

**DENR Circular
No. 03
December 03 1993**

SUBJECT : General outlines for the Formulation of Site Specific Management Manual and Management Plan.

Pursuant to Sections 7 of DAO No. 25, Series of 1992 dated June 29, 1992 and in order to provide a working outline for the regional offices in the formulation of site specific management manual and management plan, the following are hereby promulgated.

MANAGEMENT MANUAL

The Management Manual which shall serve as the basic long term framework plan in protected area management shall include the following:

A. Executive Summary

This portion should consolidate all the important contents of the management manual. Contents should be briefly described and written to allow reviewers and researchers to focus immediately on the item of concern. For the sake of the general public, the use of technical words/terms should be avoided. Further, the format should be such that it allows direct extraction for publication by the media, and for use of senior executives requiring a quick appraisal of the situation.

The summary should briefly describe the following:

1. IPAS Management Manual including both general and specific objectives;
2. General Management Planning Strategy (GMPS) including its overall objectives;
3. Overview of the contents of the Management Plan which should include: a) conservation significance and issues in the Biogeographic Zone (BGZ); b) salient socio-economic features of the BGZ; c) conservation significance and issues in the protected area (PA); g) financial plan; h) limitation of the plan, if any; and,

4. Other supporting data or documents.

B. Description of the Protected Area

1. Historical Background

Description of the historical background should focus on the trends of environmental conditions in the protected area (PA). This is aimed at providing baseline information on the natural environment and the status of the PA.

Information presented in this section will give the assessor decision-makers an idea on how the protected area existed prior to project development. Thus, equipped with this knowledge and aware of the specifications of the project, one could identify areas of critical importance and impacts of the project can be more reliably predicted. Insufficient information or data should be duly noted. Sources of information relative to the historical background of the PA may be gathered from regional, provincial and municipal offices.

2. The Biogeographic Zones of the Philippines

The following will be discussed under this portion: General description of the BGZ; where the 15 BGZ was adopted; interrelation of the BGZ with the management of the PA; distribution of biodiversity within the specific BGZ; and, attach maps and other documents pertaining to the location of the PA in relation to the BGZ.

3. Regional and Local Settings

Provide a detailed description of the following:

a. The Biogeographic Zone

a.1. Regional Setting

- a.1.1 PA sites in the BGZ;
- a.1.2 The political region(s) in the BGZ;
- a.1.3 General description of the province; and
- a.1.4 Province of the PA.

a.2. Local Setting

a.2.1 Cities in the BGZ;

a.2.2 Municipalities within the BGZ.

4. Topography, Geology and Soils of PA

This portion should discuss the items below:

a. Topography

a.1. Basic topography of the area;

a.2. Description of salient processes and important features, such as rivers, lakes shorelines, etc.; and

a.3 Sensitivity of the topography to disturbance.

b. Geology and Soils

b.1 Geologic features within the area;

b.2 Physical and chemical (if possible) characteristics of the soils and rocks in the area;

b.3 Unique or scenic geologic/landform features, which include lakes/rivers and similar features; and

b.4 Recognized geologic hazards such as floods, earthquakes, landslides.

5. Climate

Describe the nature and duration of climatic records and climatic conditions prevailing in the vicinity of the area. The following should be included in the description:

a. Ecological significance of the climate regime to the PA;

b. Extremes and means of monthly, weekly (and daily if possible) temperature, precipitation, etc.; and

c. Probable climatic threat to the PA.

6. Boundaries and the Rationale for their Location

Sections 3(m) and 6 of DENR A.O. No. 25, Series of 1992 require the delineation and zoning of boundaries of the PA. In compliance with such order, the following activities should be given a thorough description:

- a. Technical surveys and monumenting of the boundaries of the PA as shown in the site plan (state the duration);
- b. Lay-out on the ground the boundaries of the various management zones and infrastructures (duration);

7. Flora and Fauna, Habitats and Ecosystems

- a. Flora and Fauna
 - a.1 Inventory of the species found in the area;
 - a.2 Discuss in detail the economically important, rare and endangered species of plants and animals; also the endemic species.
- b. Habitats and Ecosystems
 - b.1 Habitant
 - b.1.1 Habitat Types - The following should be described: the system used in classifying habitats and justifications; the rare and unique habitats and their significance to national and international conservation effort; habitats in the area and their uniqueness and significance to national and international conservation; and attach thematic maps.
 - b.1.2 Habitat Development and Succession - Describe hypothetically the development and succession of the habitats and their significance to conservation; include

possible figure on development and succession.

b.1.3 Ecological Status of Habitats - Describe the following: various habitat types in terms of ecological parameters, such as productivity; stability; population dynamics; species competition; and, proposed line of research to understand the site ecology better.

b.2 Ecosystems

Described the ecosystems in the area and their uniqueness and value to conservation, national and worldwide.

8. Nature Recreation Potential

For areas of high ecotourism value specific locations should be identified, including the design of recreational facilities to be constructed. Specific programs addressing these concerns are necessary.

9. Human Population and Current Land-use

a. Human Population

Factors to be considered in this section are the effects of project and associated environmental modification on human population in the area. In the assessment of the effects, consider the following elements:

- a.1. Estimates of population in and around the area;
- a.2. Number of migrants and indigenous communities; and
- a.3. Attach possible map of population in PA.

b. Land Use in the Area

- b.1. Describe the current trends in land uses;

- b.2 Describe the responsible elements for the changing land uses.

10. Legal Status and Regulation

All existing laws and regulations, administrative and executive orders, proclamations as well as ordinances governing the PA in relation to environmental protection, conservation and land tenure should be briefly described or attached, if copies are available.

11. Current Project Activities and Research

Discuss and provide adequate information on the current and ongoing management activities as well as researches in the area which have some bearing on the PA management. This portion aims to identify government and non-government entities directly and indirectly involved in the conservation and protection of the area. This way, conflicts and duplication of activities will be avoided. Proper coordination as to project implementation and management will be enforced. Indicate also other agencies involved and their sources of funds. .

12. Initial Environmental (e.g. EIS) Examination Report

If copies are available, any environmental exam report in the area done by government and/or non-governmental agencies, both national and local, e.g. Environmental Impact Assessment by EMB-DENR, should be attached.

C. Situational Analysis

1. Conservation Value

Principal reasons for designating the site as protected area including the international significance should be discussed. In the discussion, specific areas of concern should be considered like: biodiversity, habitat, ecosystem and environmental value of the PA. Explain and relate how conservation can be of significance to both national and international levels.

2. Biodiversity Concerns

This refers to the flora and fauna, habitat and ecosystem types in the area. Describe the current status of biodiversity and point out the specific focus of the project.

3. Habitat and Wildlife Rehabilitation Needs

Habitat rehabilitation needs pertain to species habitats which, due to poor degree of maintenance, mismanagement or degradation are now in need of protection. Thus, discussion should focus on the possible ways of dealing with these problems, i.e., decrease in wildlife value in terms of number can be attributed to destruction of their habitat. Decrease in wildlife value means decrease in biodiversity value of the area.

4. Management Constraints

These are the foreseen problems such as, but not limited to, the presence of extractive activities (illegal logging, slash and burn); presence of human settlements inside the PA (migrants and indigenous); incompatible activities being done by other agencies; increasing needs of the communities; lack of trained and committed technical personnel; and, lack of facilities and funds etc. Discuss exhaustively how these problems could be addressed by the PA.

5. Land-use

Indicate the different land uses of the P A. Discuss also the trends and the factors responsible for the changing of land uses in the PA.

6. Local People's Interest, Rights and Concerns

Majority of the protected areas in our country are already inhabited. However, whether they are migrants or indigenous, the fact is that they have their own needs to be considered. These needs and concerns can be identified through public hearings and meetings. This portion should be allocated to the discussion of the identified needs of the inhabitants .

7. Development Potential

Each protected area has a potential and can be developed. Development programmes for the area should be identified and discussed and these programmes should be compatible and acceptable to the environment and to the people.

8. Role of LGU, NGO and special groups

Discuss in this section the role of the Local Government Units, national and local NGOs and other special groups regarding their participation/ involvement in carrying out various development and management activities in the protected areas.

9. Changes required in Legal Status

This portion refers to the possible changes as may be proposed by concerned agencies and inhabitants of the areas regarding the legal status of the PA, i.e., change in classification of areas (wildlife sanctuary, natural park, etc.), change in size, disestablishment, establishment and addition of areas covered by the PA. This should be done in accordance to Sections 4 and 5 of DENR Adm. Order No. 25, Series of 1992.

D. Management Plan

1. Key Management Issues

This should discuss, according to their order of priority, the major management concerns and opportunities. They will serve as guide in the planning process.

Issues are identified through public participation. They are subject of public interest relating to the management of the PA and their future.

Sources of these issues may be external or internal and may be extracted from the following:

- a. Review of functional plans in use;
- b. Legal actions and appeals;
- c. Inputs from DENR and NGOs;
- d. Inputs from academic and research institutions;

- e. Data and information file;
- f. Community dialogues; and
- g. Community surveys
- h. Inputs from LGU

2. Goals

These are long term in scope. A goal is a general statement of a problem that needs to be resolved. For example, to enhance the biodiversity features of Mt. Apo is a typical goal. A goal should be attained within 25 years.

3. Objectives

A quantified presentation of a problem statement which when resolved means accomplishment of the goal. An objective is simple, attainable, measurable, time-bound and realistic. For example, to meet the goal for Mt. Apo, you may want to identify 6 indicator species within a period of 3 years. A short term objective should range from 1-3 years, a medium term from 4-10 years and a long term objective from 11-25 years.

4. Site Management Strategy

A strategy refers to different approaches that will integrate management activities to address key management issues to meet the objectives. This should include an overall strategy as well as zone specific strategies.

5. Management Activities

General management activities and specific strategies are needed. Buffer zone shall be treated as an integral part of the protected area when planning.

a. Community Organization

Problems of both indigenous and communities inside and outside the boundaries of protected areas in relation to the management planning should be addressed. Example of problems that may be identified are livelihood shortage, population increase and employment insufficiency.

b. Recognition of Ancestral Domain and Rights

As provided for in the NIPAS law, ancestral domain and other customary rights and interest of indigenous communities shall be accorded due recognition in PA. Procedures and activities to be undertaken including the specifics should be done in accordance with Sections 45, 46, 47, 48 and 49 of the DENR Adm. Order No. 25, Series of 1992.

c. Tenurial arrangement for Tenured migrants

Recognition shall likewise be given to any person who has actually and continuously occupied an area for five (5) years prior to its designation as part of the protected area. They shall be considered a tenured migrant.

Procedures and other specifics are provided in Sections 50, 51, 52, and 53 of DENR Adm. Order No. 25, Series of 1992. Detailed activities should be discussed in this section.

d. Boundary Demarcation

Section 3(m) of DENR Adm. Order. No. 25, Series of 1992 requires the delineation and demarcation of boundary of a protected area including management and buffer zone areas.

Discussion under this portion should be focused on the results of the activities enunciated in said section, i.e., monumenting or establishment of conspicuous physical landmarks.

e. Management Zoning

The purpose of delineating a planning area into several areas of similar or nearly similar characteristics is to accurately prescribe sound management prescriptions that fit the capacity of such a given delineated management area. This minimizes the possibility of over planning or underplanning as a direct consequence of lack of knowledge on the area of interest. The justification for the zoning regime should be described.

Specific Management Prescriptions for Each Management Zone, Including Buffer Zones

Flexibility in the management of each protected area and its attached buffer zone is best achieved by dividing it into the following categories as enumerated in the DENR Adm. Order. No. 25, Series of 1992:

- a. Strict Protection Zone
- b. Sustainable Use Zone
- c. Restoration Zone
- d. Habitat Management Zone
- e. Multiple Use Zone
- f. Buffer Zone
- g. Cultural Zone
- h. Recreational Zone
- i. Special Use Zone
- j. Other management zones as may be used in the management plan and approved by the Secretary.

For each category, provide detailed and specific management plan. Settle in the planning process all foreseen conflicts (legal, external and internal).

f. Protected Area Protection

This should discuss the program which include the installation and maintenance of conspicuous boundary markers and interpretative signs at varying intervals and sizes. For instance, on areas where there are communities, the interval of markers and their sizes may have to be narrower and bigger, respectively.. Other activities that fall under this program, at the minimum, are the maintenance of ranger stations, patrol trails and horse stables. This program shall also include the charting of protection mechanisms including the timing and degree of patrol work, reporting and communication system. This shall be complemented by the preparation of contingency plans that will deal with various field cases.

How the communities shall be involved, and on what grounds, in protection program should be described.

g. **Habitat and Wildlife Management**

The premise of the program is the restoration of damaged habitats such as riparian zones, natural openings, wetlands, and other terrestrial habitats. Consideration should also be given on the "habitat" such as ecotones, snags, dead and down woody materials and artificial openings.

In habitat rehabilitation, the management for species richness shall be emphasized including the documentation of how management for habitat (structural) diversity is expected to contribute to the attainment of species richness and diversity.

The establishment of a permanent nursery shall be considered as an inherent component habitat rehabilitation program. The plant/tree species to be produced are those that would be identified as suitable during the analysis of the management situation.

State how habitats and species values will be managed. Some of them require periodical management practices to maintain suitable conditions for all types of species (rare, endangered and threatened). Program of actions should be well established and measurable (in accordance with DENR Adm. Order No. 25, Series of 1992, Section 10 (d).

h. **Management for Sustainable Use**

Referral to Section 10 (b) of DENR Adm. Order No. 25, Series of 1992 is required. All activities (collection and utilization by migrants and indigenous communities of natural resources; scientific research and other allowable activities in the area) that will be described under this portion should be in accordance with the prescription of said order. Such activities will be allowed only in prescribed areas as multiple use and buffer zone areas.

i. **Infrastructure, Development and Maintenance**

This shall discuss the design and construction of nature center/office and other infrastructures inside and outside the perimeter of the administration compound(s). It is under this

program that all designing, from boundary markers to building construction and onwards to the development of public education and tour program, shall be done.

Further, this program shall be responsible in determining the various localized targets of educational programs. These educational programs shall give considerations on the local norms and traditions and the social and economic profiles of the local communities.

j. Visitor Management Programs

To develop ecotourism, tourist or visitor accommodation facilities need to be constructed in appropriate areas. This could include lodging houses, boats or horses whichever is feasible for use in the area, and the like. Discussion should point out where these tourist facilities will be erected and how will they conform with recommended protected area management policies. The target number of visitors for a specific time frame, permitted and prohibited activities should be identified and justified, if necessary. Safety of visitors and interpretation or carrying capacity should also be included.

E. Bio-Inventory and Research Program

All identified management zones within a protected area shall be appraised. In this regard, habitat evaluation using site specific habitat evaluation techniques shall be conducted. Discuss exhaustively the program on wildlife inventory, census and estimate undertaken and relate these objectively with the species present in various habitat types.

F. Special Studies

Some PA are noted for special or unique kind of flora and fauna as in the case of Tamaraw in Mindoro. This species is endemic in this area, hence, special studies for the protection and conservation of this species shall be conducted. Ethnobotany studies for the preservation of significant plant species used by local communities should be included. Detailed activities in each identified areas of research and studies should be discussed.

G. Monitoring and Evaluation

An on-site monitoring system following DENR Adm. Order 33, series of 1992 shall be described in the plan which will provide for;

1. Periodic review of management practices to determine if they conform with the requirements of the management direction;
2. Determination of actual outputs and effects of management practices.
3. The monitoring system shall identify the activities and practices to be measured, objective of this measurement, cost of timing and effort, monitoring techniques, procedures and frequency, responsible staff, standard of comparison, and monitoring reliability.

Included in the monitoring system is the process of evaluating information gained through monitoring. The evaluation report shall contain for each monitored management practice an estimate of performance comparing outputs and services and their costs with those projected by the plan. Based on the evaluation reports, decision as to whether management direction will be revised or amended shall follow.

H. Management Information System and Geographic Information System (GIS)

The GIS software chosen for the IPAS project is called ARC/INFO. It is one of the most popular GIS software and include installation among government institutions, universities, research institutions and non-governmental organizations.

The IPAS GIS has two components, the spatial and tabular data component. The spatial component include maps (i.e. thematic, topographic), aerial photos, and satellite imageries. The tabular data component are attribute databases describing the spatial maps. These attributes refer to the points, lines, or areal features in the maps.

Describe how the protected area planning, current data, and information appropriate for planning were obtained. A system of records which document the management planning process actions is necessary.

Discuss in detail how cooperation and coordination with the concerned offices of the DENR regional offices in seeking information imperative to the planning effort were done.

An information management system for IPAS shall be developed by each region.

I. Administration

Discuss the administrative aspect of PA management, including the current system and procedures in the administration. Included in the subject matter of discourse are the following: recruitment and organization of core PA staff; support to PAMB; procurement of equipment. Further, give substantial information on support and coordination in terms of provision of financial administrative and logistic support.

1. Staffing

A protected area management in the Philippines needs professional park manager, technicians and rangers. The staffing pattern should be exhaustively discussed. For each management program, the list of personnel and the possible areas of responsibilities, functions or duties should be indicated. Use of gant chart to easily mark the duration of contract is encouraged.

2. Annual Work and Financial Plan

Detailed activities characterize an annual work program. Lumped into this section are the following: list of programmes, projects and studies; cost estimates; project period, starting year and responsible unit. Use of gantt chart aside from elaborated discussion is necessary.

Financial summary should be broken down as follows: project cost by component by year; project cost by component by cost item; and, detailed schedule of project and total cost. Budget estimates should be based on the targeted work program in the area.

J. Annexes

1. Maps (1:50,000), pictures, aerial photographs

Geographic location of various habitat types associated with data and information is necessary for the development and implementation of protected area plan. Maps or other spartial display techniques should be utilized to display these geographic relationship. These maps shall be utilized to produce a standard base map showing areas exploited, being

exploited, and to be exploited. Each management area may be reduced to page size sheets for display in the final protected area plan.

Pictures or aerial photographs taken during the project activities such as inventory and research should be provided i.e., pictures showing the location of the PA.

2. Species lists, etc.

Provide complete listings of all species (flora and fauna) found in the area after the conduct of the project inventory.

3. References

This refers to citations, reference materials (books, newspapers, reports, brochures, etc.) or publications, used during data gathering; studies and research in the conduct of the project to obtain the lacking information.

This Circular takes effect immediately and shall amend/revoke all other instructions inconsistent herewith.

ANGEL C. ALCALA
Secretary