

## **4.0 INTEGRATED SECTORAL PROGRAMS OF REVISED MPFD**

The integrated sectoral plan represents the subsectoral programs formulated in the course of subsectoral consultations. The level of details is quite prominent and specific activities may either directly support the priority programs or may be done as a consequence of doing the priority programs. Nevertheless, the specific discussions are expected to help the sector translate the broad plans into specific operational plans. As the Regional offices are expected to realign with the strategic plans, the ensuing discussions provides field level decision makers to deeply appreciate the finer focus of the priority programs.

### **4.1. Policy and Institutional Development**

Problems/constraints/issues provide opportunities for action. The actions required to address the range of problems/constraints/issues listed earlier will be based, among others, on the need for improving the overall performance of the sector. Many of the problems/constraints/issues in the forestry sector of Philippines can be addressed within the provisions of the existing policies, of which there are several. PD 705 and its amendments, RA 8371 dealing with policy on the rights of indigenous people, NIPAS Law, EO 263 on CBFM strategy, and a host of others. Since these policies are not adequately harmonized, there are several contradictory provisions, which invite conflicts. Currently, there are few on-going parallel efforts to rectify and improve the policy situation – PFP 2001, DENR Shell, EcoGov project, and ADB/FINNIDA/NZ suggestions, among others.

#### **4.1.1 A Framework for Forest Policy Development in the Philippines**

The purpose of revised MPFD is not to propose an alternative national forest policy for Philippines, but only to provide a reference framework for improving or modifying the policy, if and when the need or occasion arises. Among the basic policy focuses identified for the sector are as follows: controlling deforestation; introducing scientific and sustainable management of forest resources; undertaking intensively managed forest plantations as an investment enterprise; practising appropriate, integrated landuse for improving overall sustainable biological productivity; reducing wastages in harvesting and processing of forest products; controlling illegal activities in forests; rationally restructuring forest-based industry as an economic undertaking and improving their economic efficiency; adequately capturing rent on forest resources; establishing a system of forest resources accounting; strengthening/intensifying forestry and forest products research; arresting ecological degradation and erosion of bio-diversity; rehabilitating wildlife and wildlife habitat; improving essential infrastructure for forest resource development; meaningfully involving people, private sector and NGOs in the development of forestry sector; effectively introducing democratic decentralisation; appropriately restructuring the forest sector institutions to be capable of serving as effective agents for promoting sectoral growth; improving, qualitatively and quantitatively, human resource for forestry in terms of training and education facilities, incentives etc.; ensuring multi-disciplinary approach and inter-sectoral co-ordination in forestry matters.

#### **4.1.2 Scope of National Forest Policy**

There are different types of policies following a hierarchy - national policies, regional policies, sectoral policies. Various policy levels are to be closely linked and free from conflicts. While broad national policies tend to be in the nature of manifestos, the sectoral/sub-sectoral policies are normally more detailed and of a portfolio type.

Forestry has evolved into a web of inter-related activities that goes far beyond the limits of forest land, and affects the welfare of every one economically and ecologically. A serious concern is how forest can be managed to retain their essential roles as part of natural resource systems, while maintaining their

capacity for supporting people. Development is a major consideration in today's society and forest policies should serve as agents and facilitators of change. Thus a national forest policy is now seen as a formal and comprehensive statement which provides a conceptual frame work, and clear objectives, for forestry development as well as orientation for the choice and execution of forestry programmes and related activities. It sets standards for decision making and discourages acts of expediency. Policy development, implementation and evaluation are more or less a continuous process and closely related to the corporate planning process.

In a board sense forest policy should be considered as a dynamic system, defined by policy environment (such as constitutional framework; influence of geographic, ecological, economic, social and cultural factors; national priorities and commitment; policies of other related/relevant sectors) and interacting with legislation, institutions, programme implementation and their impacts.

#### 4.1.3 Policy Imperatives

In the context of Philippine forestry sector policies, three imperatives are suggested among which are as follows:

- **Sustainability** – The primary goal of sustainable development is to achieve a reasonable and equitably distributed level of economic well-being that can be perpetuated continually for many human generations. It requires that the allocation of resources to meet the needs of present generation should not prejudice the interests of future generations. Current activities may be qualified as sustainable if they do not reduce the productive potential of the asset base and the set of opportunities open to future generations. Sustainability subsumes productivity (growth) and equity (World Bank 1992). From a policy point of view, sustainability is not an option; it is an imperative.
- **Efficiency** - As a renewable resource essential for meeting human needs of goods and services, an important function of the forests is production of goods and services. Efficiency in production implies improving productivity, reducing wastes and indirect costs, and thus registering higher economic rate of return in comparison with other alternatives. Areas set apart for production of timber and other products must be able to compete with other potential land uses - in economic, if not financial, terms. The same criteria should also apply to investments in other commercial forestry activities, as well as in processing of forest products.
- **Peoples Participation** - Participation of people is both an objective and means of development. It is crucial in charting the course of forestry development in the right direction, and in ensuring its sustainability. The philosophy of a 'people-oriented' development from below assumes that participation is not only a fundamental precondition for, and a tool of, any successful development strategy, but also is an end in itself. The unity of participation, both as means and end, should be implicit in development policies. Forestry should be able to facilitate, and benefit from, people's participation in all facets and aspects of forestry. The tenor of social equity built into the Constitution of the country seeks to give emphasis to the participation of all sections of society, in the processes and benefits of development.

#### 4.1.4 Policy Objectives

Forest policy objectives spell out what the sector aims to achieve in contribution to the lofty objectives of the Constitution and other major national policies and how that contribution will be sustained. The long term goal of the National Forest Policy of Philippines should be to enhance the contribution of the forestry sector to the country's ecology and economy.

The following are the proposed specific forest policy objectives:

- To effectively conserve, develop and manage the forest resources of the country, as a renewable national asset.
- To protect the all forest land resources against all forms degradation and unwise use.
- To protect wild flora and fauna, conserve ecosystems, preserve bio-diversity, maintain essential ecological processes and improve the environmental services of forests
- To promote efficient harvesting, processing, and utilization of forest products, in order to obtain increased net benefit/profit/rent or return on investment, and promote forest-based economic growth
- To provide increased socio-economic benefits to the people of the country by contributing to: the basic needs of families, poverty alleviation, employment creation, income generation and better living conditions, and by supporting agricultural/pastoral and rural development.
- To develop and support a net work of appropriate and suitably linked and coordinated institutions at different levels, each with its specific institutional policy and mission, legal instruments and financing mechanisms.
- To facilitate human resource development for forestry in qualitative and quantitative terms, including education, training and improvement of skills and capabilities.
- To promote and support goal-oriented forestry and forest products research, and improve research capability and utility.
- To establish an effective system of forestry extension for disseminating new and improved technology, research information and knowledge
- To establish an adequate and effective mechanism of co-ordination/co-operation with other sectors of Philippine economy having influence on forestry, and also with international agencies and institutions concerned with forestry development.
- To institute and institutionalize a system for regularly reviewing and updating the forest resource situation in the country, assessing the need for changes in policies and priorities and reporting the results periodically to the appropriate national/government body.
- To establish an effective system of M&E to ensure that the proposed policy measures are properly implemented.

#### **4.1.5 Strategic Policy Measures**

##### **4.1.5.1 Forest Land Use and Management**

Forestry has to prove its comparative merits in terms of costs and benefits. It has to be efficient. It has to produce acceptable returns on investment in terms of socio-economic and environmental benefits. For that, forest production has to be linked to end-uses.

It is proposed that ownership of forests be clearly defined. The policy to retain under forest a sufficient area of land (permanent forest estate) to meet the country's needs for forest products and to protect the environment must be better understood and accepted. The term 'private forest', for the purpose of the policy, is used to mean forests and groups of trees, with or without under-growths/crops, raised and managed on privately-owned/occupied land. On functional basis, the forests can be distinguished as: production, protection and conservation. This classification seeks to promote appropriate land use for increased productivity and improved conservation.

##### *Actions to implement policy measures*

- Forest land settlement and boundary demarcation be undertaken and completed expeditiously including division of the area into grids, and mapping.

- Forests/forest lands be classified, based on its main function, as production forest, protection forest and conservation forest.
- Based on the current socio-economic realities, land under forestry be put to such uses, commensurate with its capability, where it will produce most and deteriorate least.
- The natural forests in the country be protected as a national asset against all forms of misuse, and managed sustainably and scientifically in an integrated manner for maximising/enhancing overall benefits, both economic and environmental.

#### **4.1.5.2 Forest Resource Expansion**

##### Actions to implement policy measures

- Area under forest and tree cover be expanded through afforestation/reforestation with appropriate species (from the point of view of site factors, utilization needs and profitability criteria) in available bare (non-forest) lands, degraded lands, deforested areas and marginal lands. A general framework plan and specific operational plantation establishment and management plans must be formulated to guide the sector in forest resource expansion
- Tree planting be further extended to farm lands, grazing lands, recreation areas, margins of roads and railways, as well as peri-urban lands.
- Establish demonstration plantations of adequate extent and in different locations, which can be linked with research activities.
- Emphasize improved productivity; emphasize effective area and not nominal area; emphasize on cost per unit of output and not per nominal unit area.
- Set up training facilities for plantation and nursery technicians and workers which should also include the use of mechanical equipment.
- Encouragement and support be provided for expansion and/or improvement of social/community/agro forestry, farm forestry, village wood-lots, and private forestry through adequate extension and appropriate incentives.
- Existing forests be protected and maintained through control of deforestation and conversion of forest lands to non-forest uses.
- Along with promoting rational use of forest lands, the misconception of forestry as a residual land-use be combated and removed; and forestry be brought to a status of appropriate and efficient use on its own right and importance.

#### **4.1.5.3 Improvement of Productivity**

##### Actions to implement policy measures

- Productivity of forests/forest lands be increased in terms of volume and value of wood and non-wood products, consistent with environmental standards, as a sound basis for long-term national development.
- Multi-product, multiple-use and intensive agro-forestry combinations be promoted in rural areas/villages to improve economic benefits of forestry.
- In all tree plantation ventures, the approach adopted (to the extent feasible), be 'high-input and high-output' forestry, in a system of integrated land use for producing wood and non-wood products.

- Considering the importance of non-wood resources for medicines, food, fiber, fodder etc., due emphasis be given for their management (including improvement and propagation) and utilization.
- The level of sustainability of forestry production be raised by upgrading technology (including silvicultural manipulation of species, rotation, tending schedules, stand improvement operations etc.), along with infrastructure and institutions.

#### **4.1.5.4 Management Planning**

##### Actions to implement policy measures

- Periodical forest inventory and resource studies/bio-prospecting be carried out, as essential input for management planning.
- All forests/forest lands of Philippines be properly and sustainably managed to meet local and national needs for forest goods and services, to provide income and employment to the rural population and to support environment and development in a harmonised manner.
- All forest management units be covered by long-term management plans (broken down by shorter periods, if necessary), which give due consideration for technical, financial, economic, social, cultural, institutional and managerial aspects.
- Management prescriptions be regularly reviewed and improved based on studies, research, and acquisition of information and technology, thereby helping to increase the level of sustainable yield from the existing and the newly created resource base.
- Wherever feasible, integrated and multipurpose management be adopted in preference to single purpose mono-culture.

#### **4.1.5.5 Promotion of People's Participation**

##### Actions to implement policy measures

- Support, stimulation, and encouragement be given for participation (of people, private sector, local groups, NGOs) in growing and managing forests/trees in village lands, homesteads, farms and private lands through extension, technical assistance, delivery of inputs, market facilities, provision of credit etc.
- To the extent feasible, and as appropriate, people's participation be facilitated and promoted in the management of forests through arrangements suitable for specific situations and adequate incentives.
- Wherever feasible, forestry development activities be taken up as joint effort of stakeholders under mutually agreeable terms and conditions.

#### **4.1.5.6 Enhancing Protection Functions of Forests**

##### Actions to implement policy measures

- Forests in critical areas such as steep slopes and fragile watersheds be defined, designated, and demarcated as protection forests, and accordingly given special attention
- Restrictions be imposed on harvesting of products from forest lands, falling beyond a specified degree of slope, which may vary for different soil and ecological types.
- Forests performing a protection function (fully or partly) be assigned an 'existence value' to be considered as a cost while evaluating feasibility of projects requiring clearance of forest lands.

#### **4.1.5.7 Tree Planting for Protection and Land Rehabilitation**

##### Actions to implement policy measures

- A protective function be included to the multi-purpose forest plantations, wherever it is warranted.
- Planting of trees on an adequate scale be incorporated as part of integrated watershed management, along with improved agricultural/ grazing practices and soil conservation measures.
- The role of trees and shrubs, especially those capable of enriching soil be given proper emphasis in rehabilitating productivity of agricultural/pasture lands.
- Tree planting be made an important ingredient in measures of reclaiming degraded lands.
- Protection forests and protective plantings be managed, under the prescriptions of properly prepared management plans.

#### **4.1.5.8 Forest Protection Measures**

##### Actions to implement policy measures

- Effective measures be taken to protect the forest lands against new encroachments, shifting cultivation and illicit logging/harvesting.
- In respect of all areas under forest cover (public, private or under lease tenure), the managers be required to protect the resource by controlling the incidence of fire, by regulating grazing and by controlling pests and diseases.
- Effective measures be taken for prevention, early detection and rapid extinction of forest fires.
- In areas of intensive forest landuse for tree plantations and agro-forestry, appropriate soil conservation measures be undertaken.
- Promote income and employment opportunities, which are not damaging of the environment.
- Support and participation of local communities be sought for effective protection of the forest resource of the country.

#### **4.1.6 Environmental Conservation**

##### **4.1.6.1 Protected Area System Management**

##### Actions to implement policy measures

- The areas currently set apart as protected areas be assessed with regard to their ecological importance and effectiveness/adequacy and be clearly demarcated, maintained and managed, based on definite management plans, with a view to achieve effective conservation of wild life, bio-diversity, eco-systems and the country's natural heritage, and to ensure environmental stability.(The plans will indicate activities which are allowed/ prohibited in the designated areas).
- The issue of whether there is need for establishing additional PAs for adequately representing all eco-types may be reviewed and suitable action taken.
- Management of the natural forests adjoining the protected areas be undertaken with due consideration of their conservation role; buffer zones of appropriate extent be developed to improve the effectiveness of the protected areas; and protected areas be linked with corridors wherever appropriate and feasible.

- In addition to *in-situ* measures of protecting genetic resources and their diversity, deliberate *ex-situ* measures be adopted for ensuring long term survival of these resources.
- Participation of local communities, conservation groups, private sector and NGOs be facilitated and promoted as appropriate, to improve the effectiveness of environmental conservation; a system of advisory committees at the national, and local levels, and honorary wildlife wardens to cover wildlife areas outside the forests, be established for the purpose.

#### 4.1.6.2 Improving Environmental Conservation

##### Actions to implement policy measures

- Consideration of environmental soundness, through assessment of impacts, should be made incumbent in all forest and forest industry management plans.
- Apart from the economic and industrial plantations, a programme of tree planting should be promoted on a voluntary basis for environmental amelioration (i.e. for carbon assimilation, greenery and scenic beauty, protection of vulnerable lands, improvement of urban environment).
- Pollutants harmful to, and other agents causing destruction of, forest vegetation should be controlled.
- Reduction in the use of biomass fuel through improved stoves/equipment will help to improve environment.
- Improved logging, and consequent increase in yield can help to reduce the area of harvest. Improved recovery in processing industries will also have similar effect.
- Increasing the life of products through seasoning and preservative treatment of wood will reduce replacement needs, thus indirectly reducing wood consumption.
- Along with reduction of waste in logging and processing, it is necessary to introduce waste management systems.
- Reduction of solid wood consumption through popularisation of composite wood products is another means of reducing wood consumption.
- Special protection measures for rare and fragile ecosystems, and endemic and endangered species should be undertaken, to re-inforce their conservation.
- EIA of development projects and incorporating concerns for environmental stability should be made obligatory.
- In establishing a system of environmental pricing, whether it be through pricing of raw materials or finished products, the principle of "polluter pays" should be adopted. It is also necessary to have pollution standards for all activities causing pollution.
- As explained in an earlier section, the real benefit of economic growth and real cost of natural resources loss should be reflected, to the extent possible, in the national accounts. A clear understanding of the values involved will help to have a better environmental awareness.
- It is necessary to establish safe minimum standards of conservation for all major development activities. Safe minimum standard as a concept provides a socially determined demarcation between moral imperatives to preserve and enhance natural resource systems, and the free play of resource trade-offs.
- A system of incentives be established for conservation-oriented activities.

#### **4.1.6.3 Environmental Conservation and Income Generation**

##### Actions to implement policy measures

- Income generation (and employment) possibilities of conservation areas be exploited through non-damaging activities/uses such as eco-tourism, wildlife tourism, dedication of areas for international research, buffer zone management, and collection and supply of NWFPs and genetic materials.
- Wildlife farming be promoted as a source of income and trade, primarily to benefit local communities.
- Visitor facilities be improved appropriately in areas of tourism potential.

#### **4.1.7 Enhancing Socio-Economic Contributions of Forestry**

##### Actions to implement policy measures

- Considering the importance of wood fuel as an important source of rural/household energy, efforts be made to improve fuelwood availability, wherever it is essentially needed.
- Use of improved wood-burning stoves be promoted for reducing fuelwood consumption and to help reduce expenditure on rural/domestic energy consumption.
- In collaboration with other sectoral institutions (e.g. health, education, agriculture) steps be taken to improve the welfare of those who live in and around forest areas, or engaged in rural forestry activities.
- Forestry activities which will support poverty alleviation, generate employment, increase income and raise the standard of living of the population, especially in rural communities be promoted.
- Self-reliance of the communities, and their household income and welfare security be activity promoted, since the old concept of providing rights for meeting basic subsistence needs from forest areas is no longer feasible or appropriate in most situations.
- Considering that community groups and private entrepreneurs will be involved in production forestry, proper pricing and commercialisation of forest products be supported, to provide just and remunerative prices, and resulting incentive to the grower.
- Technology with a rational blend of modern and appropriate be followed in the forestry sector in order to support socio-economic development of rural communities through additional employment, income and people's participation.
- Considering the vital service that the processing and trade of forestry products can provide for economic growth and development, forestry-based growth centres be developed in different parts of the country, suitably linking raw material supply, processing and marketing.
- Women, disadvantaged groups, cultural communities, local people, private operators and NGOs be involved appropriately by providing them stakes in the operation of forestry development programmes.
- Entrepreneurship in fields relevant to forestry development be promoted and stimulated, through facilitating effective people's participation.
- Traditional rights be recognized and respected without prejudice to the development needs of the country

#### 4.1.8 Incentives for Communities and Stakeholders Participation

##### Actions to implement policy Measures

- Design a rational and healthy incentive package to support forestry development with participation of all interested parties.
- Minimise the use of direct financial incentives to avoid distortionary effect; in unavoidable cases use them in a controlled manner.
- Remove regulatory constraints affecting movement of forest produces and development of private forestry.
- Disseminate vital information, particularly market information, and facilitate market access; ensure remunerative prices to producers.
- Ensure stability and reliability of forest products supply to processing industries.
- Ensure tenure security to forest dwellers and communities; establish a system of benefit-sharing with participating parties/people.

#### 4.1.9 Institutional Arrangements

The review of institutional arrangements strongly indicated the urgent necessity for institutional restructuring and changes in management concepts and approaches. Central to the institutional arrangements is the sectorial organisations including their structure, linkages and roles. All the institutions/organisations are to be legally defined, consistent with policy. Organisations in a sector consist of those representing public (government) and private (including corporate, co-operative, group and individual) interest. Government agencies are normally concerned with public administration and regulation of sectoral activities.

In all the sectors of national economy, the functions of institutions fall under two groups : *authority* and *enterprise*. While the authority function (i.e. enforcement of rules and regulations) is to be assigned to government institutions/agencies, the enterprise function (i.e. activities related to socio-economic development) can be assigned to private, public, co-operative or joint sector institutions. The institutional system thus provides an orderly structure of related components that channel the efforts of people towards pre-determined objectives.

#### 4.1.10 Organizational Restructuring

The weaknesses of the sectoral institutions and its implication on forestry development be addressed in the following way: Separate the authority (enforcement of policy, laws, rules and regulations) and enterprise (planning and implementation of development programmes) functions relating to forestry, leaving authority function to a Government agency and its decentralised structure, and enterprise function (including forest programmes, wood industry, PAs, research etc.) under a separate autonomous structure to be called a National Forestry Board or National CBFM Board or a National Forestry Commission or a National Forestry Trust. This separation of functions will help to promote efficiency, accountability and professionalism.

The autonomous enterprise system can be structured differently. An enterprise is a neutral term meaning one or more units/firms under common ownership or control. It could be under public, private, cooperative or joint sectors. The enterprise system can also incorporate private and co-operative sectors and organised people's participation. The existing CBFM system can be suitably modified to fit into such a system effectively. One possibility is to have a 3-tier system with appropriate linkages:

- i. A fully autonomous national forestry board/commission/trust;
- ii. A number of functionally autonomous enterprises serving under the overall guidance of the board/commission/trust. These enterprises<sup>1</sup> can be defined geographically (*Sitios, Barangays, Provinces, Regions*) and in some cases by nature of activity (research, eco-tourism).
- iii. A number of operationally autonomous production/service units under each of the enterprises. Peoples participation directly at the unit level (and also through representatives at higher levels) can be facilitated through appropriate arrangements.

All entities in the structure will be covered by proper legal instruments. It will also be a requirement that the system employ adequate number of qualified professionals and technicians to manage the forestry enterprises.

*Actions to implement policy measures*

- Peoples participation be sought and mobilised for environmental conservation, forest protection and sustainable forest production.
- Recognizing the enormity of the task involved in developing the forestry sector, active participation of private sector, co-operative sector, membership organisations/local organisations, farmers, homesteaders and local people and NGOs with proven development delivery capability be encouraged and facilitated, through flexible institutional arrangements, mechanisms and incentives.
- Special support be provided, and special programmes designed to promote participation of women in forestry production activities.
- Industrial units be encouraged to have captive source of raw material - either as intensively managed plantations on lease from government or preferably through raw material supply agreement(s) with an entity(s) involved in wood production.
- Re-structuring of sectoral institutions and related changes in the policy instruments, be carried out expeditiously and kept dynamic through innovative means.
- In respect of administration and management of government forests, the present system be modified by suitably separating the authority and enterprise functions.
- The enterprise development in the forestry sector (including development and management of forests, wildlife and forest-based economic activities/services and environmental conservation) be organised under a hierarchical system of autonomous and self-financed enterprises, to promote a participatory approach to development.
- Responsibility for overseeing the sector and enforcing of government policies, legal enactments and regulations related to forestry and wildlife conservation be vested with an appropriate government agency.

#### **4.1.11 Changes in Laws, Rules and Regulations**

*Actions to implement policy measures*

- Forest laws, rules and regulations be reviewed and revised to be in tune with the emerging needs, such that they will act as an instrument facilitating forestry sector development.

- Forest laws, rules and regulations be made simple in procedures, people-friendly, quick in decisions and balanced in its penal and incentive provisions.
- The commitments of the country with regard to international conventions be suitably reflected in the laws, rules and regulations.

#### **4.1.12 Investment and Financial Matters**

Currently, the investment situation in the forestry sector is discouraging and indicates a negative net investment. Mobilization of investment funds locally is very important in meeting at least part of future investment needs. And, in order to attract private sector participation it is necessary to provide investment profiles of suitable projects with relevant information and analysis. It is also necessary to have a balanced combination of funding sources to ensure stability of fund flow. To avoid the fluctuations and to facilitate targeted funding for forestry, it will be useful to establish a **National Forest Fund**.

It is necessary here, to recollect the implications of the system of accounting on natural resources, particularly on forests. Following the efforts in various quarters to modify the accounting for natural resources, the last (1993) SNA has incorporated environmental accounting in a satellite accounting framework - i.e. the System of Environmental Economic Account. Non-consumptive uses and unpriced values can now be taken into account through a system of satellite analysis using methods such as shadow pricing, contingent valuation, hedonic pricing, questionnaire surveys etc.

##### Actions to implement policy measures

- Through removal of administrative and other constraints, an appropriate business environment be created in the forestry sector, for attracting investment.
- Credit procedures and security norms be made simple and less restrictive to facilitate development of forest production and forest-based processing, by the people.
- Adequate return on investment be the main criteria for promoting investment in forestry.
- Participation of public and private sectors, co-operatives, local organisations and groups be stimulated in order to achieve and maintain an increased level of investment in forestry and forest industry.
- Existing financial rules, controls and regulations be improved and appropriate financial means and mechanism be established/expanded, to support the small investors in forestry.
- Proper pricing of forest products, including the proportional cost of environmental conservation be ensured, and hidden subsidies through under-pricing be avoided.

#### **4.1.13 Inter-Sectoral Co-ordination**

##### Actions to implement policy measures

- Co-ordination of programmes and programme activities of the forestry sector, with those of other sectors of the national economy, be enhanced and strengthened, to avoid conflicts and to ensure mutually beneficial development.
- Ensure compatibility of sectoral objectives and missions.
- Periodical consultations/reviews/discussions/inter-agency meetings.
- Collective or common programmes.
- Multi-disciplinary team work.
- Incentives for undertaking co-ordinated programmes.
- Inter-sectoral task forces for ironing out differences.

- Consensus in areas of common interest.
- Resolving conflicts within the sector/sectoral institutions.
- Co-ordination committees at various levels.

#### **4.1.14 Information, Education and Communication, and Training**

##### **4.1.14.1 Strategies for Education and Training**

- Rationalization of the forestry educational system by identifying one national forestry college and one college each in the regions.
- Establishment of a strong association of forestry schools and colleges in the pursuit of high standards of education and contribution to forestry development through the school's research, extension and public service activities.
- Development of the faculty of forestry schools and colleges through a vigorous human resources development program.
- Development of facilities of educational institutions that include laboratories and equipment, libraries and infrastructures to enable them to provide high standards of education and training to students.
- Recruitment of quality students to train for a career in forestry and provision of scholarships and other financial assistance for their studies.
- Strengthening professional associations such as the Society of Filipino Foresters in their role of providing ethical standards for their members and becoming a vehicle for technology transfer.
- Regular updating of the forestry curriculum to respond to changing needs in the forestry sector.
- Develop strong linkages between forestry educational institutions and employers and among training and research institutions.
- Develop integrated training plans.
- Strengthen core of trainers in the DENR and other institutions involved in the forestry sector
- Improve DENR training facilities and Intensify resource generation

##### **4.1.14.2 Extension and Communication**

- Simplification and deregulation of forestry policies
- Development of an integrated IEC plan
- Development/ improvement of the forest resources data base
- Develop strong linkages with NGOs, LGUs, POs and other national and local advocacy groups
- Training of field staff particularly in reorienting them to their new role as service provider to various forestry stakeholders
- Delivery of support services to different stakeholders, such as information on recent forest policies, laws, rules and regulations; technical advice, marketing assistance and others
- Strengthening of the public information program on forestry and the environment using different kinds of media
- Strengthening the Public Affairs Office (PAO) and the Regional PAO within DENR as a body that coordinates information and communication components of various forestry programs

#### **4.1.14.3 Program Components**

##### **4.1.14.3.1 Strengthen Forestry Extension and Communication**

- Improve the credibility of forestry institutions
- Develop linkages with national and local advocacy groups
- Develop forestry resources data base
- Formulate an integrated IEC plan
- Development of IEC Materials
- Web Advocacy
- Implementation of Extension and Communication Activities

##### **4.1.14.3.2 Strengthen and Rationalize Manpower Training**

- Develop an integrated training plan
- Strengthen linkages with other training institutions, LGUs, NGOs, academe and research institutions for implementing the training plan
- Strengthen core of trainers in the DENR
- Develop trainers/ service providers within identified partner organizations
- Develop existing training facilities
- Develop training modules and implement training programs

##### **4.1.14.3.3 Improve the Quality of Forestry Education**

- Rationalize the forestry schools
- Institutionalize a recruitment and screening process for forestry students and provide financial assistance to students
- Improve curriculum through closer linkages among the academe, DENR, LGUs, private companies and other professional groups
- Faculty development and upgrading of facilities

#### **4.1.15 Monitoring and Evaluation, Communications**

The following recommendations are envisioned to provide the process of retrofitting the PFA towards successful guidance in the implementation of the revised MPFD particularly in the aspects of effective M & E system and communications.

##### **4.1.15.1 FMB as a land management agency**

- Issuance of DAO declaring and clarifying the management philosophy recommended
  - Compliance of the DENR for the inventory and characterization of the forest resources for the Rural Development Logical Framework.
  - Delineation of the forestlands
  - Sustaining implementation of the WEM Framework of the DENR
  - Use of the Grid/GIS
  - Facilitate MIS and Decision Support System

#### **4.1.15.2 FMB reverts as a line agency, draft bill**

- Lobbying for the recommendation
- Public involvement or advocacy for the recommendation

#### **4.1.15.3 Formulation of information needs of the forestry sector**

- FMB takes the lead, issuance of DAO creating a Task Force (TF) to determine the hierarchy of information needs for the internal and external audiences
- Strengthen present interchange of forestry sector information

#### **4.1.15.4 Formulation of criteria and indicators for sustainable forest management**

- C & I for other forest types (e.g., pines, pasture, mangrove)
- Training on C & I formulation and implementation of sustainable forest management of FMB and DENR offices concerned

#### **4.1.15.5 Institutionalization of Management Information System (MIS) and Decision Support System in the FMB and the DENR**

- Issuance of DAO assigning PPSO, DENR and the C&I Unit or the Economics Division of the FMB to implement the recommendation
- Retrofit all FMB and DENR staff/units doing data collection and analysis for MIS and Decision Support System

## **4.2 Programs on Watershed and Forest Management**

### **4.2.1 Watershed Management Component of the Revised MPFD**

#### **4.2.1.1 Objectives**

The general objective of this component is to promote the sustainability of watershed resources and its ability to provide key environmental services through an empowered community of watershed stakeholders. Specifically, this component seeks to:

- Promote greater appreciation amongst various watershed stakeholders of the basic concepts and principles governing watershed management;
- Promote greater understanding on the watershed as a system including all the biophysical processes involved in the delivery of basic environmental services and the interaction of biophysical and socioeconomic factors and its influences on the condition of a watershed;
- Facilitate the development and accessibility of enabling tools and mechanisms (such as technology, livelihood opportunities, IEC and training programs, property rights systems and institutional mechanisms) which will enhance the skills and motivation of the stakeholders for lasting and meaningful engagement in watershed management;
- Enhance the development of improved policies consistent with the objective of improving the governance and management of watersheds in the country; and
- Facilitate the rehabilitation and improvement of the conditions of degraded watersheds.

#### **4.2.1.2 Guiding Concepts and Principles**

Watershed refers to a topographically delineated area of land from which rainwater can drain as surface run-off, via a specific stream or river system to a common outlet point which may be a dam, irrigation system or municipal/urban water supply take off point, or where the stream/river discharges into a larger river, lake or the sea. On the other hand, watershed resources refer to all the natural resources found inside the watershed. These include soil, water, plants, animals, minerals, and land. The sustainability of one resource is interlinked with the sustainability of the other resources.

Watershed management is defined as the process of guiding and organizing land and other resource uses in a watershed to provide desired goods and services without adversely affecting soil and water resources (PCARRD 1999). It is not limited only to the concerns of soil and water conservation. It involves the planning and implementation of both technical and policy initiatives to realize a set of environmental and socioeconomic objectives.

Watershed stakeholders refer to all individuals or groups with expressed interests in the welfare of a watershed. The key watershed stakeholders include the local communities, LGUs, DENR, DA, DOE and OGAs, NGOs, religious groups, youths, and other members of the civil society.

Watershed actors and players refer to individuals or groups whose actions and decisions bear on the condition of the watershed and its functions and resources. These include among others, the watershed resource users and beneficiaries, watershed managers, policy makers, researchers and technology developers, professional service providers, financing institutions, trainers, educators and information disseminators, and auditors.

Integrated and multiple use management recognizes that a watershed is a self-contained system that normally consists of one or more ecosystems or portions of ecosystems. As a system it contains physical, biological and human components. The sum of the interactions of these various components

determines the behaviors and properties of the watershed. In return, its behaviors and properties affect human activities, climate and the rest of the other watershed components. Watershed is a complex system that responds to almost every alteration in any of its components. It is therefore essential for management to be constantly wary of all the watershed components (resources and processes included), how they interact with each other and how these components individually and collectively influence the performance of a watershed as a system.

Multisectoral and interdisciplinary management refers to the application of inter-disciplinary and multi-sectoral processes in the planning, appraisal, implementation and monitoring of a wide range of development activities. This includes development programs in forestry, agriculture, fisheries, mining, water supplies (for irrigation, livestock and domestic use), energy generation (hydro, geothermal and fossil fuels), and infrastructure development (roads and settlements). Successful watershed management should recognize the multi-dimensional nature of the task. Along with the biophysical dimension, the social, cultural, financial and economic dimensions must be equally considered. While biophysical processes are more natural to the watershed than the other dimensions, the latter can be very influential in determining the state of the watershed.

Sustainable watershed management and development requires the identification, development and dissemination of improved technologies and land management practices that are both productive and conservation effective. This requires that watershed management programs should not be narrowly focused on soil conservation and forest protection alone. Instead, when the biophysical and socio-economic circumstances permit, improved watershed management should promote production-oriented land-use enterprises (e.g., upland farming, grazing, orchards, plantations, tree farms and production forests) managed in such a way as to provide sustainable economic benefits to the land-user, not only for the present but also for future generations.

The Philippine Strategy for Watershed Resource Management defined **sustainable development** in the context of multiple uses of watershed areas as the management and conservation of a watershed's natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the present and future security in basic human needs attainment. Such sustainable development (whether for forestry, agriculture, fisheries or power generation) could conserve land, water, plant and animal genetic resources, and is expected to be environmentally non-degrading, technically appropriate, economically viable and socially acceptable.

The use of watershed's natural resources should be guided by the following general sustainability criteria according to PSIWRM:

- Ecological Sustainability
- Social and Cultural Sustainability
- Economic Sustainability
- Institutional Sustainability
- Political Sustainability

Several specific key criteria and objectives can be used to assess the sustainability of current and future watershed resource-based enterprises, and their component management practices. Individual enterprises or management practices should be assessed according to whether or not they:

- maintain and where possible, enhance the productive capacity of the natural resource base as a whole and the regenerative capacity of renewable resources, without disrupting the

functioning of basic ecological cycles and natural balances, reducing biodiversity, destroying the socio-cultural attributes of rural communities, or causing contamination of the environment.

- maintain the delivery of water in the quantity and quality required for domestic, irrigation and power generation purposes.
- meet the basic welfare requirements (for food, fuel, water and shelter) of present and future generations of on-site watershed resource users, both qualitatively and quantitatively.
- provide durable livelihoods, sufficient income, and decent living and working conditions for all those engaged in using watershed resources for tree, crop, livestock, and/or fish production.
- reduce the vulnerability of those living within, adjacent to, or downstream of the watershed, to adverse natural and socio-economic factors and other risks.
- strengthen self reliance among the users of the watershed's natural resources.

#### 4.2.1.3 Watershed Strategies

To achieve the goal of this plan, the various policies and programs will be aligned along three major strategies, namely: watershed resources rehabilitation and development, watershed resource use improvement, and watershed governance improvement.

- **Watershed resources rehabilitation and development** is intended primarily to improve the ability of the watershed to provide goods and services on a sustained basis.
- **Watershed resource use improvement** is a strategy for transforming the current modes of using land, soil, water and other watershed resources into use patterns that are more conservative and biased toward maintaining sustainability.
- **Watershed governance improvement** is mainly trained on the improvement of the ability and motivation of the various stakeholders to effectively carry out their respective tasks and roles in watershed management.

#### 4.2.1.4 Program Components

The various policies and programs will be aligned along three major strategies, namely: watershed resources rehabilitation and development, watershed resource use improvement, and watershed governance improvement. Among the major program components are as follows:

- Information, Education and Communication
  - Create heightened awareness and appreciation for the values and functions of the watersheds;
  - Enhance understanding on the watershed and how it functions as a biophysical system;
  - Correct the misconceptions about watershed and watershed management;
  - Facilitate transfer and adoption of conservation effective technologies and practices;
  - Form a pool of individuals with the basic skills in watershed management; and
  - Create staff of capable trainers who can help in the massive dissemination of information, technologies and skills in watershed management.

- Policy Reform

The main objective of this component is to create an atmosphere that is conducive for the spontaneous and lasting involvement of the various stakeholders in watershed management for the sustainability of the resources found therein. Specifically it will seek to:

- Remove any policy that discourages direct involvement of stakeholders in watershed management;
- Minimize prescriptions and restrictions;
- Smooth out conflicts among key policies of the government which pertain to the management of watersheds, e.g., CBFM in proclaimed watersheds, IPRA, NIPAS, PD 705, others
- Enhance the complementation among related policies on watershed management;
- Provide incentives to the stakeholders through policies that will promote the development of conservation technologies, viable alternative livelihoods, appropriate property rights system, and institutional mechanisms; and provide adequate technical and financial assistance;
- Enrich and encourage the institution of local policies;
- Promote management of all watersheds including those that are not proclaimed as reserves;
- Promote watershed management that is socially equitable, culturally sensitive and gender aware:
- Promote efficient use of watershed resources;
- Encourage integrated watershed management planning guided by land use suitability, compatibility with local cultural systems and needs and preferences of all key stakeholders;
- Promote coordination and integration of investments on watershed management from all concerned government agencies, LGUs, local communities and other sectors; and
- Encourage the development of formal and civil science related to watershed management by setting aside adequate resources for the conduct of basic and applied researches.

- Watershed prioritization

The purpose of this program is to sharpen the focus of investment of limited resources (financial, human and time) for watershed management. This system of prioritization that came with the recognition of the weaknesses of proclaiming watersheds as reserves is based on the following:

- Contain important natural habitat
- High cultural and historical value
- Actual and potential contribution to economy
- Actual and potential contribution to livelihood of poor
- Actual and potential use for energy, irrigation and water supply
- Poses risk of damages from flood and erosion

- Formation of Management Body

- DENR launch an IEC program
- facilitate the formation of a multi-sectoral and multi-stakeholder watershed management body
- define functions and responsibilities depending on the preferences and perceptions of its constituents
- coordinate and integrate functions to be able to eliminate the destructive effects of competing and conflicting interests and priorities of multiple watershed stakeholders

- Institutional Development: Strengthening DENR

This program addresses the need for some reengineering works at the DENR to enable it to play its new dominant role of being the coordinator, facilitator and technical assistant as it gradually sheds its role as implementor and regulator. Among the works to be done are:

- Reversion of FMB from staff to line bureau is necessary to oversee the national watershed management program.
  - Regardless of whether FMB reverts to being a line bureau or not, there is a need for FMB to restructure organizationally to emphasize at least the duality of its focus that is on forest and watershed management if. This will be the consummate action to fully implement DAO 99-01 using the watershed as the unit for forest planning and management.
  - Strengthen the ability of FMB to work in alliance with OGAs (like the DA, DAR, DPWH and DOE), LGUs, civil society, business sector and other potential partners in watershed management.
- Formulation of Land Use Plan and Management Plan

Facilitate the formulation of comprehensive watershed management plans based on prioritized watersheds to be formulated and approved by all stakeholders with proper considerations of the following:

- actual and perceived needs of various stakeholders
  - environmental protection and economic production to realize optimum returns
  - management plan for portion of a watershed must be consistent with that of the main watershed
  - a planning process where all stakeholders are duly represented and actively participated.
  - guided by and referred to the land use plans of the LGUs and sectoral plans of various national line agencies.
- Development of Watershed Resources Information System
  - Institution of System for Charging Environmental and Resource Use Fees

Among potential schemes for collecting watershed resource use and environmental service fees:

- Imposing a service charge for maintaining the supply of water to the downstream users so that the managers of upstream areas can be compensated
  - Charging fees on certain products derived from the watershed like raw water and mineral resources
  - User fees levied on people visiting the watershed to enjoy the beauty of wildlife and other natural resources
- Forest Restoration
  - Plantation Development
  - Watershed Monitoring
- ensure that the watershed resources are being used according to plans and under sustainable terms;
  - keep track with the state of health, stock, rate of use and replenishment of key watershed resources;
  - protect the watershed functions e.g., streamflow;
  - minimize the adverse impacts of using land and other watershed resources; and
  - check if the objectives of the management plan are being realized.

- Comprehensive Research and Technology Development
  - reinvest in basic research in order to update the current understanding on the watershed behavior, e.g., watershed hydrology, biodiversity, land productivity and other key watershed attributes
  - Hydrologic processes as influenced by climate change and variability, land use and land use practices
  - Upland – lowland interactions
  - Technology development particularly on watershed resource utilization appropriate for various users
  - Institutional development that includes policy studies and development on modes of governance, land and product tenure, institutional arrangements for multi-agency collaboration and local community participation
  - Enhancement of capability for multi-agency, multi-level and multi-objective management and decision-making
  - Development of management decision support systems that will include resource accounting and valuation, management information systems, watershed modeling and simulation

## **4.2.2 Natural Forest Management**

The general objective of natural forest management is to sustain its management for the environmental and economic benefits of Filipinos. Among the specific objectives are as follows:

- Protect the existing natural forests from conversion and destruction;
- Promote sustainable management of natural protection forests;
- Promote sustainable management of natural production forests through appropriate management systems under joint-venture, co-production and production sharing modes;

Among the specific programs for natural forests are as follows:

### **4.2.2.1 Dipterocarp Forests**

- Delineation of permanent dipterocarp forest estates
- Sustained National Forest Inventory
- Promotion of biodiversity in the management of production forests
- Adoption of C & I for sustainable management of natural dipterocarp forests
- Training program/adequate transfer of knowledge and technical know how on the rudiments of sustainable logging
- Establishment of models of timber production systems under joint venture, co-production and production sharing within residual production forests.

### **4.2.2.2 Mangrove Forests**

- Delineation of the mangrove permanent forest estate
- Replication of the Pagbilao GRA to consider other environmental gradients
- Adoption of C & I for management of mangrove forests
- Expansion of the Philippine mangrove areas
- Amendment of RA 7161 to exempt planted mangrove trees from the cutting ban provision.
- Strict implementation of law prohibiting conversion of mangroves into other land uses
- Strengthen policy on reversion of abandoned, undeveloped and unproductive fishponds to mangrove forest estates
- Study and establish appropriate model for CBFM in mangrove forests  
Strengthen IEC on mangrove forests/ecosystems

### **4.2.2.3 Pine Forests**

- Delineation of the pine permanent forest estate
- Institutionalizing an effective and efficient forest fire control and management program
- Pine forest plantations
- Establish Models of Timber Production Sharing Agreement
- C % I for Pine forests
- Review and revised silvicultural system for the pine forests of the Philippines vis a vis NIPAS Act
- Encourage appropriate and indigenous agroforestry practices (oleculture) in the pine forests

### 4.2.3 Grazing land Management

The general objective of grazing land management is to manage grazing lands as a sustainable source of health and wealth for the Filipinos, through Community Based Forest Management (CBFM), corporate and other appropriate tenurial systems. Among the specific objectives are as follows:

- To identify and set aside appropriate areas as permanent grazing lands to be maintained and sustainably managed as such;
- To improve the carrying capacity and productivity of grazing lands through improved forage and pasture grasses;
- To improve livestock production through proper management practices and breeding technology.
- To provide security of tenure and incentives to formal grazing land users to improve their range management operation.
- To rationalize land allocation for permanent grazing lands in social, cultural, economic and political development.
- To strengthen GL-MIS, IEC, R&D, networking, linking and other institutional support system.

To put grazing land management in a sustainable context, the following programs shall be pursued:

- Institutional and Technical Aspects
  - Bringing back of the range improvement unit DENRs organizational structure and function at the national, regional and field offices.
  - Training of DENR personnel, especially those in the range management office in the field, along the following subjects: a) forage production and management, b) cattle production and breeding technologies, c) site suitability assessment, d) preparation of grazing management and operations plans, and e) M&E for sustainable grazing land management.
  - Development of mechanisms for DENR-DA collaboration
- Policy Aspects
  - Extension/dialogue of regional offices of DENR with the rancher associations about the intent/scope of DAO 99-36 including the proposed DAO 2003.
  - Establishment of permanent grazing lands to be used for grazing and other forest uses compatible with grazing.
- Biophysical, Social and Financial Aspects
  - Piloting of community-based or co-management approach of grazing land management involving the PO/LGU and the DENR.
  - Coordination between DENR and NCIP especially in resolving ancestral land claims in existing FLGMA areas.
  - Conduct policy and operational research on:
    - Improving the carrying capacity of grazing lands (testing the adaptability of promising forage species; comparing the productivity of rotational versus cut-and-carry grazing system under different grazing conditions; etc.)

- Rehabilitation measures for degraded grazing lands.
- Financial and incentive systems for community-based range management.
- Piloting the grazing land management scheme using multiple-use concept, e.g. silvi-pasture scheme wherein tree plantation development and livestock production can be undertaken simultaneously.
- Determining the best alternative land use option for different classes of cancelled FLGMA areas.

### **4.2.3 Protected Area Management**

PAWB which was created through EO 192 is a signatory to various international agreements and conventions on biodiversity conservation. Among these are: Convention on Biological Diversity, Convention on the Conservation of Migratory Species of Wild Animals and Convention on the International Trade of Endangered Species of Flora and Fauna (CITES), among others. In compliance to the country's international commitment on biodiversity conservation, many initiatives were already undertaken particularly the proclamation of 93 protected areas under NIPAS, and enactment of 5 protected areas, formulation of National Biodiversity Strategy and Action Plan, and development of databases for Philippine biodiversity, among others. In furtherance of the country's commitment for biodiversity conservation, the following are programs proposed for funding:

- Establishment of 93 protected areas;
- Delineation and demarcation of 5 protected areas boundaries with congressional enactment;
- Management and development of protected areas;
- Development of ecotourism sites within or outside protected areas;
- Implementation of plant conservation programs; and
- Implementation of market-based instruments in protected areas

#### **4.2.4 Urban Forestry Development and Management**

The recommendations below were consolidated from those suggested in the following references: Palijon (1998, 2000, 2001); Ganapin (1993); Ramos (1993); Alba (1993); FMS – NCR/DENR (2001); proposed DAO re- Guidelines governing the implementation of Urban & Suburban Forestry Program; and Memorandum of DENR Secretary to FMB Director dated March 17, 1994 re- Issues/Constraints/Problems and Recommendations on Urban Forestry: These recommendations were presented and validated during the Regional Consultation Workshop held in Cebu City on July 22-23, 2003. Among the plans for this subsector are as follows:

##### **4.2.4.1 Institutional Aspects**

- Creation of Urban Forestry Section in the DENR regional offices to spearhead:
  - implementation of specific urban forestry programs and activities;
  - provision of technical assistance to LGUs, OGAs, NGOs, schools, civic and business organizations, etc. on urban forestry;
  - monitoring and evaluation of collaborative urban forestry projects
- Strengthening inter-agency coordination in urban forestry programs through revitalized inter-agency committee
- Strengthen organizational capability of urban forestry units/offices of DENR and LGUs;
- Formulation of a master plan on urban forest development in coordination with LGUs and private sector

##### **4.2.4.2 Social & Political Aspects**

- Aggressive information, education and communication campaign (IEC) through tri-media advocacy work and involving the youth sector in implementing UF programs.
- Strict implementation of existing policies, laws and ordinances ( political will) against squatting, vandalism, and improper use of mini-forests or parks, plazas, street corridors etc.
- Integrate urban greening in urban land use development planning ;
- Mandatory requirement of landscape plan for all government infrastructures such as buildings, roads, flyovers, overpasses, etc.
- Creation of innovative fund generation schemes, e.g., “green taxes” to polluters like motor vehicles which spews CO<sub>2</sub> and other toxic gases into the air, creation a Greening Trust Fund for local taxes e.g. certain % of movie tax, parking fee, fines, etc. will be extracted for this fund.

##### **4.2.4.3 Biophysical and Technical Aspects**

- Comprehensive inventory and assessment of existing and prospective urban forestry/greening project areas for planning and maintenance purposes;
- Implement the required urban forestry cultural management practices such as species selection, planting stock production, site preparation, plant care & maintenance.

- Coordination with utility and transport services agencies (e.g. Meralco, MWSS, PLDT, DPWH, etc.) regarding their infrastructure development plans and activities to avoid or minimize removal, root growth restriction and damage to trees already planted or those to be planted yet.
- Development and implementation of M&E system for urban forestry programs.

#### **4.2.4.4 Research Support**

- Strong research support in UF concerns such as:
  - species-site adaptability;
  - impact of pollutants;
  - best planting combinations and patterns to acquire the most ecological and aesthetic benefits;
  - appropriate tree care & maintenance in an urban setting;
  - inventory of trees and other plants to determine the structure & composition of urban forests/green spaces;
  - environment values of urban forests (e.g. potentials in CO<sub>2</sub> sequestration and storage, pollution abatement and biodiversity conservation); and
  - analysis of national policies, local ordinances and urban forestry strategies.

#### **4.2.4.5 Other Recommendations**

- Replication of “Oplan Sagip Puno” Program in other DENR regional offices;
- Review/Approval of Proposed DAO re-Implementing Guidelines for Urban & Suburban Forestry Program or USFP

### **4.3 Programs on Livelihood and Poverty Eradication**

Practically, livelihood and poverty eradication is a cross cutting concern of many programs under the revised MPFD that are envisioned to enhance the contribution of the forestry sector in the improvement of national economy and upland communities' welfare. Livelihood generation is a basic consideration in land use planning for watersheds. Programs on forest-based industries also endeavors to serve the cause of upland communities, i.e., establishment of community-based forest industries. Moreover, there are long term programs that seek to empower the communities to make economic decisions. Among them are community-based forest management, forest plantations and sustainable management of residual forests.

#### **4.3.1 Community-Based Forest Management**

Being the national strategy in forest resources development and management, the government has already committed considerable resources to make CBFM work. Many headways had been achieved, particularly, putting on the ground, respective CBFM sites and the institutional mechanisms for program adoption and operationalization and a broad-based acceptance of the program among different sectors. At this point, there is no turning back or looking the other way around. Instead, it is prudent upon this government to continue with this program with much vigor, build-up on its initial gains and further strengthen the program in view of so many lessons learned in its initial stages and in view of our global commitment to make this part of the globe a better place to live.

#### 4.3.1.1 Program Objectives

The general objective of the CBFM programs is to sustainably manage forest resources towards the upliftment of socio-economic condition of forest based communities and enhance the quality of environment for the benefit of society. Among the specific objectives are as follows:

- To enhance and strengthen the implementation of CBFM program through appropriate policy and institutional support systems;
- To expand CBFM coverage to cover existing open access areas;
- To improve the quality of life of the forest-based communities by enhancing CBFM benefits through sustainable and globally competitive programs; and,
- To rehabilitate, protect, manage, conserve and develop denuded forest lands through CBFM.

Among the plans for CBFM are as follows:

- **Enabling Conditions/Policy Programs and Actions**
  - Integration of all relevant CBFM guidelines pursuant to EO 263 and other relevant laws, into one mother guideline, hence, only one guideline for CBFM. This would entail reiteration of relevant provisions of existing guidelines and amendment of old guidelines with outdated and impractical provisions.
  - Development of a handy and laymanized CBFM information kit or manual for use of DENR field men, people's organizations, LGUs, and relevant stake holders. The manual will contain a handy and simplified manual of procedures, particularly on regulatory procedures from ECC, RUP, resource inventory, timber harvesting, processing and transport.
  - Enactment into law the establishment a CBFM Special Account.
- **Operational Management**
  - CBFM area expansion to at least 9.0 million ha is targeted within the next 7 years (until 2010). Target areas are the expiring TLAs, expiring PLAs, and other open access areas. This strategy will help close the so many open access areas in our forest lands.
  - Ground delineation of CBFM areas. Project boundaries define the limits of activities that may be done in particular CBFM sites.
- **Institutional Initiatives**
  - Strengthening of DENR capability to implement CBFM that would entail both structural and personnel development and recruitment. Structural strengthening would require assessment of the needs for CBFM field personnel and realignment of field offices. These would require establishment of several CBFM field offices servicing a particular CBFM site or a cluster of CBFM projects. Every line division and relevant field office can then provide personnel to these offices. Target personnel for these offices are those personnel with marginal workloads by virtue of the progressive reduction of TLAs in all regions.

- Reorientation and retraining of CBFM field personnel with respect to the renewed thrust of the government to implement CBFM. Such capacitation would require parallel assessment of CBFM projects's needs and matching of personnel's capacity. This would also entail adequate capacity to monitor and evaluate relevant forestry activities at all levels.
  1. Institutional strengthening of POs in record keeping, MIS, and even in following their own policies.
  2. More active LGU collaboration and participation, other stakeholders, through establishment, reactivation and/or strengthening of CBFM councils and multi-sectoral monitoring councils, among others.
  3. Adoption of co-management system between the PO and the DENR wherever applicable. Since DENR people do most of the highly technical work like preparation of IEE/ECC documents, CRMF, AWP, and even feasibility studies for livelihood projects, a system of co-management can be worked out to further assist the POs. This strategy has been done in some JBIC-funded CBFM projects and was noted to improve CBFM operations a lot.
  
- **Technical**
  - Establishment of a new system of AAC determination and RUP issuance. Foremost considerations are the capacity of the forest to absorb such disturbance and the POs capacity to utilize.
  - Strengthening of current sites through reorientation, continuing capacitation works, and more frequent monitoring of current sites.
  - Retrofitting of CBFM program with the WEM framework, explore and institutionalized productive areas of complementation.
  - More liberal forest harvesting policy or system to allow PO the flexibility to determine the most economical and practical way of harvesting, transporting and processing timber that would benefit the communities at the same time safeguarding the long term sustainability of forests
  
- **Social, Financial and Livelihood**
  - Continuing community organizing works. Formulate bridge programs that will strengthen the POs, e.g., enterprise development, financial management , etc. Hence, each site must be assessed as to the needs of the POs for longer period of organization and continuous capacitation.
  - Population program that would fit in the culture and social structures of the communities.
  - Provision of enabling mechanism for a production agreement/arrangement with PO and the industry or the corporate sector. Such arrangement must highlight and explore the strengths of both sectors complementing to produce a sustainable stream of goods and services for the economic benefits of both and the country in general. Among the strengths of the corporate sector that can be infused in CBFM projects are their capacity to invest funds in plantations and highly efficient processing plants, modern forest products processing technology, and marketing services. The POs in turn can allocate areas for production sharing arrangement with the corporate sector as may be allowed in their CRMF, infusing their collective resources

in producing high value forest crops at lower manpower costs. This strategy will require federation of POs for a more sustainable and stable supply of raw materials.

- Provision real marketing assistance to the POs. DENR must also invest in the training of its personnel along this line.

- **Research and Technology**

- Participatory research in CBFM sites. In many research endeavors, information whether existing or still to be generated, are of paramount inputs to its success. Many POs already possess the information needed to fill in many research gaps in forest management. A mechanism by which the communities can be compensated for their efforts by the researchers must be provided.
- Use of scientific forest management principle by the communities. This would involve creation of a information highway from the researchers to the communities.

#### **4.3.2 Forest Plantation Development**

Forest plantation development, especially in public forest lands where large scale plantation development is possible, is a potent program in improving income of upland communities and side-tracking them from doing destructive activities. More so, if upland people can be actively involved in the planning, implementation, harvesting and renewal of forest plantations. Like CBFM, forest plantation establishment is a cross-cutting component of many forestry programs. This time, it must be incumbent upon program planners to deliberately make known the intention of establishing plantations. Silviculturally, there is a world of difference between the establishment and management of forest plantations for protection purposes and for commercial production of timber and other forest products.

##### **4.3.2.1 Policy and Regulatory Directions**

Although forest plantations are becoming important, in view of logging ban in the dipterocarp forest and high demand for wood, the policy on plantation development has not stabilized. The IFMP policy has undergone several changes but no enough incentives to encourage private investors to put their money in industrial forest plantation. According to Angeles (2003), the "PWPA have long tolerated and have lived in a climate of control and punitive policies and regulations that not only have decimated the ranks of players in the forestry sector but have made them weak to contribute significantly to the socio-economic and environmental development of the country". He further states, "It is time to have a new paradigm of mind frame. Only the government principally through the DENR can affect a new mind frame – dynamic, straightforward, progressive, daring and trustful. Only a new mind frame can re-create our forests, resuscitate our (dying) wood industry, empower our rural communities, and re-establish the integrity of our environment." Among the policy directions proposed for the sector are as follows:

- Maintain mutual consultation between DENR and private sector on existing IFMA regulations in order to attain stability and viability of operations and investments;
- The DENR field offices (particularly the Regional and PENR Office) should be required to submit to central DENR Office, resource inventory reports and maps indicating the locations and sizes of potential areas for IFMAs in order the latter to be able to prepare a well-meaningful Master Plan for a national reforestation/ITP development by types of participants or stakeholders;
- Issued CBFMAs should be reviewed on the ground regularly. Those that are being used as shelter for illegal activities should be revoked. Those that are honest-to-goodness should be assisted either by subsidy, loan or other incentives.
- To increase the supply of raw materials from CBFMA plantations, the development and management of CBFM areas be strengthened. Similarly, guidelines on the implementation of joint venture and similar forest management agreements/contracts concerning the development, protection and utilization of forest lands and/or forest resources in CBFM project areas.

Among the other legislative measures required are as follows:

- The immediate certification by the Secretary, DENR through the President of the Republic of the Philippines the speedy passage by Congress of the bills on Sustainable Management of Forest Resources.
- A review of the bills on National Land Use Policy Act that should safeguard the integrity not only of NIPAS but all forestlands.

- A formulation of a bill for congressional action on incentives to ITP development in the model of Chile's Decree Law 701 of 1974, for example. A comparison of PD 705 and Chile's Decree Law 701 of 1974 is presented in Annex 2.
- Allowing TLAs that are expiring be converted into IFMAs in order to have a continuity of management, development and protection of the forest areas. Areas of cancelled-for-cause TLAs should be opened to corporate or community-based or their combination in order that these areas can be managed and protected from destruction by illegal logging, kaingin or fire. Studies have shown that cancelled or expired TLAs cannot be protected by the Government (UPLB, 1990) and where forest stewardship responsibility and accountability is absent, the forest become open-access and vulnerable to the forces of forest destruction, the so-called "*tragedy of the commons*" (HARDIN, 1977).
- Declaration of Industrial Forest Tree Species planted in private lands as "agricultural crops".
- Delineation of limits between protection forests and production forests.

#### 4.3.2.2 Primary programs and activities

The primary objective of forest plantation development is to have sufficient supply of wood and other forest products to augment those coming from the natural forest and export. By the year 2011, when all the existing TLA's will expire/terminate, the supply of wood and other forest products will be coming from forest plantations and exports.

Thus, forest plantations should be established in suitable areas with the right kind of species. Forest plantation establishment shall be done following certain criteria, i.e. species-site matching, etc.) and abiding by the principles of good plantation management to help ensure plantation viability. Purely industrial production shall be the main concern of forest plantation and it will be achieved through government efforts and the participation of the local communities and the private sector through such programs as: 1) CBFM, 2) IFMA/SIFMA, 3) Tree Farms, 4) AFF and 5) PFD. Among the plans for this subsector are as follows:

- Provide mechanisms for effective forest stakeholders participation both in the planning process and execution of the plan. This would minimize social acceptability problems as well as issues arising from adverse land claims over potential plantation areas.
- Establishment of "forest plantation corridors." Other areas of the public domain that are suitable for forest plantation development should be identified and declared as "Forest Plantation Corridors" particularly Region X (Bukidnon, Misamis Oriental); Region XI (Compostela Valley, Davao Oriental); Region IX (Zamboanga del Sur, Zamboanga del Norte); Region VII (Negros Oriental); Region VI (Negros Occidental); Region VIII (Samar Islands, Leyte); Region II (Isabela, Quirino, Cagayan and Nueva Vizcaya). In this connection, it is also recommended that before the start of any plantation activities the issue on land tenure and ownership situation have to be resolved. Any land tenure conflict has to be resolved prior to allocating the area to prospective investors. The areas identified for forest plantation development within public forests lands should be declared as "Permanent Forest Estate" to lessen land conflicts in the future. Lastly, areas allocated for forest plantation development particularly to big investors should be large enough to support export-oriented industries.
- DENR and private sector to promote programs ensuring success in forest plantation development that includes:

- Sound silviculture practice starting from a) site-species matching, b) controlling weeds and forest protection, c) using fertilizers to correct nutrient deficiencies, c) thinning to aid growth of the final crop, etc.
- Building the research base: never relax. Among the continuing activities that must be observed are as follows: a) pest and diseases surveillance and remedial action, b) evaluating silvicultural strategies relevant to the project, including, crucially, genetic tree improvement and c) monitoring what is happening to site and soil.
- Selling what you have grown in markets

- **The real commitment: time**

Among the concrete programs that can be seriously started, improved or expanded are as follows:

- **Species – Site Matching**

- Along with species end-use, seriously consider species-site compability as a basis for selecting the species to plant on sites to be reforested/planted;
- Adopt an ecological zoning system for forestation planning using climatic region and altitude as the basic unit of each zone;
- Establish and regularly operate facilities as a tool for gathering climatic data particularly rainfall data within the plantation area (especially when existing weather stations from PAGASA is more than 50 Km away
- For maximizing the yield of the forest plantation, it is necessary to select carefully the seed source and seed origin or provenance of the seed. Trees as well as other plants are able to acclimatize in different growth conditions (latitude, altitude, climate, soil and other factors). This may happen, however, at the expense of the growth and quality of timber. Correct provenance identification is the basic factor for optimal plant growth. In order to find the best provenance, of known species, which can grow in the area in question, provenance trials serve as the basic source of information for the nursery in choosing the right provenance.

- **Forest Tree Improvement, Production and Use of Quality Seeds**

- Any country or Company that engages in forestation especially in industrial plantation development must engage in Forest Tree Improvement Program. The DENR-FMB is no exception. Forest managers of forest tree plantations can not be expected to be an expert in forest genetics or similar highly specialized fields, yet they are expected to appreciate the genetic consequences of management decisions, and must be able to recognize when and where the advice and assistance of forest tree breeders are required (Esteban, 1985).

- **Choice of Species**

The choice of species is usually governed by quality of site (soil, climate, slope and elevation), purpose of plantation development, type of intended product/s and market, alternative products and market, availability of seeds and planting materials, available technology and available information on previous successes made over the species. Although preference should be given to indigenous or local species, it is recommended that some exotic or introduced species be considered for their excellent growth rates, end -use and marketing reasons. Also, some of these exotic species particularly *Acacia mangium* and *Eucalyptus camaldulensis* from Australia can grow on very acidic and degraded sites for production of pulpwood, poles and low-quality wood. Also, it is suggested/recommended that where long-fibered species are required, fast-growing Pines like *Pinus caribaea* and *Pinus kesiya* (Benguet Pine) can be planted on specific site.

### **4.3.3 Sustainable Management of Residual Dipterocarp Forests**

The sustainable management of residual dipterocarp forest is expected to bring forth investments and employment to rural people. Among the programs envisioned to promote this are as follows:

- Delineation of both old growth and residual forest together with the delineation of protection and production forests.
- Development and piloting of Joint Venture, Co-production and Production Sharing modes of forest management in residual forests.
- Development of new forest utilization technologies that are appropriate for residual forests as well the heightened concern in environmental protection.

#### 4.4 Programs on Forest-Based Industries Development

The following recommendations are derived from the various issues identified in the assessment of the programs and projects in pursuance of the strategies in the 1990 MPFD.

- Provision of Long Term Tenure of Industrial Permits
  - Spell out clearly the requirements and conditions for automatic conversion from TLA to IFMA, and avoid frequent amendments that often result in confusing the investors;
  - Modify policies that favor early approval of multi-year integrated operations plans of licensees; and
  - Implement soonest the enunciated policy by Sec. Gozun on the issuance of one permit for the establishment and operation of processing plants. Consider also the approval of such permits by the Regional Executive Directors.
- Financial Assistance in Investments and Retooling
  - Assist the industry access affordable capital for retooling;
  - Provide incentives, such as tax free importation of machineries, to firm that undertake retooling; and
  - Speed up the rationalization of the wood-processing sector of the forest-based industry.
- Improvement of Infrastructures
  - Make representations for lower freight rates for the forest-based industry from the shipping industry.
- Provision of Incentives
  - Discuss with BOI the re-enlisting of the forest based industries particularly plywood as beneficiary in the incentives provided by the Omnibus Incentives Act;
  - Allow the export of lumber from imported logs to recoup foreign exchange used in importing the logs, expand employment and help stabilize the industry;
  - Grant a 5-year real estate tax holiday for the development of plantations (trees, rattan or bamboo) in private lands as suggested by Sec. Guzon during the 52<sup>nd</sup> anniversary of the PWPA, August 22, 2003; and
  - Slow down the reduction of tariff of imported logs and wood products to give the industry time to become more efficient and competitive.
- Provide New Technologies
  - Lower the diameter limit for harvesting LUS to 40-50 cm;
  - Adopt more effective strategies for the transfer of technologies on the utilization of LUS to the private sector such as tax incentives in the use of LUS; and
  - Encourage research on breeding of LUS to improve growth rates by providing research funds to this purpose.
- Establish Community-based Industries

- Re-structure the CBFM Units at the CENROs as extension units with sufficient personnel of disciplines and expertise needed in assisting POs in developing their communities particularly in livelihood and enterprise development;
  - Provide adequate financial support to the CBFM Units;
  - Livelihood and enterprise develop should be the cutting edge strategy in establishing and organizing POs in CBFM projects;
  - Link POs with OGAs, LGUs, NGOs for easier access of resources needed by the communities in establishing livelihood and enterprise projects; and
  - Consider the practice of universal suspension of RUPs in favor of investigating reported/suspected anomalies in CBFM projects and imposing penalties to those found violating their CBFMA.
- **Develop Product Standards**
    - Continue to assist the BPS in the development of product standards for the forest-based industries; and
    - Deputize PWPA and other industry organizations in the monitoring of compliance of standards by industry members.
- **Establishment of a Forest Industries Board**
    - Establish a Forest Industries Board that is independent of DENR and DTI and with enough authority to address the needs for promoting the forest-based industries.
- **Sustainable Management of Existing Resources**
    - Examine the viability and effectiveness of the special rattan deposits in the development of rattan plantations;
    - Consider requiring rattan permittees proof of established plantations instead of the rattan deposit as requisite for renewal or permit to operate;
    - Develop guidelines on the management and utilization of bamboo resources; and
    - Establish a program on rattan and bamboo plantation development.
- **Utilization of Non-commercial and Lesser-used Non-timber Species**
    - Provide sufficient funding for research on properties, uses and processing of lesser-used non-timber species; and
    - Include in forest inventories non-timber forest plants with emphasis on lesser-used but potentially important non-timber species.
- **Improved Access to Resources by Local Communities**
    - Assist POs access resources that will allow them to establish enterprises based on their newly given privilege of accessing forest-based resources;
- **Meeting the future requirements for wood, rattan and bamboo**
    - Establish the needed plantations for wood, rattan and bamboo to meet requirements of the furniture industries and for housing.

- Forestry Programs Based on the Master Plan for Forestry Development
  - Future development programs in forestry must be based and in pursuit of the goals and objectives of the revised Master Plan for Forestry Development.
  - Review the Master Plan make revision periodically, preferably every 5 years.
- Anchor Forestry Development on Stable Policies
  - Forest policies should promote development rather than based on control philosophy. Revise forest policies toward this end; and
  - Work for the passage of the “Sustainable Forest Management Act”.

#### **4.5 Support Programs (Cross-Cutting Programs)**

Many programs already identified elsewhere are crosscutting, i.e., programs on policy and institutions, and programs on watersheds. However, there are some priority cross cutting programs that may well be implemented as umbrella programs catering to several subsectors to eliminate some forest management constraints or in equipping the decision makers and forest managers the right information about the resources and its environment. Among these cross-cutting programs are as follows:

- Forest boundary delineation (permanent forest estates)

Explicitly provided under Section 4, Article XII of the 1987 Philippine Constitution that the Congress, as soon as possible, determine by law the specific limits of forest lands and national parks, marking clearly their boundaries on the ground. This was provided as a safeguard against the possible disposition or appropriation of any portion of forest lands and national parks contrary to the Constitution (De Leon, 1999). But before the specific limits are legislated and boundaries are actually marked on the ground, there is a need to delineate first their actual boundaries on the ground based on surveys and classifications conducted under land classification activities pursuant to PD 705 and preceding laws. However, a clear framework and guidelines to pursue this important activity within the framework of WEM must be formulated to guide the surveyors.

- Delineation of production and protection forests

Within the permanent forest estates are areas that can be solely devoted to protection while other areas can be devoted to production. Production forests can further be divided into different productive land uses compatible with specific crops beneficial to society. Following the provisions of RA 7586, areas covered by IPAS can further be subdivided in to zones covering a wide range of protective and productive uses. Delineation of production and protection forests can commence simultaneously with watershed landuse planning for efficiency in the use of resources

- Forest resource assessment/Forest resources inventory

Integral to a good planning and programming system in forest management is the availability of reliable information to start with. Depending on the purpose of management, the use of different sampling intensities in forest resources assessment must be resorted to save on costs. Permanent sampling plots shall be established to continuously monitor the conditions of forests and forests resources through time.

- Forest resources accounting

Institutionalization of an accounting system both in the physical and economic aspects to assess the value of the contribution of forests in the national economy. Such values comprise both use-values and non-use values. Use values include direct contributions from goods and services and indirect contributions of soil formation, carbon sink capacity, recreation, watershed conservation and water yield augmentation. Non-use values originate from the intangible satisfaction of having saved the asset and the stock of information and knowledge it represents, and of being able to keep options for future use. These different types of values do overlap and the extent of use and non-use values vary for different types of forests, and situations of supply and demand.

Accounting for changes in both the physical and asset value provides vital information for decision makers to assess impacts of management decisions. This would guide the decision makers to select options that would enhance the net value of forest assets. This would also guide them in addressing source of forest depreciation. Capital gains are a source of income, and capital losses are reduction in income. Failure to extend this depreciation concept to the capital stock embodied in natural resources is a major omission and inconsistency. From an economic accounting perspective, the depletion of the natural resources through use (exploitation) or misuse (degradation) represent a real economic cost and diminution in national wealth, which is equivalent to the wearing out (depreciation) of physical structures and equipment. Full accounting of the values the forest provides will also help the sector convince people that investing in forestry can provide far greater benefits that would

- C & I, and Forest Certification

Full development of C & I system for different types of forests and management systems is one big step towards internalizing sustainable forestry in the mainstream of forest management in the Philippines. With the advent of globalization and increasing demand for efficiency, adoption of C & I system can help prepare watershed/forest managers incorporate sound management principles in their long term plans as well as day-to-day activities