelihood opportunities, empower local communities, secure community access to land, raise environmental awareness and education, and protect watersheds and conserve biodiversity (Chokkalingam et al., 2006 as cited by Le et al., 2012).

Approval and adoption of the proposed M&E framework. Monitoring and evaluation help in ensuring that activities are carried out appropriately and that resources are being used effectively. It also provides decision-makers strategies for project sustainability as well as direction for future undertakings.

Design, approval, and implementation of incentive mechanisms. While the policies provide for incentives, this does not materialize because there are no mechanisms in place. Increase social readiness through a various activity such as IEC, community organizing, participatory planning, and capacity building (technical, organizational, gender and development, and market).

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