

Simulation 1: Presentation

Rapid Environmental Assessment

The first simulation concerns the rapid assessment of development projects at the earliest stage of their preparation and the integration of environmental concerns about individual projects into regional and sectoral planning. It is designed to show the importance of identifying the potential environmental impacts of projects very early on in order to anticipate conflict with regional environmental management goals or damages to other sectors within the region.

The subsequent simulations will focus on the later stages in the EIA process, such as scoping the EIA (to identify the most important environmental problems), planning the EIA study (to ensure that the study focuses on the necessary data and presents the results usefully), and preparing an environmental management plan (to use the results of the study to decide the priorities for environmental management) and to do a review on environmental impact statements (to evaluate the EIS outputs generated for the development projects).

However, this first simulation has the following objectives:

- 1) To provide information on the environmental situation in the region;
- 2) To provide basic information on the sectors and the specific projects included in the simulation exercise;
- 3) To require a rapid assessment of the potential impacts from these projects;
- 4) To require a rapid assessment of the possible conflicts between the sectors; and
- 5) To indicate the priority regional environmental management goals that should be kept in mind during the subsequent simulations.

The approach recommended for the rapid assessment of these very preliminary project proposals is as follows:

- 1) To determine the features of each project that are most likely to cause impacts (ie. The major sources of impacts);
- 2) To determine the features of the region that are most sensitive to such impacts (i.e. the environmental receptors);
- 3) To determine the likely inter-sectoral impacts, where one proposed project may affect the feasibility or sustainability of another;
- 4) To determine the major regional environmental management goals in the light of the proposed development strategy.

All the information needed is included in the materials provided. I want the working groups to prepare a logical and systematic framework for setting out the major environmental issues arising from this group of projects.

Materials

The materials presented below are the materials which would be provided for Simulation 1. The materials comprise the instructions and the background information to be used by all in working out “answers” to the tasks set in the simulation activity.

Instructions:

A.1 Task

You have been selected by the Secretary of the Environment of the Central Government to join a commission whose task is to review the environmental and natural resources implications of the current developmental priorities of the Province of Bahara.

The provincial government has prepared a Development Prospectus which identifies investment priorities in several sectors- namely agriculture, power, coal mining and petrochemicals. These priorities have been chosen with due consideration for economic needs, employment, infrastructure and availability of the necessary natural resources.

For each investment priority there is a choice of options, principally in terms of siting. But feasibility studies have yet to be prepared for the specific projects.

The central government has decided to set up an Environmental Review Commission as part of an effort to integrate environmental assessment more fully into development planning and investment appraisal at the provincial level.

The terms of reference for the Commission are:

- 1) To review the overall environmental implications of the 4 investment priorities
- 2) To consider the potential conflicts that might arise through competing requirements for natural resources
- 3) To consider the inter-sectoral impacts that might result from the overall investment strategy

- 4) To prepare recommendations on the priority environmental controls and management measures needed during the implementation of the investment strategy.

You are asked to report to the Minister after your study and to present your conclusions as briefly and succinctly as possible.

A.2 Background Materials

You are provided with a memorandum from the Permanent Secretary to which extracts from two reports are attached (Attachment A1). The memorandum summarizes the key political, economic and geographic characteristics of Bahara Province and the main development priorities. The first extract is the Chapter on the Province of Bahara from "Recent Trends in Narnia's Development", prepared by the Ministry of the Interior. The other is "A development Prospectus: The province of Bahara" recently prepared by a firm of consultants for the Bahara Provincial Planning Commission. These documents contain:

- Information on the country and region;
- a description of the development prospectus and investment priorities;
- brief summary of the environmental implications of the projects included in the investment strategy; and
- a map of the region indicating possible sites for the projects contained in the investment strategy.

You will also find an Attachment A.2. extracts from recent legislation and reports that indicate the current international and national concern for the environmental and natural resources implications of economic development. These attachments are provided to you by the Central Government.

A.3 Approach

I suggest that you adopt the following approach:

- Spend time making yourself familiar with the information given in the background materials;
- Discuss where you would obtain the necessary additional information, including the organizations that you would consult;
- Discuss how to organize the information most effectively to meet your terms of reference; and
- Prepare a short presentation summarizing your conclusions and making recommendations about the priority environmental and natural resources management needed.

- Submit a process documentation or a diary of who did what in this simulation. Indicate the contributions of each participant per session.

A.4 Presentation

Your group should prepare a zoom presentation of not more than 4 slides covering:

- The principal environmental implications of the investment strategy;
- The potential conflicts in terms of natural resource requirements;
- The potential inter-sectoral impacts;
- The priorities for environmental management; and
- The organizations that you would need to consult during the assignment.

Attachment A.1

Memorandum to: Environmental Review Commission

From: Secretary of the Environment

Re: Province of Bahara: Background information

1. The Province of Bahara

The attached extract from “Recent Trends in Narnia’s Development” describes the relevant legislation and governmental responsibilities at both national and provincial levels.

The geography of the Province is dominated by the bay to the East and the mountains to the West. The majority of the population live on the coastal plains which are drained by 3 rivers. The climate is marine tropical monsoonal with a northeasterly prevailing wind. There are still extensive forest reserves in the foothills and several small but significant natural reserves.

The economic character of the province is shifting gradually from a dominance of agriculture as industry, fisheries, tourism and urbanization are growing steadily. Bahara city, capital of Narnia, has been a focus for much of the recent economic change.

2. The development prospectus

The attached development prospectus focuses on 4 sectors which offer the most economically attractive investment opportunities. Funding will be sought from International donors for selected projects in these sectors over the next few years. The following sectors have been selected.

- a) Power. The prospectus indicates that generating capacity must be increased to meet demand, and a major thermal power station will be needed in addition to mini-hydro schemes.
- b) Agriculture. The prospectus points out the benefits that can be gained from using the rivers in the north of the Province to provide irrigation in the area to the west of Baytown and Bahara City.

- c) Coal mining. There are extensive coal reserves to the west of Baytown which have yet to be exploited. The reserves will need to be extracted by opencast mining and will meet power and industrial demand.
- d) Petrochemicals. As the next step in planned industrial development, a petrochemical plant has been proposed which will substitute for imported manufacturers and make good use of available natural resources.

Description of Narnia

1. Physical Geography, Economic Base and Relevant Government Policies

1.1. Physical geography

Narnia is a physically self-contained country bounded by the ocean and a hinterland mountain range, which rises to 5000 ft. The climate is marine tropic monsoonal.

The land systems are principally mountains, foothills, coastal plain and coastline. The traditional agricultural economic activities follow this natural division with shifting cultivation in the mountains; livestock, plantation and forestry in the foothills; and rice and mixed vegetable farming on the plain. The coastline has always been busily worked for fishing and shellfishing. Fishing and fish farming form an important part of the economy.

1.2 Economic Trends

Narnia has change little over centuries, until about 30 years ago when new communication links gave it greater access to the outside world through a new port, highway and modern international airport. These new communication and transport links have also provided better access to the Inland regions.

Economic activity has changed owing to industrialization, mechanization of agriculture and competition from other sectors of the economy. This is affecting the settlement pattern, putting greater pressure on the urban areas, and giving rise to increased pollution, conflicts in land use and potential desertification problems.

1.3 Government Policies relating to development

An examination of government policies indicates the following:

1) Economic Objectives

- To develop natural resources and industry where they will promote the national income through generating foreign exchange and providing employment;
- To ensure that the location of new residential, commercial and industrial development and supporting infrastructure complements existing facilities and development programs.

Table 1. Trends in Employment, percentage by sector

	2000	2020
Agricultural, etc.	50.0	25.0
Industrial	15.0	30.0
Service	35.0	45.0
	100.0	100.0

2) Infrastructure Objectives

- To enable, where possible, all future residential, industrial and commercial developments to have programmed infrastructure (water, sewerage, roads and communication); and
- To ensure that the unnecessary duplication of services and facilities and any under-utilization, is avoided at the local and provincial levels.

3) Environmental Objectives

- To appreciate the natural interrelationship of land uses and hence activities which conflict and complement each other;
- To ensure that adverse human impact on the environment is minimized through the use of appropriate pollution control technology; and
- To safeguard areas of outstanding natural beauty and ensure water resources are protected.

4) Management Objectives

- To work towards the coordination of development programs by the respective government departments and provincial administrations; and
- To develop pollution control codes and development control procedures at the local administrative level.

5) Agricultural Self-sufficiency

- To achieve self-sufficiency in grain crops (principally rice); and
- To maximize production of other crops, fish, meat with the objective of meeting local needs and providing a surplus for export.

6) Controlled urban expansion

- To coordinate urban development and avoid urban sprawl; and
- To allow for in-migration flows and rural-urban migration.

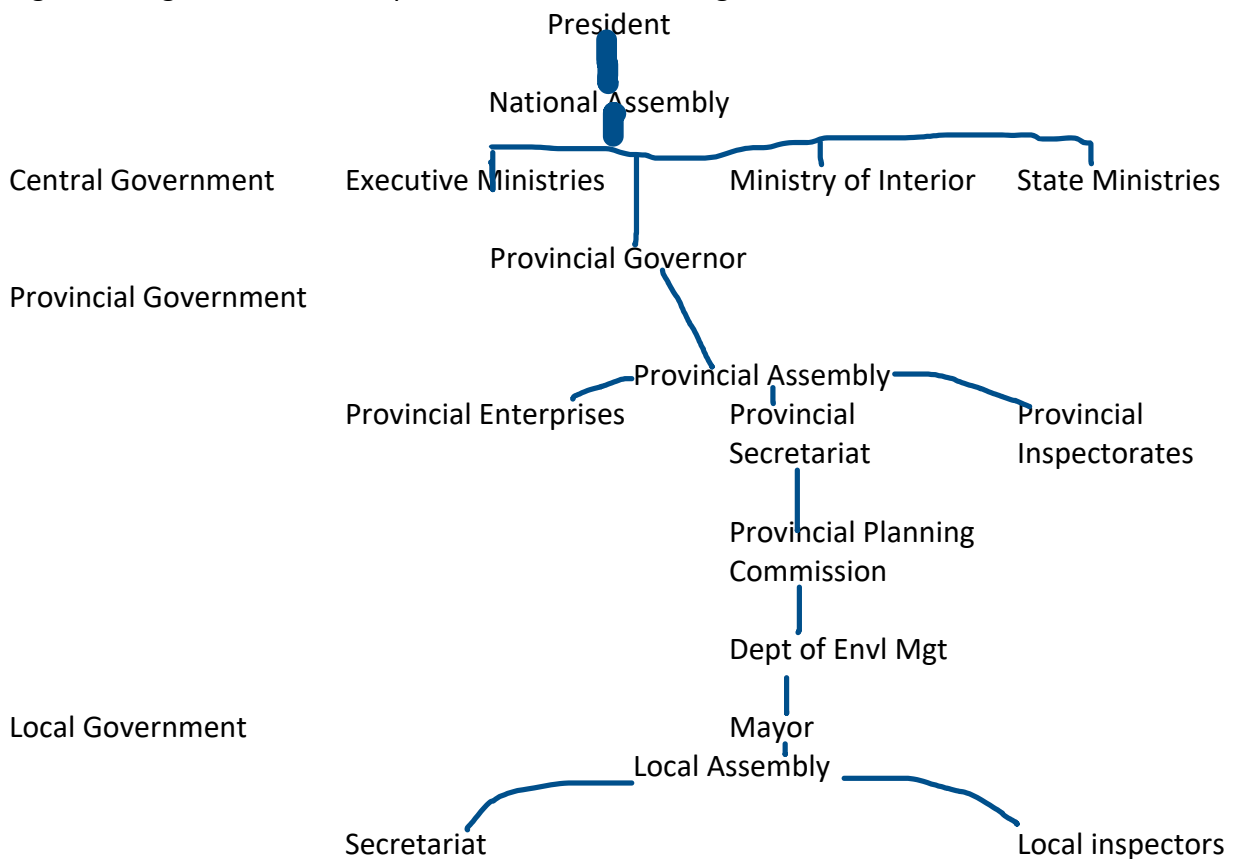
1.2 Institution and Laws

1) Government Structure

Narnia has a national assembly presided by the President. At the central government level there are:

- Sectoral executive ministries responsible for public works, health, education, etc.
- State ministries responsible for policy & coordination. These are primarily concerned with sectors that affect a number of different executive departments; and
- The interior ministry that is responsible for the provincial level. Narnia has 10 provinces of which Bahara is the most economically developed. The national capital also called Bahara is located in this province. Each province has a provincial assembly. The government structure includes: a) provincial secretariat responsible for provincial policy b) provincial departments that work with the executive ministries and c) provincial enterprises for water supply, etc. Finally, there are local assemblies which are run by local mayors. The local government structure reports to the relevant provincial inspectorates but, in political terms, the local assemblies have considerable power.

Figure 1. Organizational Set-up of Local Government Agencies



Responsibility and Duties of Ministry of Environment

Responsibility:

- 1) Protection of the natural environment
- 2) Ensure protection of the resource base
- 3) Development and environment and population

Duties of Ministry include

- 1) To develop policy
- 2) To coordinate programmes and projects
- 3) To act as catalyst
- 4) To provide information for the other ministries, provincial government
- 5) To manage conflicts between government departments

1.3 Environmental Responsibilities

1.3.1 Central Government

No one ministry has overall responsibility or executive power. The implementation of environmental objectives falls within the traditional responsibilities of a number of departments and their local agencies.

The ministry of the Environment has broad responsibility for pollution, land use and historic monuments, for which there are Departmental Ministries. However, the Departments of Forestry and Fisheries under the Ministry of Agriculture also have responsibility for certain environmental concerns, as do the planning sections of the Department of Industry and Transport. Environmental issues relating to public health are dealt with by the Dept of Health. All these departments are responsible for enforcing their respective environmental legislation.

Recently, the Environment Ministry has been reorganized and given further responsibility for coordinating environmental decision making. The ministry exercises power through its own departments and also through inter-ministerial committees, and it has the strong backing of the president. The duties and responsibility of the ministry of environment is shown above.

A considerable amount of the Government's resources is used to train groups at the central and provincial level. While central committees can identify action needs to be taken, the enforcement duties are carried out normally by the provincial inspectorates.

1.3.2 provincial level

Provincial departments are responsible for implementing the policy of the provincial Secretariat and the federal executive ministries. They also legislate on matters which principally concern the region. They also liaise with the executive ministries and inter-ministerial committees over national policy initiatives which affect their region, such as new transport links.

Environmental issues are dealt with by the following provincial departments: pollution control, forestry, agriculture, environmental mgt, transport and industry.

A major task of provincial government is to enforce federal/provincial legislation. For example, the agriculture and forestry department are responsible for enforcing the reclamation of land, which is legally required if loss of land under agriculture or forestry results from the development of a new industrial project.

1.3.3 Environmental law

The central framework environmental legislation is the Environmental Protection Act, which covers broad areas of environmental concerns: soils, forest & grasslands, air; water; noise; waste mgt; and land use.

This act provides for further legislation, including systems of incentives, environmental obligations to be attached to operating licenses, public participation, protection of resources and cultural heritage, provision for environmental quality standards and pollution control.

Current laws and regulations are set out in Figure 2. Considerable progress has been made in the subsidiary legislation. The government is currently drafting regulations to implement an environmental impact assessment procedure.

Figure 2. Existing Environmental Regulations

Subject of Laws

- Obligation of persons to protect the environment
- Protection of the environment to allow future development
- Utilization of man-made resources
- Allocation, devt, use, reuse, recycling, mgt & supervision of natural or man-made resources
- Protection of inorganic, organic, man-made & cultural resources
- Establishment of environmental quality standards
- Analysis of environmental impacts of new development projects
- Prevention & abatement of pollution on a sectoral basis
- Establishment of institutional mechanisms and agencies
- Procedures for awarding compensation to individuals harmed by environmental pollution
- Procedures for determination and payment of costs for restoring damaged environments.
- Liability for damage from pollution of the environment

