

2.6 Urban Forestry

The 1990 Master Plan for Forestry Development (MPFD) included Urban Forestry Program as one of the five component programs under the umbrella program "Programs on Man and the Environment". It defined urban forestry (UF) simply as "a forest park, a nature center, a boulevard lined with trees or flowering plants or even coconuts, a street with trees and other green plants in the islands or sidewalks, a vacant lot planted to trees and other green plants, a school or hospital or a factory yard with trees. In short, urban forestry is a greening movement, a people-oriented forestry designed to raise the quality of environment of the people in urban centers".

Land, water and air pollution and space congestion have become very critical in at least 4 big cities in the Philippines. These include Metro Manila, Metro Cebu, Davao and Cagayan de Oro. The rapid degradation and deterioration of the quality of the environment in these urban centers result to health hazards to the residents. Everyday, large quantities of CO₂, CO and other toxic gases are spewed into the air from factories, manufacturing firms, transportation, burning by residents themselves. This is aggravated by noise pollution from engines and horns of motor vehicles. The influx of people from rural areas in these urban centers results to overcrowding of side walks, canals, railroad shoulders, underneath fly-overs, bridges and any conceivable vacant space. For instance, it is estimated that there are about 10M people in Metro Manila, 30 – 40% of whom live in squatter areas (Nakanishi, 2001). The voluminous solid wastes generated by the residents, improper wastes disposal and the lack of basic sanitary facilities of squatter colonies contribute to the worsening health and sanitation problem.

In order to mitigate these environmental problems, establishment and maintenance of urban forests is one of the interventions sought. Among others, the trees and other green plants absorb CO₂ and gives off O₂, hence they mitigate or lessen pollutants from the atmosphere. They also provide shade, serve as buffer against noise and air-borne dust and conserve water and soil. Ganapin (1993) comprehensively discussed the different roles and benefits of urban trees to environmental enhancement categorized under 3 different uses: climatological, engineering, and architectural/aesthetic uses.

2.6.1 Goal, Objectives and Strategies of UF Program under 1990 MPFD

The goal of the program is the rehabilitation of the environment in urban centers. Specifically, as defined in the MPFD (1990), the medium term (10 – 15 years) goal is to attain active practice of UF in cities and towns.

Its objectives are as follows:

- a) to establish tree strips and forest parks to help in reducing air, noise and sight pollution and in improving air temperature in urban area and to attain a tree to person ratio of 1:4; and
- b) to contribute to physiological and psychological well – being of urban residents.

The following are the strategies to attain the goals and objectives of UF program:

- a) establishment of mini- forests and nature parks;
- b) greening of main thoroughfares, side streets and islands;
- c) establishment of city/municipal/school nurseries;
- d) enlistment of participation of LGUs, NGOs and other government agencies in planting trees in school grounds, military camps, hospital compounds, etc;
- e) provision of tax incentives to encourage owners of vacant and idle lots to plant trees;
- f) initiation of an intensive information campaign on the benefits derived from urban forests; and
- g) enactment of laws and local ordinance directed towards urban environmental

enhancement.

Due to funding constraints, the MPFD initially targeted the following six heavily polluted and/or congested cities for UF development: Metro Manila, Cebu City, Davao City, Cagayan de Oro City, Iloilo City and Zamboanga City.

The components of the program include the following:

- a) Urban forest and nature parks development - Mini-forests and parks are targeted to cover 1-5 ha per forest or park depending on availability of area. Depending on the population, the target is to establish 1 park per 100,000 – 150,000 residents at strategic locations in population centers. The species composition will be mostly forest trees with emphasis on ornamental, fruit – bearing (including feeding tree) and shade trees. Species will be selected based on soil, climate and resistance to pollutants.
- b) Grounds landscaping (compound planting) - This involves planting of trees and other plants in compounds/grounds of schools, government offices and hospitals, military camps, compounds of factories and commercial establishments including subdivisions.
- c) Greenbelt development (roadside planting) - This project involves greening of main thoroughfares, side streets and roads. It is to be a joint undertaking of LGUs, DENR and NGOs. In the preparation of overall urban forestry plan for each city, the main streets and roads to be planted will be identified.

The following support components should be considered in UF program planning and development:

- a) Policy and legal reform - Zoning should be incorporated in the city plan (e.g. placing industries in city outskirts to reduce pollution within the city).
- b) Institutional strengthening - In order to oversee and coordinate the urban forestry program in the city, an Urban Forestry Division should be created in the Forest Management Service sector at the regional or PENRO offices of DENR similar to the one created at FMS – NCR.
- c) Human resource development - Due to limited expertise and practical experience on UF in the country, there is a need to conduct training in UF especially for DENR and LGUs who will be implementing the program.
- d) Research and Development - UF research is needed on: 1) effects of different pollutants on physiological processes, growth and survival; 2) species – site compatibility; and 3) care and maintenance techniques in an urban setting.
- e) Information dissemination - A public information campaign (e.g. through mass media; including teaching the values of trees as one of the topics in science subjects in elementary grades) is needed on the importance of trees in urban areas so people will be sensitized not to vandalize or injure the trees planted.

2.6.2 Assessment Results

2.6.2.1 Policies and Programs Related to Urban Forestry Development and Management

There are several policies, programs and projects issued and implemented for the past several decades which is an indication of continuing concern on the deterioration of urban environment. It is noticeable that new policies and programs evolve whenever there is a change in administration (a common phenomenon in the Philippines) indicative of lack of continuity of previous initiatives.

The major policies and programs related to urban forestry are chronologically listed below:

- PD 1153 of Pres. Marcos dated 1976 (Tree Planting Decree to support PROFEM)
 - Requires all able-bodied Filipinos 10 years old and above to plant a tree per month for 5 consecutive years.
 - Certificates of planting and survival--- requirement for graduation from school, renewal of job appointment and business permit and approval of retirement from service.
 - “Halamanan ng Bayan” launched by MHS to support this program. It required each city or municipality to put up a nursery, garden and park.
 - Repealed by EO 287 dated July 25, 1987 because of dictatorial provisions and harsh penalty.
- PD 953 of Pres. Marcos dated July 6, 1976 (Greening of Private Lands Including Residential Subdivisions)
 - Requires private landowners to plant trees extending at least 5 m on each side of the rivers/ creeks.
 - Developers or owners of residential subdivisions and commercial/industrial lots to set aside 30% of total area as open spaces for parks and recreational areas.
 - Penalizes unauthorized cutting, destruction or injury inflicted on naturally-growing or planted trees or vegetations in any public places.
- LOI 1312 of Pres. Marcos dated April 23,1983 (Establishment and Development of Local Government Forest or Tree Parks Throughout the Philippines).
 - Requires each barangay, municipality or city to establish and maintain at least one forest or tree park of considerable size.
 - MNR (now DENR) to allocate public lands for this purpose and to provide technical assistance and seedlings needed.
 - MHS to ensure that establishment of forest or tree parks is included in the land use plan of each barangay, municipality or city.
 - MILG (now DILG) to appropriate funds and implement establishment and maintenance activities.
- Memo Order Nos. 198 and 199 of Pres. Aquino dated November 9, 1988 (Luntiang Kamaynilaan Program (LKP)/ Hardin ng Bayan Program).
 - Issued to help insure healthy environment in Metro Manila (MM) and to serve as model program for other cities/municipalities.
 - Anchored on the “Hardin ng Bayan” concept wherein each city or municipality should have gardens or parks of their own, transforming MM into a garden metropolis with lush vegetations, cool and fresh air like the countryside.
 - Objective- to plant 2 million trees in 2-3 years and achieve a desired 1:4 tree-man ratio.
 - For efficient, effective coordinated implementation, an Inter-Agency Committee (IAC) was formed: Co-chair- DENR and MMA (now MMDA); members- DPWH, DOTC, Metro Police Force, DOT, OPS and PMS.
- Memo Cir. No. 5 of Pres. Ramos dated August 27, 1992 (Clean and Green Program).
 - Similar to LKP (same IAC composition except MMDA as chair/lead agency) but wider in scope (not only greening but also cleaning activities)
 - Objective- massive planting (0.5 million trees/year or 2.5 million trees in 5 years from 1993-1997) to achieve the ratio of one tree for every 4 persons.

- Although focused in MM, CGP has nationwide coverage and encouraging cities and municipalities to join nationwide contest for cleanest and greenest city or town.
- EO No. 113 of Pres. Ramos dated July 22, 1993 (Multi-sectoral Tree Planting Activities in Support of ENR Programs/ECOREV).
 - Scope / Objective – greening and rehabilitation of all open and denuded lands of public domain, idle lands, private lands and other suitable areas (both urban and rural) including rehabilitations of coastal and marine areas.
 - DENR to identify, assess and designate suitable area for planting and management and to provide technical assistance to participating agencies.
 - LGUs implement the program in their respective level and set up counterpart funds.
 - Private sector participation encouraged via MOA or other appropriate arrangements with DENR.
- EO No. 118 of Pres. Ramos dated August 12, 1993 (Mandating the active participation of all government agencies nationwide in urban greening through an Adopt-A-Street/Park Program)
 - Objective – greening of streets and parks in urban centers.
 - Requires all government offices and government owned/controlled corporations to adopt a street or park in coordination with concerned LGUs, NGOs and private sector by planting appropriate species and maintaining them for at least 5 years using their own funds/resources and other resources.
 - DENR to manage and coordinate the program through a designated National Coordinator.
 - Project to be turned over to concerned LGU for maintenance and protection.
- DENR-DILG-DPWH-CSC Joint Memorandum Circular No. 1 dated December 17,1993 (Implementing Guidelines for EO 118-Adopt-A-Street/Park Program)
 - Described the roles of each participating agency and outlined the schemes in the identification, selection and adoption of a street or park to be developed.
 - DENR to provide assistance to “adopters” in selecting suitable streets or park sites, in providing necessary planting materials and in monitoring performance.
- OPLAN SAGIP PUNO Program of FMS-NCR/DENR launched on June 5, 2000.
 - Conceived as a component of “Lets Go Green Program” of former DENR Secretary Antonio Cerilles.
 - Application of appropriate silvicultural treatments (e.g. removal of nails, wires/cables, water sprouts; surgical treatment of injured stem or root) to prolong life span and promote good health and vigor of trees planted in parks and along thoroughfares and streets in MM.
 - Supplemented by public awareness campaign.
 - DENR enters into MOA with participating agencies (e.g. subdivision homeowners association, city/ municipal government, NGOs, etc.)
 - DENR’s role --- conduct inventory and assessment of damaged/injured trees; undertake appropriate silvicultural treatments; conduct information dissemination and training on tree care and maintenance; provide technical assistance and planting materials to sustain the project.
 - LGU’s role --- provide tree care and maintenance crews to sustain the project; assist DENR in information dissemination on maintenance and protection of trees.
- Proclamation No. 396 of Pres. Arroyo dated June 2, 2003 (Enjoining the active participation of all government agencies including government-owned or controlled corporations, private sector,

schools, civil society and citizenry in tree planting activity and declaring June 25,2003 as Philippine Arbor Day).

- Objectives- to promote multi-sectoral participation in tree planting nationwide; to develop greater awareness on the importance of trees in environment, health and human life.
- Participating agencies, LGUs, schools, etc. to identify areas to be planted in coordination with agencies which have jurisdiction over such areas e.g. DENR in case of public lands, LGUs in areas within their jurisdiction, DND for military lands reservation, DOT for ecotourism areas, etc.
- DENR, LGUs and schools --- to establish and maintain nurseries.
- Respective participating agency/ instrumentality --- to maintain and protect the planted seedlings.
- DENR --- to provide technical assistance to all participants.

In general, the following goals and objectives are common to the Urban Forestry (UF) policies and programs described above (Palijon 2000):

- to provide /maintain green, clean and beautiful environment;
- to promote public awareness on the importance of trees (promote environmental consciousness);
- enhance people's participation in the program;
- promote multi-sectoral collaboration, cooperation and support; and
- in the case of LKP and CGP, the specific objective is to attain a 1:4 tree to person ratio to sustain ecological balance.

As strategy to enhance successful implementation of the project, DENR is usually tasked to provide technical assistance in planting, site and species selection, and maintenance operations, including provision of the planting stocks. Understandably, the DENR is also looked up to as the lead agency when inter-agency collaboration is involved in the program. On the other hand, the city, municipal and barangay governments, which have jurisdiction over the project site, are usually tasked to maintain and protect the tree parks established and streets planted. They are also required to provide counterpart funds and other resources needed for these projects.

At the end of each program, there seems to be no serious post – project accounting or evaluation of outputs and accomplishments, including evaluation of success and failures. This may be attributed to the fast rate of turn – over of urban forestry/greening programs being implemented. Another reason maybe lack of manpower and resources to monitor all the projects. For instance, in the case of Metro Manila, the Urban Forestry and Law Enforcement Division Office of FMS – NCR/DENR only has a small unit (Cooperative Planting Unit) under the Urban Forestry Section which is tasked to do the monitoring activities. Needless to say, the synthesis of lessons learned is an important input for planning and formulation of new programs (i.e. we do not have to “reinvent the wheel” so to speak).

2.6.2.2 Specific Offices/Units In-Charge of Urban Forestry/Green Space Development and Management

To develop, implement and coordinate the urban forestry programs for Metro Manila, DENR created the Urban Forestry Division (UFD) in 1988, now Urban Forestry and Law Enforcement Division (UFLED), under the Forest Management Services (FMS) of DENR – NCR. The Urban Forestry Section under the UFLED has 2 units: the Planting Stock Unit, which is responsible in planting stock production and distribution, and the Cooperative Planting Unit which is tasked to monitor collaborative UF programs like LKP, CGP and Adopt – A – Street/Park Programs. The Urban Forestry Section is also currently implementing the OPLAN SAGIP PUNO program

The urban forestry/greening programs of DENR- NCR was conceived and adopted to make Metro Manila into a green metropolis. Among its activities include production of planting stocks; establishment and maintenance of mini – forests; greening of main thoroughfares, side streets and islands; establishment of

joint nurseries with LGUs, NGOs, POs, schools; providing technical assistance and training on proper site preparation, choice of species and proper planting and maintenance; harnessing the cooperation and involvement of the public via information campaign; periodic assessment of greening activities; processing and issuance of balling permits, and implementation of Oplan Sagip Puno program (DENR – NCR Annual Accomplishment Report CY – 2002; Alba 1993).

At the city or municipal government level, specific urban forestry/greening offices were created under the Mayor's office. Some of these offices are ad – hoc in nature while the others are permanently institutionalized in the city government structure. The greening offices of all the 6 cities have a mandate on green space development and management although in 3 cities (Makati, Pasig, Mandaluyong), they also included cleaning, waste management and pollution monitoring and control as their other mandates. In addition to the greening office, each city also has either a committee (e.g. Cleanliness and Beautification Committee) or Task Force (e.g. Clean and Green Task Force) created to enhance active participation of other sectors in the greening and cleaning activities.

The capabilities of these greening offices in terms of manpower, available facilities and financial resources were also assessed by Palijon (2000). He found that: a) majority of these offices felt the need for additional technical staff to fully implement their greening programs such as horticulturist, forester/arborist, and landscape architect; b) the greening offices have inadequate facilities, equipment and tools needed for their programs; and c) all cities, except Makati, have insufficient and unsustainable budget for their greening programs.

In the case of the other mega-cities, the DENR regional office does not have specific urban forestry unit unlike in the NCR. Their urban forestry program activities are being handled by the Reforestation Section under the Forest Resources Development Division of the Forest Management Services, except in Cagayan de Oro (Region 10) where a focal Program Unit for Urban Forestry was recently created by the RED attaching such unit directly to the RTD-FMS. At the city government level, the City ENRO, Clean & Green Office, Task Force Clean & Green and Cleaning & Beautification Committee are usually the offices or bodies attached or created under the Mayor's Office responsible for management of urban forestry programs just like those of the NCR.

3.6.3.4 Physical Accomplishments of Urban Forestry Program

a) Attainment of the 1:4 tree to person ratio target

The total number of seedlings planted in the urban greening program by city/municipality in Metro Manila from 1988 to 2002. The 17 cities and municipalities comprising Metro Manila (NCR) have an aggregate total of 2,212,488 seedlings planted. The highest number of seedlings planted was in Quezon City (0.72 million seedlings or 34% of total), followed by Manila City (0.31 million seedlings or 14% of total). On the other hand, the total population of Metro Manila in 2000 was 9.93 M people.

Based on the statistics, the estimated tree to person ratio is 1:6 or 1:9 assuming 80% or 50% survival of the seedlings planted, respectively. These ratios are short of the 1:4 target ratio set by MPFD. However, the estimated number of trees is most likely an underestimation because the trees already existing prior to 1988 were not accounted or tallied. For the other mega-cities, the attainment of 1:4 ratio can not be ascertained due to absence of data on the number of seedlings planted on different years and the absence of inventory data on the number of trees already existing in these areas.

b) Accomplishment for mini forests and parks

As mentioned earlier, the minimum number of mini-forests or parks targeted by the MPFD for Metro Manila was 60 for the 8.2 million residents and this was based on the assumption that there should be 1 mini-forest or park per 100,000 – 150,000 residents. Since the present population of Metro Manila (NCR) is about 10M, there should be at least 67 mini-forests or parks already established and maintained.

As of 1994, there were already 472 parks established in different parts of Metro Manila (Table 2.14), which is more than enough (i.e. 7 times more) compared to the target ideal number. Almost 50% of the total number of parks in Metro Manila were established in Quezon City. Between 1996 to 2001, eight more mini-forests were established in Metro Manila covering about 18.20 hectares. Hence, for the entire Metro Manila, a total of 480 mini-forests or parks have already been established as of 2001.

c. Accomplishment for grounds or compound planting or landscaping

As envisaged in the MPFD, at least 570 compounds or grounds should have been planted or landscaped by year 2000 in all six priority cities. Since there is no breakdown per city, the target maybe equally allocated at 95 compounds or grounds per city.

There is no available information on the number of compounds or grounds planted or landscaped in the different mega-cities. Nevertheless, for Metro Manila, data is available on the number of seedlings planted. For the past 14 years, about 1.1 million seedlings have been planted on different types of compounds mostly in the government offices and schools in Metro Manila.

d) Accomplishment for greenbelt development or roadside planting

For Metro Manila, the MPFD targeted 100 km of roadsides planted or greenbelt developed from 1990 – 2000. Since there is also no data available on actual length of roads planted or greenbelt developed, we can use the available data on number of seedlings planted along thoroughfares and streets for extrapolation.

There were 673,813 seedlings planted along major thoroughfares and barangay roads of Metro Manila for the past 14 years. Due to limited space along road shoulders, it is assumed that there will be a single line planting on each side of the road. At 2m spacing, there will be 1,000 seedlings required per km

Table 2.13 Number and types of parks by municipality/city in Metro Manila (as of 1994) (Source: Uriarte and Festin, 1994)

Municipality/City	No. of Parks	Type of Parks
A. North CENRO		
Kalookan City	6	Public park/plaza, mini-park
San Juan	2	Mini-park, shrine
Mandaluyong	22	Private & public plaza
Marikina	2	Municipal/mini-parks
Pasig	20	Playgrounds, public parks, municipal park/plazas
Quezon City **	235	Public parks, playgrounds, parks inside subdivision, park/plaza
B. West CENRO		
Manila ***	36	Public parks/plazas, playgrounds
Valenzuela	10	Barangay parks
Malabon	4	Public plazas
Navotas	1	Mini-municipal park
C. South CENRO		
Las Piñas	70	Public plazas, parks inside subdivision
Makati	27	Public plazas, parks inside subdivision
Taguig	11	Parks inside subdivision
Parañaque	19	Playgrounds, public parks
Pasay City	4	Municipal park, playgrounds
Muntinlupa ****	3	Public parks, private parks
Total	472	

* List provided by municipality/city

** Includes Q.C. Memorial Park

***Includes Mehan Garden, Rizal Park & Paco Park

**** Includes parks inside Alabang Stockfarm and Bililbid Prison

of road. Assuming these 673,813 seedlings planted included 50% replanting, it is estimated that about 337 km of roads and thoroughfares should have been planted in Metro Manila. This is 3.4 times more than the target of MPFD.

For Iloilo City, the DENR-FMS Region 6 reported 34 adoptors (government agencies, universities, private companies, NGOs, etc.) involved in Adopt-A-Street/Park Program since 1994. Of the 34 adoptors, 31 adopted streets spanning 17 km while 3 adopted perimeters of parks covering about 1 km. Since the MPFD's roadside planting target from 1996 to 2000 is 35 km, only about 50% of the target was accomplished.

In the case of Cagayan de Oro City, there were 10.5 km roadside planting done in 1995 to 1999 in barangays Balubal and Indahag and along Lumbia Airport Road (DENR-FMS Region 10). On the other hand, the City ENRO conducted 8 km highway tree planting/urban greening in barangays Cugma, Tablon, Bugo and other urban barangays (City ENRO – Cagayan de Oro City). Thus, the DENR and City ENRO's roadside planting efforts fall short (i.e. only 46% accomplishment) of the MPFD's 1996-2000 target of 40 km. However, for the year 2001-2005, the MPFD's target of 20 km greenbelt development was already accomplished through the tree and bamboo planting project undertaken in 2002 along 20 km riverbanks in barangays Balulang, Lumbia, Bayanga, Mambuaya and Dansolihon through a contract awarded by the ENRO to MARBEMCO, a people's organization (City ENRO - Cagayan de Oro, 2002).

2.6.3.5 Issues / Problems/ Constraints on Urban Forestry or Green Space Development and Management

Numerous issues/problems/constraints were raised during the 1993 Policy Seminar – Workshop on Participatory Urban Forestry Development for Environmental Enhancement in Metro Manila (FDC,1993), and those presented by Palijon (1998, 2000) based on his analysis of green space management strategies in Metro Manila. On the national level, several issues/constraints/problems were listed based on the 1993 Regional Annual Reports on Urban forestry by the DENR regional offices. Among the issues identified are as follows:

- Institutional
 - Absence of urban forestry section in DENR regional offices except NCR
 - Poor or unsustained inter–agency coordination
 - Lack of organizational capability
 - Absence of Master Plan on urban forestry development

- Social and political
 - Vandalism/indifference or apathy by the general public
 - Uncontrolled squatting / encroachment
 - Improper use of street corridors
 - Damage or removal of trees due to road expansion, installation of electric and telephone lines, construction of new buildings, etc.
 - Land use conflicts/lack of proper zoning
 - Lack of tree protection ordinances or laxity in implementation of existing laws in some cities of Metro Manila.
 - Ineffective urban population and migration control programs

- Biophysical and technical
 - Lack of water during summer
 - Frequent occurrence of typhoons
 - Unsuitable soil physical and chemical properties
 - Poor species-site compatibility
 - Incompatible design of drainage systems and other underground utilities which restrict growth of planted trees.
 - Lack of maintenance & protection and monitoring of growth/survival performance of trees planted
 - No M&E system for urban forestry program.

2.7 Community-Based Forest Management

2.7.1 Introduction

The recent CBFM is a product of a series of several attempts to put forestry closer to people. This started through the implementation of various people-oriented forestry programs designed primarily to ease off population pressure from forestlands, make their upland stay more productive and ensure that forest environment is aptly protected. From a highly punitive approaches in the early 60s that aimed at discouraging migration to and occupation of the uplands, the government shifted to more socially acceptable approaches to the current CBFM strategy today where upland communities are progressing into autonomous and responsible forest managers.

The first of the government's serious programs to address the burgeoning upland population started in 1963 with the launching of the Kaingin Management Act, (R.A. 3701) which provided for the prosecution and ejection of kaingineros from their upland farms. This law did not prosper because of numerous impracticalities in its implementation. One of classic situations that happened was that while the father of a family is in jail, his wife, sons and daughters continue to till the land and expand their farms within the forest zones.

Exodus to the uplands continued steadily, primarily propelled by opening of numerous timber concessions and the worsening lack of opportunities in the lowlands. A Kaingin Management Program was launched in 1972 through P.D. 389 which provided for the management of forest occupants in place. The general approach espoused by this program was still punitive. However, this did not deter the phenomenal increase in the upland population. In 2000, the total upland population is estimated at around 24 million (MPFD, 1990). Since then, many other people-oriented forestry programs were tried particularly, the Forest Occupancy Management (FOM, 1975), the Family Approach to Reforestation (FAR, 1979), the Communal Tree Farm (CTF, 1979), and the Integrated Social Forestry Program (ISFP, 1982). The National Forestation Program (NFP) which integrated all reforestation efforts was launched in 1986 and Ancestral Domain Management Program (ADMP, 1993).

The years after the ISFP and NFP launchings saw a gradual yet major transformation in the DENR thrusts and directions. From a basically regulatory agency which views punitive measures as a major solution to deforestation, the DENR deliberately progressed and became more receptive to people's plight. It took the role of a developmental agency, initiating development projects, and finally viewing the lowly kaingineros and other traditional enemies of the forest as potential partners in forest protection and conservation. When the 1990 MPFD was formulated, it consolidated all social forestry programs into one umbrella program, the people-oriented forestry programs (POFP).

In 1995, and through Executive Order No. 263 series of 1995, all people-oriented forestry programs were integrated into the Community-Based Forest Management Program. The implementing guidelines of this EO are embodied in DAO 96-29 which serves as the mother guidelines for all CBFM projects. CBFM became one of the flagship programs of the DENR. The Program promotes active and productive partnership between the government and the forest communities in developing, rehabilitating and managing vast tracks of forest areas. It is anchored on the thesis that if government seriously addressed the poverty problems in the upland communities, then these same communities as represented by the People's Organizations will themselves protect and manage the forests. Thus, the CBFM slogan - *"People first, sustainable forestry will follow."*

Under CBFM, the role of the communities in forest management is given significant importance. They are being organized and given long term tenurial instruments over forest areas with the privilege to derive direct benefits through harvesting of forest products, agroforestry and other livelihood programs. However, these privileges and benefits go hand in hand with the corresponding obligation to manage and protect the forest area in the long term. Moreover, benefits derived from production shares and livelihood

opportunities are supposed to plow back and be equitably distributed to the POs, their members and families.

At present, CBFM is the biggest program of the DENR in terms of area and number of beneficiaries. In efforts to make the forestry sector responsive to the overall alleviation of poverty in the uplands, the CBFM program was given more focus and attention. As the overall strategy to rehabilitate and develop the uplands, there is a need to continually examine the program vis a vis other DENR programs and current realities obtaining in the forestry sector. It is a very important component of any plan for the sector. Thus, there is a need to continually assess the program and focus is needed in improving the various strategies involved in this program.

2.7.2 1990 Master Plan Provisions

The MPFD of 1990 appropriately discussed the nature of our upland settings where vast areas of forestlands were converted from highly productive forest uses into unsustainable upland farms, settlements, and even commercial districts. Population was slowly creeping to the forest zones. In 1948, upland population records show a 5.9 million upland population. The same master plan projected that by year 2000, the upland population would be 24.7 million. That would be around 320 percent increase over the 52 year period or an average annual growth rate of 2.80 percent, a rate which is very much higher than the national annual population growth rate of 2.04 percent. With most of these people living in abject poverty, the most logical source of livelihood would be the uplands which are just waiting to be exploited for subsistence agriculture and agroforestry. Gathering of economically important forest products would also be a logical choice. However, the proliferation of unplanned and unsystematic farming and products extraction methods exacerbated the already fragile upland ecosystem which resulted to massive forest destruction.

Under the POFP, the MPFD pursued a holistic upland development approach by providing necessary conditions for effective and meaningful people's participation. The overarching goal pursued is to improve the quality of life of upland dwellers and communities under an ecologically sound environment (MPFD, 1990). Among the objectives of POFP are as follows:

- To promote the protection of existing forests;
- To put every square meter of the uplands under management under appropriate tenurial instrument;
- To rehabilitate and improve the productivity of upland farms;
- To stabilize upland areas through the adoption of soil conservation techniques;
- To increase income and improve the standard of living of upland dwellers; and
- To promote local government units (LGUs) and NGOs as leaders and partners in forestry development.

Several enabling conditions were pursued which became the integral strategies implemented among which are: provision of security of tenure over forestlands, reorientation and retraining of forest officers highlighting their technician's role in upland development, increasing the roles of NGOs in upland development, recognition of LGUs as integral players in upland development and, provision of support systems such as access to credit and market facilities, among others.

Among the programs identified are as follows:

- Integrated Social Forestry within extensive land uses and farmed public lands
- CBFM within residual forests and extensive land uses
- Contract reforestation with FLMA within grasslands and degraded brushlands
- Ancestral land management within valid ancestral land claims
- LGUs and NGOs in all upland development areas

- Household firewood production in A & D lands.

The following are the scenarios envisaged under the program (Table 2.14):

Table 2.14. Scenarios envisaged under POFP of 1990 MPFD.

Program	Cumulative Targets					
	1990	1991-1995	1996-2000	2001-2005	2006-2010	2011-2015
1. ISFP - CSC processed & issued (000 ha)						
- Regular	11.7	146.8	209.8	376.5	476.5	543.2
- ARF	15	222.0	317.0	317.0	317.0	317.0
- Family Beneficiaries (000)	26.7	368.8	526.8	693.5	793.5	860.2
2. Plantations placed under FLMA						
- Area		428	499	568	609	636
- Families		61.1	71.2	81.1	87	90.8
3. CBFMA Issued						
- largeholders		5	30	50	50	50
- mediumholders		15	65	100	100	100
- smallholders		130	355	500	500	500
T O T A L		150	450	650	650	650
4. Training of: ('000)						
- Officers		4.0	6.0			
- NGOs, LGUs		0.6	1.1	1.6		
- Farmers		60.0	110.0	160.0	210.0	260.0
T O T A L		64.6	117.1	161.6	210.0	260.0
5. NGOs and farmers served						
- Coverage (000 ha)	456	2081	3244	3985	4496	5013
- Farmers served (000)	45	253	577	976	1573	1562
- NGOs involved		150	350	550	700	705
- Local NGO units		350	1350	2350	3050	3400
6. NGOs in Parks and Reserves Management						
- Parks contract	2	12	37	77	127	132
- Sanctuaries contract	0	1	4	9	16	23
- Coverage (000 ha)	5	200	500	1000	1200	1341
- NGOs involved	1	4	9	16	26	36

With the above scenario, the MPFD estimated the annual costs of POFP as follows (Table 2.15):

Table 2.15 . Annual cost estimates of POFP.

Programs	Average Annual Costs (Million Pesos)				
	1995	2000	2005	2010	2015
Integrated Social Forestry	1253.94	1322.48	1370.95	1370.95	1370.95
Community Based Forest Management	14.03	39.84	28.59		
Forest Land Management Agreement	4.10	3.10	2.10	1.60	1.10
Ancestral Land Management	6.00	8.00	10.00	6.00	6.00
Tree Farming in A & D Lands	37.20	37.20	37.20	37.20	37.20
NGOs/LGUs in Upland Development	17.85	23.25	21.60	16.20	6.00
TOTAL	1,333.12	1,433.87	1,470.44	1,435.95	1,421.25

Under the 1990 MPFD, CBFM is but a component program of the overall People Oriented Forestry Program (POFP). Nevertheless, with the developments that followed and by virtue of DAO 96-30, CBFM, by deliberate actions, became the banner program of the DENR in developing the uplands.

2.7.3 The People-Oriented Forestry Program/CBFM Assessment

POFP consolidated several existing programs of the Department at that time, namely: Integrated Social Forestry Program (ISFP), the Community Forestry Program and the Ancestral Land/Domain Management Program, among others. Other programs also fell under its umbrella, namely: the National Forestation Program where the Forestry Sectoral Loans (Loans I & II) were implemented. In 1996, DAO 96-30 integrated all CBFM and POF Programs of the DENR into DENR regular structure. Table 16 shows the DENR programs covered under the umbrella of POFP.

Table 2.16 . POFP projects implemented by the DENR.

Program/Project	Implementing Scheme/Tenure
ENR-SECAL	Watershed management planning with heavy infrastructure support, CO by DENR staff, tenure, CSC
FSP/ADB(FSL-I)	Loan Support for comprehensive site development, CSD by contract reforestation, with ISF/CFP support component, CO by contract with NGO, tenure, FLMA where some were converted to CBF MA
FSP/ADB/OECF (FSL-II)	Loan Support for comprehensive site development, CSD by contract to POs, CO by contract with NGO, with assisting professionals, PMO by DENR on-site, with infrastructure support, tenure, CBF MA
CEP	Site development through volunteer labor, seedlings provided by program, tenure, MSA
NRMP	Site development from funds generated from resources coming from CBFM area, CO be DENR staff and assisting professionals, CSC inside CBFM area, CADC
LIUCP	Projects based on watersheds. Heavy emphasis on infrastructure development in cooperation with LGUs, tenure, CFSA, converted later to CADC, CSC
CFP	Loan support for CSD, CO by contract with NGO, tenure, CBFMA
ISF	Mostly through individual families, technical support services provided by DENR, CO by DENR staff, tenure, CSC, later CBF MA
ADMP	Site development from funds generated from resources coming from CBFM area, CO be DENR staff, tenure, CADC & CALC
Integrated Rainforest Management Project	CO, mobilization of local resources, institutional strengthening of LGUs, NGOs, financial institutions and DENR, tenure, CBF MA, CSC
Cordillera Highland Agriculture Resource Mgt. Proj. (NR Component)	Landuse tenure security, community mobilization and participatory planning, tenure, CADC & CALC
Community Based Management of Logged-Over Areas (CMLOA)	Program support to CFP in two sites, training in planning, organizing, enterprise development, CBFMA

Sources: Tesoro (1999), and DENR.

2.7.4. Issues and Problems

CBFM implementation is beset by various policy concerns and problems. At the outset, CBFM implementation is governed by numerous policies and guidelines through a series of Administrative Orders, Circulars and Memorandum Orders. Some were intended for specific projects funded by a particular bank and implemented through a specific program. As specifically recommended in the Project Completion Report (PCR, 1995) of the Forestry Sector Loan I which pushed for CBFM operationalization, the CBFM program requires simpler guidelines. However, actual program implementation required very specific and numerous guidelines. Thus, with the 15 years implementation of CBFM, beginning from CFP to date, already around 19 DAOs, 11 MCs, and at least a dozen MOs concerning CBFM were issued. These are apart from many other laws and regulations impinging on CBFM as well as regional orders and instructions which add to the entanglement of policies and guidelines.

Apparently, with this maze of instruments used in running the CBFM, even the DENR field CBFM staff are confused as to what policies to discard and enforce or which provisions of current guidelines are still enforced or have already been amended. Moreover, there are issues and problems on conflicts and practicality between and among policies. Some guidelines are even in conflict with existing laws.

For facility of discussion, the above issues and problems are grouped according to policy, technical, institutional, socio-economic/ financial, and others.

- Policy Issues and Conflicts

Within 15 years CBFM, around 19 DAOs, 11 MCs, and at least a dozen MOs were issued apart from many other laws and regulations impinging on CBFM. One of the classic examples of inter-policy conflict affecting CBFM is the case of Community-Based Forest Management Special Account (CBFMSA). Pursuant to EO 263, and under Article VII, Section 2 of DAO 96-29, the DENR is mandated to establish the CBFMSA to support the implementation of the Program including the provision of financial support and other incentives to deserving POs, communities, non-government organizations and government personnel. It also provides that the DENR may source local and international grants and donations for the establishment of such account. There is also a standing proposal by DENR to source funds from the government share coming from CBFM sites as pursuant to DAO 98-42. However, according to the General Appropriations Act (GAA of various years) which is being enacted yearly, establishment of such account is prohibited. Among the summarized policy issues are as follows:

- CBFMSA under EO 263 un-implementable because of GAA provisions of one fund rule, DAO 98-42 about production sharing in CBFM projects unimplementable due to the same GAA
 - DAO 98-10 allows cutting of planted mangrove species in CBFM areas vs. Sec. 4. of RA 7161 which prohibits the same
 - Unclear policy on timber harvesting in watershed areas
 - NCIP requirements of Free and Prior Informed Consent delaying issuance of CBFMA in some areas, lack of proper interface mechanisms of CBFM program with the IPRA Law (RA No. 8371)
 - Lack of clear-cut policies in issuance of RUPs, especially in NTFP
 - Confusions in production sharing policy
- Technical/Operational
 - Requirements AWP formulation are too technical but good only for 1 year
 - EIA requirements on POs developmental and utilization activities are too technical and complicated to understand and comply
 - Weak forest management capabilities of POs

- Institutional
 - RUPs implementation hampered by too much bureaucracy, countless delays in almost everything
 - Lack of appreciation of certain sectors about CBFM, inadequate knowledge about CBFM
 - PO's are denied incentives granted to them –DAO 96-29, and DAO 98-43
 - Weak institutional partnership with LGUs, weak collaboration among concerned agencies resulting to weak support to POs, weak support to forest protection by the POs
 - Internal problems within the POs related to financial and leadership concerns.
- Financial and Economic
 - High transaction costs of forest utilization in CBFM areas
 - Costly ECC
 - Very cheap price for CBFM products
 - Weak financial management system(FMS)/ lack of financial resources
- Other issues problems

Among the other issues and problems found in various assessments and evaluations conducted by various sectors and agencies, and which are cross-cutting and/or overlapping within some categories are as follows:

- Weak collaboration among concerned agencies resulting to weak support to POs, weak support to forest protection by the POs
- Internal problems within the POs related to financial and leadership concerns.
- Weak forest management capabilities of POs resulting from lack of highly trained DENR field staff to guide them.
- Countless delays in almost everything; e.g., preparation of IEE, issuance of ECC, FPIP, and CBFMA, formulation and affirmation of CRMF, AWP, processing of transport documents like CO, CLO etc. Too many requirement for the PO to understand, much less to comply. Cases of fitting the PO to the project not fitting the project to the PO
- Lack of clear-cut policies in issuance of RUPs, especially in NTFP.
- Confusions in production sharing policy.
- Still, lack of understanding about CBFM by other sectors of society.
- Abuse of CBFM papers – being used in illicit activities in connivance with DENR.
- Unclear understanding of government procedures by the POs.
- Inequity in providing financial support to CBFM projects, some sites are well-funded especially those with foreign support while the regular CBFM sites have no funds for even a few hectares of plantations.

2.7.5 POFP Accomplishments under 1990 MPFD

The MPFD projected POFP targets based on a 5-year period. For facility of discussions, this paper made an analysis of project accomplishments based on 5 year periods too. Due to difficulty in ascertaining budget support allocated into the program because of problems in disaggregating budget allocations for specific programs, and while some POF programs has integral components which are not part of POFP targets, results of this assessment are rather indicative. Furthermore, due to the devolution of most ISFP sites into the LGUs, and their eventual entry into CBFM, it is difficult to provide exact budget figures that went into POFP. Nevertheless, what were presented here represent trends that would indicate adherence to the Plan as well as the level of political commitment that went into its implementation.

Based on the targets set (Table 9), the DENR is supposed to have issued 526,000 CSCs, 450 CBFMA of various sizes, and around 70,200 FLMA issued. This translate to a cumulative area of 3.244 million ha. These three major POFP components has a proposed cumulative budget of around 12,197.4

million pesos. Together with other components, the total proposed budget for POFP until 2000 is 12,312 million pesos.

It is worth to note that at the time the MPFD was implemented, there were already existing projects which would logically fall under the umbrella of POFP, among which are the Integrated Social Forestry Program (ISFP), the Community-Based Management Program, the Ancestral Land/Domain Management Program and the Forestry Sector Loan I project which at the outset has POFP components, namely: Community Forestry Program and Community Organizing component. In totality, there were 14 projects implemented under POFP. In mid 1990s, all POF programs were integrated into one banner program, the CBFM. Thus, the success or failure of POFP as a program can be largely gauged by how we look at the present CBFM.

As of the year 2000, the total area covered by CBFM is around 5.2 million ha. Thus, POFP overshot its target by 62.4 % in terms of hectareage. The total proposed budget was 12,197.4 million pesos. The total amount budgeted by the DENR for the program was 12,312.1 (Table 2.17). In terms of budget allocation, the POFP proposed budget was overshot by 1 percent.

As of December 2002, a total of 4,956 sites are covered by CBFM comprising a total of 5.7 million ha (Table 2.18). The tenured area or areas already covered by approved tenurial instruments like CFMA, CBFMA, CADT, etc., is around 4.4 million ha. The program benefits around 2,182 peoples organizations comprising a total of 496,175 households with about 2.5 million community members. At present, CBFM is one of the biggest government programs in terms of number of beneficiaries and area coverage.

Table 2.16 . Appropriations of POFP (Million P), GAA

Projects	1990	1991	1992	1993	1994	1995	1996
ISF Projects	36.5	37.3	40.5				
FSL (ADB-LP)	697.3	697.2	529.1	127.4	323.1		
FSL (OECF-LP)	1533.9	862.3		277.7			
Strengthening of ISF Projects	5.3	5.2					
LIUCP		11.3	167.3	167.2			
POFP					57.4	108.0	138.9
Loan II (ADB) /1				181.2	537.6	595.8	728.8
Loan II (OECF) /1					33.7	124.5	423.2
CBFM							
CEP							
SMICZMP							
TOTAL	2273.0	1613.3	736.9	753.5	951.8	828.3	1,290.9
	1997	1998	1999	2000	2001	2002	
ISF Projects							
FSL (ADB-LP)							114.3
FSL (OECF-LP)							2,374.1
Strengthening of ISF Projects							2,673.9
LIUCP							10.5
POFP			86.0				345.8
Loan II (ADB) /1	290.8	68.9					304.3
Loan II (OECF) /1	793.7	122.1	46.3	-			2,043.4
CBFM	665.6	272.2	508.9	672.6	247.7	483.4	581.4
CEP			67.8	97.4		75.3	-
SMICZMP	118.4	53.7					-
TOTAL	1,868.5	516.9	709.0	770.0	247.7	558.7	8,447.7

Total for Yr 2000 = 8,447.7

1/ Both loan proceeds (LP) and GOP counterpart (Source: NFDO).

Table 2.18. CBFM Projects (as of December, 2002).

Region	No. of Sites	Project Area in 000 ha	Tenured Area in 000 ha	No. of HH in 000	No. of POs
CAR	424	700.5	677.6	13.6	39
1	278	95.9	83.1	22.3	241
2	136	799.6	630.2	63.9	97
3	249	239.0	203.4	38.5	229
4-A	70	42.4	22.3	3.6	57
4-B	113	805.9	518.9	26.6	84
5	262	187.9	169.9	24.1	132
6	322	156.2	47.9	73.2	206
7	314	69.1	49.2	45.5	259
8	215	239.3	94.2	14.1	93
9	673	426.1	200.8	31.2	293
10	431	470.8	369.3	36.4	172
11	603	516.5	508.5	63.6	160
12	334	388.3	349.7	23.6	41
13	483	553.5	456.0	14.4	72
ARMM	49	17.4	14.5	1.4	7
TOTAL	4,956	5,708.4	4,395.5	496.0	2,182

Source: FMB.

2.7.6 Program goals vs. performance

The basic goal of POFP of improving the life of upland dwellers has been largely attained especially to majority of program beneficiaries. Selected studies conducted in several CBFM sites showed significant increase in HH income. Monitoring and evaluation reports of CBFM projects being implemented by FSP showed a general significant increase in household income during project implementation phase. The increase in income tapered off during the last stages of comprehensive site development (CSD). The POs income is again expected to increase during the harvest stage, especially, from the agroforestry farms.

With respect to the objectives, both quantitative and qualitative assessment was done to compare performance against the set targets. Among the objectives of POFP are as follows:

- To promote the protection of existing forest resources – Considering that 5.7 million ha are now under CBFM, it is considered that such vast tract of forestlands are now under some kind of formal management and protection systems. However, such systems do not speak of the quality of forest management and effectiveness of POs in forest protection.
- To put every square meter of the uplands under management under appropriate tenurial arrangements. At present there are 4.4 million ha of CBFM sites under formal tenurial instruments. Under process are some 1.3 million ha of remaining CBFM areas not yet issued with legal instruments due to some procedural delays and IEC problems. Together with other management instruments, it is noted that CBFM is one of the potent strategies to close the open access forest areas.
- To improve the productivity of the uplands – Under most CBFM sites, formerly unproductive grasslands and brushlands are being transformed into forest plantations and agroforestry farms.

Under the FSP alone, some 38,992 ha of plantations were developed under ADB funding and another 68,444 ha were developed under JBIC funding (NFDO Planning Office, 2003). At present, estimates of plantations developed under CBFM is around 124,000 ha (CBFMO-FMB, 2003). Areas under Loan I which eventually have been covered by FLMA totals to more than 21,126 ha (MIS, FMB, 2003). These are apart from many FLMA areas which were eventually converted into CBFMA. Such presence of planted areas maintained and protected by the POs is one indicator that upland productivity is improving under CBFM.

- To stabilize upland areas through the adoption of soil conservation techniques - CBFM as a forest management strategy integrates soil and water conservation measures in its overall plans. It endeavors to develop plantations both as economic crops and soil protection measures. However, the mere presence of plantations is not an adequate, much more, an appropriate indicator of reduced soil erosion.
- To increase income and improve standard of living in CBFM areas - Initial assessments of CBFM sites showed significant increase in income for majority of project beneficiaries. Monitoring and evaluation reports of CBFM projects being implemented by FSP showed a general significant increase in household income during project implementation phase. This is primarily due to high labor requirements during the initial stages of comprehensive site development (CSD). FSP experience showed that some of the POs even hire labor from outside the community to cope with their plantation targets. The increase in income tapers off during the last stages of CSD. The POs income is again expected to increase during the harvest stage, especially, from the agroforestry farms and in the implementation of their livelihood projects.
- To promote local government units (LGU's) and NGOs as leaders and partners of forestry development. There are few indications that this has been met. In every CBFM site, LGU involvement is one of the integral and necessary components for the project in order to succeed. CBFM proponents who ignored this basic component suffered many organizational setbacks. In the more than 4,900 CBFM sites nationwide, LGUs had been involved in one way or the other. However, degree of involvement varies. At the barangay level, LGU involvement has been significant as most of the barangay officials are directly involved in the consultations, planning and implementation of CBFM projects. Many of them act as PO leaders and advisers. However, at the level of municipality, district and up to provincial level, LGU participation becomes insignificant in most sites. Many CBFM POs are encountering problems in their operations because of the lack of support from local politicians. This is one aspect of CBFM implementation that needs enhancing.

2.7.7 Synthesis of Results

Like any other government programs, CBFM is still beset by many issues and problems relating to policy, weaknesses of implementing institutions, technical and operational problems, and even internal problems besetting the people's organizations who are the direct implementers of the project.

There are inter and intra policy conflicts that prevents the fluid implementation of the programs. Foremost in the policy constraints is the unimplementability of basic support programs like operationalization of CBFMSA and the production sharing system, and the apparent impracticability of some guidelines. Low awareness on guidelines regarding forest products harvesting and utilization in CBFM areas also causes costly delays in POs operations.

Institutional constraints like lack of trained DENR personnel to sustain assistance to the POs and low level of LGU collaboration and participation are also seen as factors preventing full-blast implementation of some CBFM projects. Weak institutional capacity of the POs themselves causes internal conflicts that leads to weak resource utilization decisions, wrong investments and mismanagement of funds. The lack of financial resources among the POs prevent them to pursue planned activities and targets.

On the other hand, other sites are successful in many aspects of CBFM implementation. The above observations reflect the long list of weaknesses observed in some sites but this may not be true to all sites. Thus, for any intervention too have added value for the different stakeholders, it is important to assess first the needs of particular sites before proceeding with developmental interventions to optimize the use of scarce resources.