

# Chapter 4

## Improved Physical Planning and Sustainable Management of the Environment

### I. REGIONAL DEVELOPMENT CHALLENGES AND OPPORTUNITIES

Balancing the needs of the production sector with the Region's ecological carrying capacity is crucial in attaining long-term sustained growth. Sound management of the Region's natural resources leads to sustained productivity improvements in agriculture, fishery, and forestry, as well as better quality of the environment.

#### **Declining Environmental Quality**

On the overall, the continuing pursuit for economic gains has resulted in declining quality of the Region's environment and natural resources. The air quality in the urban areas is still good, but it may deteriorate with the increasing economic activities that create pollution. The quality of inland and coastal waters show signs of deterioration as population and increased economic activities put pressure on the watersheds, water bodies, and coastal environment. It has been reported that the Region is host to a number of hazardous waste generating industries. In year 2002, 228 industries in the Region were registered as hazardous waste generators. Compliance rate for Water Pollution Control Devices (WPCD) is only 73 percent. Out of 315 water-pollutive firms in the Region, only 230 have WPCD and 85 do not have, but are nevertheless allowed to do business.

#### **Diminishing Forest Cover and Low Timber Production**

The proliferation of short duration timber licenses in the past and the lack of proper tenurial instruments discouraged long-term investments in forest development and dampened private sector initiatives. Timber cutting has been rapid pushing forest destruction to very alarming levels that forest recovery through natural and artificial means never coped. In addition, the social settings in the uplands and forest adjacent communities continue to exert pressure on natural resources and made the tasks of managing and/or conserving the forests more difficult. The institutions mandated to implement forest policies have not been equipped to fully address the situation.

The CBFM strategy was introduced in 1995 to address the problems of the forestry industry. The lack of enabling conditions, however, prevented the strategy from working as intended. The enabling conditions that needed to be established are: a) ground delineation of CBFM - the boundaries need to be clearly defined and accepted by stakeholders; b) clear delineation of areas for protection, production, and conservation in land use plans; and c) harmonization of the different tenure instruments issued by different agencies for timberlands such as the CLOAs of the DAR, and for mining exploration.

### **Increasing Poverty in the Uplands**

The decline and degradation of forest resources resulted in the systematic loss of livelihood opportunities for forest communities in the uplands. The government, however, was unable to provide sufficient extension facilities to improve cultivation in the uplands and identify and support alternative and better livelihood opportunities. As a result, repeated shifting cultivation with shorter cycles over a limited area led to further degradation of the land and pushed the forest communities further into poverty. It has been reported that over 90 percent of forest communities in the uplands of Mindanao are living below the poverty line.

### **Degradation of Protected Areas**

The Region's protected areas are beset with issues such as indiscriminate land conversion; encroachment of population to highly protected areas, such as the SAFDZ, NIPAS, MPAs, among others; the titling of lands within forest protected areas whose use need to be strictly monitored; and the conflicting issues brought about by ancestral domain claims. Illegal collection and trade of endangered species are also being detected. In addition, the environmental management capabilities of the PAMB, a multi-sectoral body organized to protect, conserve, manage, monitor, and control the activities within the NIPAS, are found to be inadequate.

Moreover, piece meal subdivision development in SAFDZ areas circumvent the law on land conversion. Illegal fishing activities on MPAs, such as dynamite fishing, electro fishing, use of cyanide and mercury for aquarium fish, coral collection, cutting of mangroves, among others, are observed.

### **Rich Biodiversity and Forest Resources**

Davao Gulf has recently been identified as one of the most diversified marine ecosystems in the world. Endangered species such as leatherback turtle and seacows (dugongs) have been sighted around the area. In addition, the Gulf is included in the Sulu-Sulawesi Region because of its unique coral reefs formation and diverse mangrove families, and host of invertebrates species. The Gulf is a critical resource supporting the five cities and sixteen coastal municipalities of the Region.

Also, the Region has thirteen identified NIPAS areas. Found in the protected areas (NIPAS) are varied and unique habitat types hosting a wide range of endemic species of flora and fauna. About 230 or more vertebrate species and 629 floral species can be found in Mt. Apo alone.

### **Large Area for Plantation Development**

Available area for plantation development stands at 239,519 hectares. These areas are composed of open access areas suitable for tree plantation and palm oil.

## II. STRATEGIC FRAMEWORK

To promote sustainable management and use of natural resources, the following measures should be undertaken:

### **Strengthen the Implementation of the SAFDZ and the CBFM**

Promoting the development of agriculture and fisheries and agro-forestry would mean bestowing the responsibilities of resource management directly to concerned LGUs and communities. Granting of security of tenure should be prioritized to encourage long-term investments and private sector initiative.

### **Hasten Watershed Reforestation and Rehabilitation and Improve Watershed Ecosystem Management**

Appropriate policy framework on workable strategy for economic activities in watershed areas, particularly banana plantations, should be provided by the government to protect and preserve watersheds and for sustainable use of protected areas of the Region.

### **Advocate for the Full Implementation of the AFMA (RA 8435), Fisheries Code (RA 8550), NIPAS Law (RA 7586), Wildlife Resources Conservation and Protection Act (RA 9147), and Mt. Apo Protected Area Bill (RA 9237) to Support the Conservation and Rehabilitation of Protected Areas.**

The institution of command-and-control measures to address uncontrolled tourism activities, illegal collection and trade of endangered species, and the unsustainable use of endemic flora species for medicinal purposes should be promoted.

Likewise, compliance of the water-pollutive firms to WPCD should be strictly monitored and corresponding penalties for violators should be imposed.

### **Strengthen Support to Research and Development to Improve Quality of Production**

Appropriate support from the national, as well as the local levels for research and development must be provided to improve tree species geared at increasing forest productivity and forest conservation. Environmental-friendly technologies especially in the uplands should be pursued, e.g., adoption of SALT, hedge rows, and use of organic fertilizers.

### **Full implementation of the Clean Air Act (RA 8749)**

Financial and technical support should be instituted to address gaps in the implementation of projects geared at addressing air and water quality. Measures that employ market-based instruments such as the application of polluter's pay principle should be promoted. Financial and technical assistance from various sectors need to be gathered for these purposes.

### **Rehabilitation of Mt. Diwata and its Environs**

Pursue the rehabilitation of Mt. Diwata and its environs and study how the government can effectively use its share from the mining proceeds to sustain the mining industry in that area.

The unstable law and order situation in the area must be addressed to encourage government agencies and other sectors to initiate development projects in Mt. Diwata that will address the basic needs of the communities within.

**To Help Alleviate the Pressure in the Urban Areas, People Need to be Encouraged to Stay Where They Are, or to Go Back Where They Come From.**

The Region shall adopt the industry cluster approach to bolster development in the Region. Along with this approach, the commodity road maps will be pursued to encourage investors/locators to invest in the rural areas.

### **III. PRIORITY PROGRAMS AND PROJECTS**

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

The implementation of CBFM is mandated under Executive Order 263-95 as the national strategy to ensure the sustainable use and development of forest land resources. Its intention is to organize the efforts of the government to work with communities in the protection, rehabilitation, management, and utilization of public forest land and in the production of forest products required by the wood industry cluster. The CBFM strategy intends to address the social, economic, and ecological issues in the forestland, including mangrove areas. There are 79 areas in the Region registered as CBFM sites. A total of 239,519 hectares have been identified as available for development.

#### **Rehabilitation of Watershed Areas**

The initiative of addressing the concerns of the Talomo-Lipadas Watershed shall be used as a model on best practices on watershed management that would be replicated in other watershed areas in the Region that are to be rehabilitated. Nine watershed areas in the Region shall be rehabilitated during the Plan period.

#### **Protected Areas and Wildlife Development**

Harnessing the protected areas as ecotourism sites has already generated revenues for the LGUs. To sustain their existence and viability, protected areas and wildlife must be properly managed.

#### **Ecological Solid Waste Management**

RA 9003 provides the adoption of systematic, comprehensive, ecological solid waste management program to ensure the protection of public health and the environment. All LGUs are expected to comply with the regulations provided under the law. Satisfying the requirements for operating controlled dumpsites for solid waste in accordance with the minimum prescribed standards of site operation shall be undertaken. In addition, the implementation of RA 6969 or the Hazardous Waste Management Act will be monitored.

### **Integrated Coastal Resource Management Project**

The project, which is the government's centerpiece for addressing coastal resources issues, is expected to address overuse and degradation of the Region's coastal areas brought about by ineffective management and slow economic development. The declining quality of the Region's coastal areas has led to pressure on fisheries resources, loss of marine and coastal biodiversity, and low productivity.

The project will be implemented in eight years. It started in 1998 and will end in 2006. The project has two components, namely: a) *Green Component* which involves community organizing/strengthening; comprehensive site development; livelihood assistance package; marketing and cost recovery mechanisms, participatory watershed management planning; resource access; policy support and technology; institutional arrangements and partnership strengthening; and capacity building; and b) *Blue Component* takes charge of the coastal resource management aspect of the project and the septic treatment. The Green Component will cover the Malalag areas while the Blue Component will cover the Balasiao areas.

### **Davao Gulf Management and Protection**

The sustainable use and management of the Davao gulf's coastal and marine resources shall be achieved through the following programs/projects identified in the Davao Gulf Management Framework Plan: a) Habitat Management; b) Fisheries Management; c) Shoreline and Urban Management; d) Coastal Tourism and Water Use; e) Enterprise Livelihood Development; f) Watershed Management; g) Waste Management and Pollution Control and Mitigation; and h) Legal Arrangement and Institutional Management.