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Chapter 10
INTEGRATED APPROACH TO THE PLANNING AND MANAGEMENT OF
LAND RESOURCES

INTRODUCTION

10.1. Land is normally defined as a physical entity in terms of its
topography and spatial nature; a broader integrative view also includes
natural resources: the soils, minerals, water and biota that the land
comprises. These components are organized in ecosystems which provide a
variety of services essential to the maintenance of the integrity of
life-support systems and the productive capacity of the environment. Land
resources are used in ways that take advantage of all these characteristics.
Land is a finite resource, while the natural resources it supports can vary
over time and according to management conditions and uses. Expanding human
requirements and economic activities are placing ever increasing pressures on
land resources, creating competition and conflicts and resulting in suboptimal
use of both land and land resources. If, in the future, human requirements
are to be met in a sustainable manner, it is now essential to resolve these
conflicts and move towards more effective and efficient use of land and its
natural resources. Integrated physical and land-use planning and management
is an eminently practical way to achieve this. By examining all uses of land
in an integrated manner, it makes it possible to minimize conflicts, to make
the most efficient trade-offs and to link social and economic development with
environmental protection and enhancement, thus helping to achieve the
objectives of sustainable development. The essence of the integrated approach
finds expression in the coordination of the sectoral planning and management
activities concerned with the various aspects of land use and land resources.

10.2. The present chapter consists of one programme area, the integrated
approach to the planning and management of land resources, which deals with
the reorganization and, where necessary, some strengthening of the
decision-making structure, including existing policies, planning and
management procedures and methods that can assist in putting in place an
integrated approach to land resources. It does not deal with the operational
aspects of planning and management, which are more appropriately dealt with
under the relevant sectoral programmes. Since the programme deals with an
important cross-sectoral aspect of decision-making for sustainable
development, it is closely related to a number of other programmes that deal
with that issue directly.

PROGRAMME AREA

Integrated approach to the planning and management of
land resources

Basis for action

10.3. Land resources are used for a variety of purposes which interact and
may compete with one another; therefore, it is desirable to plan and manage
all uses in an integrated manner. Integration should take place at two
levels, considering, on the one hand, all environmental, social and economic
factors (including, for example, impacts of the various economic and social
sectors on the environment and natural resources) and, on the other, all
environmental and resource components together (i.e., air, water, biota, land,
geological and natural resources). Integrated consideration facilitates
appropriate choices and trade-offs, thus maximizing sustainable productivity
and use. Opportunities to allocate land to different uses arise in the course
of major settlement or development projects or in a sequential fashion as
lands become available on the market. This in turn provides opportunities to
support traditional patterns of sustainable land management or to assign
protected status for conservation of biological diversity or critical
ecological services.

10.4. A number of techniques, frameworks and processes can be combined to
facilitate an integrated approach. They are the indispensable support for the
planning and management process, at the national and local level, ecosystem
or area levels and for the development of specific plans of action. Many of
its elements are already in place but need to be more widely applied, further
developed and strengthened. This programme area is concerned primarily with
providing a framework that will coordinate decision-making; the content and
operational functions are therefore not included here but are dealt with in
the relevant sectoral programmes of Agenda 21.

Objectives

10.5. The broad objective is to facilitate allocation of land to the uses
that provide the greatest sustainable benefits and to promote the transition
to a sustainable and integrated management of land resources. In doing so,
environmental, social and economic issues should be taken into consideration.
Protected areas, private property rights, the rights of indigenous people and
their communities and other local communities and the economic role of women
in agriculture and rural development, among other issues, should be taken into
account. In more specific terms, the objectives are as follows:

(a) To review and develop policies to support the best possible use
of land and the sustainable management of land resources, by not later than
1996;

(b) To improve and strengthen planning, management and evaluation
systems for land and land resources, by not later than 2000;

(c) To strengthen institutions and coordinating mechanisms for land
and land resources, by not later than 1998;

(d) To create mechanisms to facilitate the active involvement and
participation of all concerned, particularly communities and people at the
local level, in decision-making on land use and management, by not later than
1996.
Activities

(a) Management-related activities

Developing supportive policies and policy instruments

10.6. Governments at the appropriate level, with the support of regional and international organizations, should ensure that policies and policy instruments support the best possible land use and sustainable management of land resources. Particular attention should be given to the role of agricultural land. To do this, they should:

(a) Develop integrated goal-setting and policy formulation at the national, regional and local levels that takes into account environmental, social, demographic and economic issues;

(b) Develop policies that encourage sustainable land use and management of land resources and take the land resource base, demographic issues and the interests of the local population into account;

(c) Review the regulatory framework, including laws, regulations and enforcement procedures, in order to identify improvements needed to support sustainable land use and management of land resources and restricts the transfer of productive arable land to other uses;

(d) Apply economic instruments and develop institutional mechanisms and incentives to encourage the best possible land use and sustainable management of land resources;

(e) Encourage the principle of delegating policy-making to the lowest level of public authority consistent with effective action and a locally driven approach.

Strengthening planning and management systems

10.7. Governments at the appropriate level, with the support of regional and international organizations, should review and, if appropriate, revise planning and management systems to facilitate an integrated approach. To do this, they should:

(a) Adopt planning and management systems that facilitate the integration of environmental components such as air, water, land and other natural resources, using landscape ecological planning (LANDEP) or other approaches that focus on, for example, an ecosystem or a watershed;

(b) Adopt strategic frameworks that allow the integration of both developmental and environmental goals; examples of these frameworks include sustainable livelihood systems, rural development, the World Conservation Strategy/Caring for the Earth, primary environmental care (PEC) and others;

(c) Establish a general framework for land-use and physical planning within which specialized and more detailed sectoral plans (e.g., for protected areas, agriculture, forests, human settlements, rural development) can be developed; establish intersectoral consultative bodies to streamline project planning and implementation;

(d) Strengthen management systems for land and natural resources by including appropriate traditional and indigenous methods; examples of these practices include pastoralism, Hema reserves (traditional Islamic land reserves) and terraced agriculture;

(e) Examine and, if necessary, establish innovative and flexible
approaches to programme funding;

(f) Compile detailed land capability inventories to guide sustainable land resources allocation, management and use at the national and local levels.

Promoting application of appropriate tools for planning and management

10.8. Governments at the appropriate level, with the support of national and international organizations, should promote the improvement, further development and widespread application of planning and management tools that facilitate an integrated and sustainable approach to land and resources. To do this, they should:

(a) Adopt improved systems for the interpretation and integrated analysis of data on land use and land resources;

(b) Systematically apply techniques and procedures for assessing the environmental, social and economic impacts, risks, costs and benefits of specific actions;

(c) Analyse and test methods to include land and ecosystem functions and land resources values in national accounts.

Raising awareness

10.9. Governments at the appropriate level, in collaboration with national institutions and interest groups and with the support of regional and international organizations, should launch awareness-raising campaigns to alert and educate people on the importance of integrated land and land resources management and the role that individuals and social groups can play in it. This should be accompanied by provision of the means to adopt improved practices for land use and sustainable management.

Promoting public participation

10.10. Governments at the appropriate level, in collaboration with national organizations and with the support of regional and international organizations, should establish innovative procedures, programmes, projects and services that facilitate and encourage the active participation of those affected in the decision-making and implementation process, especially of groups that have, hitherto, often been excluded, such as women, youth, indigenous people and their communities and other local communities.

(b) Data and information

Strengthening information systems

10.11. Governments at the appropriate level, in collaboration with national institutions and the private sector and with the support of regional and international organizations, should strengthen the information systems necessary for making decisions and evaluating future changes on land use and management. The needs of both men and women should be taken into account. To do this, they should:

(a) Strengthen information, systematic observation and assessment systems for environmental, economic and social data related to land resources at the global, regional, national and local levels and for land capability and land-use and management patterns;

(b) Strengthen coordination between existing sectoral data systems on land and land resources and strengthen national capacity to gather and assess data;
(c) Provide the appropriate technical information necessary for informed decision-making on land use and management in an accessible form to all sectors of the population, especially to local communities and women;

(d) Support low-cost, community-managed systems for the collection of comparable information on the status and processes of change of land resources, including soils, forest cover, wildlife, climate and other elements.

(c) International and regional coordination and cooperation

Establishing regional machinery

10.12. Governments at the appropriate level, with the support of regional and international organizations, should strengthen regional cooperation and exchange of information on land resources. To do this, they should:

(a) Study and design regional policies to support programmes for land-use and physical planning;

(b) Promote the development of land-use and physical plans in the countries of the region;

(c) Design information systems and promote training;

(d) Exchange, through networks and other appropriate means, information on experiences with the process and results of integrated and participatory planning and management of land resources at the national and local levels.

Means of implementation

(a) Financing and cost evaluation

10.13. The Conference secretariat has estimated the average total annual cost (1993-2000) of implementing the activities of this programme to be about $50 million from the international community on grant or concessional terms. These are indicative and order-of-magnitude estimates only and have not been reviewed by Governments. Actual costs and financial terms, including any that are non-concessional, will depend upon, inter alia, the specific strategies and programmes Governments decide upon for implementation.

(b) Scientific and technological means

Enhancing scientific understanding of the land resources system

10.14. Governments at the appropriate level, in collaboration with the national and international scientific community and with the support of appropriate national and international organizations, should promote and support research, tailored to local environments, on the land resources system and the implications for sustainable development and management practices. Priority should be given, as appropriate, to:

(a) Assessment of land potential capability and ecosystem functions;

(b) Ecosystemic interactions and interactions between land resources and social, economic and environmental systems;

(c) Developing indicators of sustainability for land resources, taking into account environmental, economic, social, demographic, cultural and political factors.

Testing research findings through pilot projects
10.15. Governments at the appropriate level, in collaboration with the national and international scientific community and with the support of the relevant international organizations, should research and test, through pilot projects, the applicability of improved approaches to the integrated planning and management of land resources, including technical, social and institutional factors.

(c) Human resource development

Enhancing education and training

10.16. Governments at the appropriate level, in collaboration with the appropriate local authorities, non-governmental organizations and international institutions, should promote the development of the human resources that are required to plan and manage land and land resources sustainably. This should be done by providing incentives for local initiatives and by enhancing local management capacity, particularly of women, through:

(a) Emphasizing interdisciplinary and integrative approaches in the curricula of schools and technical, vocational and university training;

(b) Training all relevant sectors concerned to deal with land resources in an integrated and sustainable manner;

(c) Training communities, relevant extension services, community-based groups and non-governmental organizations on land management techniques and approaches applied successfully elsewhere.

(d) Capacity-building

Strengthening technological capacity

10.17. Governments at the appropriate level, in cooperation with other Governments and with the support of relevant international organizations, should promote focused and concerted efforts for education and training and the transfer of techniques and technologies that support the various aspects of the sustainable planning and management process at the national, state/provincial and local levels.

Strengthening institutions

10.18. Governments at the appropriate level, with the support of appropriate international organizations, should:

(a) Review and, where appropriate, revise the mandates of institutions that deal with land and natural resources to include explicitly the interdisciplinary integration of environmental, social and economic issues;

(b) Strengthen coordinating mechanisms between institutions that deal with land-use and resources management to facilitate integration of sectoral concerns and strategies;

(c) Strengthen local decision-making capacity and improve coordination with higher levels.

END OF CHAPTER 10