

Environmental legislation and governance process for the conservation of biodiversity

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Abstract: - This paper was developed in the context of the research project entitled GEM-CON-BIO (Governance and Ecosystems Management for the Conservation of Biodiversity)-EU FP6 Priority 7. During the project an analytical framework was developed setting the methodology for exploring the interactions between governance processes and the management of natural resources for the conservation of biodiversity. This paper presents the first results concerning the regulatory capacity and the governance processes concerning the protection of the ecosystem at Artificial Lake Kerkini, Greece. According to the framework we identify the governance model and the institutional levels that are involved, as well as the key legislation, both environmental and non-environmental that manages or impacts the conservation of biodiversity and natural resources in the studied area.

Keywords: - environmental legislation, biodiversity, governance, environmental management

1. Introduction

The loss of biodiversity has emerged as one of the most crucial environmental problems of our times and an issue of global concern. Since even before the Rio Conference, biodiversity has been recognized as a key component of sustainable development, challenged by the population growth, the increased consumption and the growing exploitation of biological resources by the private sector. In Europe the threats to biodiversity are totally visible, as some of the most damaged ecosystems are found in there. Although the threats to biodiversity are almost fully recognized by European scientists and other stakeholders, the struggle to combat biodiversity loss demands more action to be taken at all institutional levels, from local to European.

GEM-CON-BIO (Governance and Ecosystems Management for the CONservation of BIOdiversity) is an FP6 funded project under Priority 7 – Citizens and Governance in a Knowledge-based Society. It runs until January 2008, and brings together nine partners from seven European countries in order to identify the different ways in which we can sustainably manage our natural resources. In specific, GEM-CON-BIO aims at providing the governance matrix which could successfully lead to the conservation of biodiversity for a given ecosystem.

Under the project a framework [1] has been developed which links governance types and critical ecosystem management characteristics. GEM-CON-BIO has been setting out general principles of good governance and related criteria which, to the extent possible, will be relevant and applicable in a wide range of circumstances.

First of all, GEM-CON-BIO has provided a definition for governance, according to the UNDP's definition for governance [2, 3, 4]. Thus, governance is defined as the interactions among structures, processes and traditions that determine how power and responsibility are exercised, how decisions are taken, and how citizens or other stakeholders have their say. Moreover, GEM-CON-BIO acknowledges that governance is exercised by many different stakeholders and in many different levels of administrative authority, i.e. the local, regional and national levels.

GEM-CON-BIO identified four basic types of governance that are related to ecosystem management systems:

1. Government management, where authority and accountability for management lies within a government agency which may consult with other stakeholders prior to making decisions.
2. Multi-stakeholder management, where authority and accountability for management is shared among different stakeholders, e.g. government agencies, local communities, NGOs, private landowners, industry representatives.
3. Local community management, where authority and accountability for management lies within local communities, who collectively own or claim rights to the lands based on traditional use and occupancy.
4. Private management, where authority and accountability for management is with the private (non-government) owner or owners of the lands (either individuals or organizations).

After the identification of the abovementioned types of ecosystem management systems, GEM-CON-BIO partners have started to elaborate the core project research which consists of different case studies. The case studies selected by the partners differ in terms of governance types. The scope of the elaboration of the case studies is to provide the tools to identify which governance modes foster conservation of biodiversity and sustainable development and under which conditions. Therefore, the selected case studies are partly intensive and local, and partly extensive and pan-European.

For each case study the researchers have to:

1. Analyse the environmental targets (with special respect to biodiversity), ecological and socio-economic conditions, pressures, and preconditions and approaches to reach these targets (e.g. governance, management characteristics).
2. Assess the conservation results achieved up to now.
3. Prognose the future development of the test areas
4. Identify (positive / negative) factors (incl. driving factors, constraints) influencing the success of nature conservation in these areas / cases.
5. Compare the effectiveness and efficiency of different approaches (incl. governance types).
6. Give advices to improve the preconditions (political and socio-economic factors) for biodiversity conservation.

GEM-CON-BIO experts have prepared a guidance manual for the elaboration of the case studies according to which specific research questions have to be analysed by the partners in order to decide the governance processes and ecosystem management systems that best contribute to the conservation of biodiversity. These research questions are classified in twelve categories [5]:

1. Natural capacity (the initial conditions of a given ecosystem, key habitat types)
2. Socio-economic capacity (identification of some key socio-economic factors)
3. Governance capacity (rule of law and level of corruption)
4. Regulatory capacity (the legislative framework both within and outside environmental legislation, enforcement and implementation)
5. Natural resource management (natural resource management objectives and decision-making processes for the study sites)
6. Governance processes: regulatory (the extent to which regulatory mechanisms are implemented within each case study)
7. Governance processes: financial (financial and economic tools that can be implemented for the sustainable use and conservation of biodiversity)

8. Governance processes: societal (the different stakeholder groups involved in use and management and how they interact)
9. Impacts: economic and financial
10. Impacts: social
11. Impacts: ecological
12. Evaluation

In this paper we examine the regulatory framework of the Artificial Lake Kerkini (Greece).

2. Historical background

Lake Kerkini is located in the northern Greece, Prefecture of Serres, Region of Central Macedonia. It is surrounded by the mountains of Beles and Mavrovouni. It covers a surface of 55 to 70 sq.km. depending on the water level. It is a natural protected area. The area is public property. The agricultural land is partially privately owned.

It was created in 1932 after the construction of a dam at the River Strimonas (which derives from Bulgaria) near the village Lithotopos. Its purpose was to hold the waters of Strimona from flooding. Later it was being used as a water tank for the irrigation of Serres lawlands. The artificial lake Kerkini contributed to the challenging of malaria and to the economic growth of the area as well as to the economic restoration of about 85.000 refugees from Minor Asia (1922 and after). In 1982 a new dam was created in order to raise the water level.

The area is currently providing a number of goods and services such as eco-tourism, forestry, agricultural activities, fishing (under restrictions), hunting (partly allowed), environmental education and scientific research. Generally speaking the increasing demand in eco-tourism is influencing conservation in a rather good way. Moreover, local populations share benefits, especially in employment.

Table 1. The different ownership regimes and institutional levels involved in the management of biodiversity in Lake Kerkini (following the EU Nomenclature of Territorial Units for Statistics)

Institutional level	NUTS level
EU	-
National	0
Region of Central Macedonia	2
Prefecture of Serres	3
Municipality of Kerkini	4

3. Governance type

To decide the governance type of the studied area, we have to examine the defining characteristics which apply to each one of them. GEM-CON-BIO identifies six governance types, a) state dominated, b) community based, c) corporatist, d) policy network based, e) adaptive management and f) market based [5]. In the studied area the governance type which seems most relevant is the policy network based which presents the following defining characteristics:

Table 2. Policy network based governance type

Defining Characteristics	Policy Network Based
Local community participation	High
Integration of local knowledge	High
Main Ownership structure	Mix
Key policy instrument	Mix
Adaptability to ecosystem feed-back	Variable (High-Low)
Natural resource management objectives	Sustainable management, yet often multiple
Epistemic communities	Important
Multi-level governance	Important
Leadership	Important
Comment/Example	Objectives and policies are negotiated and implemented among local stakeholders, government agencies and NGOs. Strong horizontal and vertical collaboration. Adaptability depends on what goals are emphasized.

4. Environmental legislation which applies to the artificial Lake Kerkini

The artificial Lake Kerkini is a declared National Nature Reserve since November 2006. It is also one of

the 10 Greek Wetlands of International Importance under the Ramsar Convention as well as one of the 196 Important Bird Areas (IBA) in Greece. In addition it is a Specially Protected Area under the International Convention of Barcelona (1976) – Protocol of 1982 concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA). All EU legislation applies to Lake Kerkini, and especially the Direction 92/43/EC Natura 2000, the Direction 79/409/EC for the Protection of Birds (76 of them are recorded in the National Red Catalogue).

Lake Kerkini is under the authority of the Ministry of Agriculture, the Ministry of Environment (National Legislation), the Region of Central Macedonia, the Municipality of Kerkini (Administration). There are several Decisions of the Prefecture which regulate hunting, fishing, woodcutting, constructions. Meanwhile, several NGOs have a quite strong appearance.

Among the multilateral environmental agreements (MEAs) that are of crucial importance to the protection of biodiversity, the following ones apply to Lake Kerkini (Table 3):

Table 3. MEAs which Greece has signed for the protection of biodiversity and natural resources

MEA	Description
Global	
Convention on Biological Diversity	04.08.1994 rtf.
Convention on Migratory Species	01.10.1999 rtf.
Ramsar Convention	21.12.1975 rtf.
Convention on the International Trade in Endangered Species	06.01.1993 rtf.
Regional	
Bern	13.6.1983 rtf.
ASCOBANS/ACCOBAMS	ACCOBAMS (Pelagos Cetacean Research Institute)
Regional Seas (Barcelona Convention, Baltic Sea, Black Sea)	Barcelona Convention
European Landscape Convention	13.12.2000 (signed)

Furthermore the following table 4 shows the EU and state legislation which applies to the protection of Kerkini's ecosystem:

Table 4. EU and state legislation for the protection of biodiversity and environment in general

EU Legislation	
EU Directive 79/409	Protection of wild birds

	(NATURA 2000)
EU Directive 92/43	Protection of natural habitats (NATURA 2000)
EU Directive 2000/60	Management of water resources
State Legislation (Biodiversity)	
Joint Ministerial Decree 42699/2006	Lake Kerkini is declared a National Park
Law 2742/1999	Management of the Protected Areas/ Natura Commission
Law 3208/2003	Protection of biodiversity in regard with the protection and management of the forests and the forestry activities
Joint Ministerial Decree 66272/93	Measures for the protection of Lake Kerkini's wetland and the wider area. This J.M.D. was the transition stage, a temporary regulatory scheme before Law 2742/1999
Joint Ministerial Decree 66231/96	Wetlands (one year extension to the J.M.D. 66272/93)
Legislative Act 86/1969	A number of laws and acts regulate the hunting periods and determine the forbidden games
Ministerial Decree 17239/2002	Land protection
Presidential Decree 99/2003	Fishery - restrictions
Joint Ministerial Decree 33318/3028/11-12-98	Harmonization with 92/43/EC
Joint Ministerial Decree 414985/29-11-85, 366599/16-12-96, 294283/23-12-97	Harmonization with 79/409
Legislative Act 191/1974	Harmonization with Ramsar Convention
State Legislation (Environment)	
Constitution art.24	State's obligation to take measures according to the principle of sustainable

	development
Law 1650/1986	Basic law for the protection of the environment and biodiversity
Law 3010/2002	Amendment to Law 1650/1986
Presidential Decree 325/2000	Establishment of the National Centre for Environment and Sustainable Development
Presidential Decree 256/1998	Types of environmental studies and assessments
Presidential Decree 165/2003	Implementation of the Special Agency of Environmental Supervisors
Ministerial Decree 44357/2005	Environmental management plans
Ministerial Decree 77921/1440/95	Public's access to information about environment
Code of Conduct of Municipalities 2006	Municipalities' jurisdiction on environment

The key legislation from the non-environmental sectors that impact biodiversity, e.g. transport, energy, spatial planning etc. is given in Table 5:

Table 5. Legislation from non-environmental sectors with an impact on biodiversity

Regulation Type	Number	Sector	Description
Law	2945/2001	Spatial planning	Spatial Planning of Agricultural Lands
Law	947/1979	Spatial planning	Residential area
Law	2508/1997	Spatial planning	Sustainable residential development
Decision	0-2489/2003	Energy	Environmental tariffs
Joint Ministerial Decree	104247/2006	Energy	Renewable sources of energy - EIA
Law	3389/2005	Public projects	Environmental Impact Assessments
Joint Ministerial Decree	471/2002	Tourism, Agriculture	Eco tourism
Law	2516/1997	Industry	Licenses

Law	2545/1997	Industry	Industrial Areas
Law	1561/1985	Industry	Environmental plan and protection of Thessaloniki
Joint Ministerial Decree	69269/5387/90	Industry	Environmental Impact Assessment
Joint Ministerial Decree	37111/2021/03	Industry	Public's access to information
Ministerial Decree	95267/1893/95, 88740/1883/95	Industry	Genetically modified organisms

Congress, Durban, South Africa, by John Graham, Bruce Amos, Tim Plumptre, June, 2003
 [4]http://magnet.undp.org/about_us/Mdgdbr.htm,
 UNDP, Management Development & Governance Division Bureau for Development Policy
 [5] Terry Andrew, Simoncini Riccardo (2007), *GEM CON BIO Guidance Manual, Vers.3*, IUCN

A number of mechanisms which can support collaborative management are currently running within the study region such as the Municipal Development Enterprise (elaboration of environmental and developmental projects), the Development Enterprise of Serres and of course the Management Authority of the Protected Area.

5. Conclusions

At the studied region we identified the governance model for the protection of biodiversity and the key legislation both environmental and non-environmental that manages or impacts the conservation of biodiversity. However, the level of implementation and enforcement of the abovementioned legislation is considerably poor compared to the number of laws and regulatory acts. The greatest problem of the regulatory system to protect biodiversity in Greece is the lack of strong implementation and enforcement mechanisms. GEM-CON-BIO aims at providing the necessary policy tools for the governments and other stakeholders to achieve among others the better implementation and enforcement of the European, national and local regulatory framework for the conservation of biodiversity.

References

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