

INTEGRATING SOCIAL DIMENSION IN THE MANAGERIAL PARADIGMS OF NATURE CONSERVATION

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ABSTRACT. – **Integrating social dimension in the managerial paradigms of nature conservation.** Biodiversity loss is a major global concern addressed with high priority by the environmental policies of the last decades. Nevertheless, species extinction and the reduction of areas covered by natural ecosystems continued with path considered alarming against the level required by a global ecosystem which is able to provide resources and living condition for an adequate level of human welfare. Nature conservation is the field of ecological policy that is directly responsible for the safeguarding and administration of natural ecosystems, although their state is influenced by other policies such as energy, agriculture, and tourism policies. Inconsistent progresses in biodiversity protection along with novel management perspectives led to a number of transformations in nature conservation that resulted in the emergence of new managerial paradigms. The paper analyzes this transformations and argue the need to integrate social dimension by referring to the contrast between needs and results in nature conservation, interdependencies among social and ecological systems, the way of formulating alternatives for decision making and others. Meanwhile, there are compared the operational formulas with different levels of integration for the social dimension.

Keywords: nature conservation, management, social dimension, ecosystem.

1. INTRODUCTION

Loss of biodiversity represents a global problem addressed as priority by the environmental policies of the last decades. Nevertheless, species' extinction and the reduction of surfaces occupied by natural ecosystems continued at rates considered alarming faced with the needs of a global ecosystem that is able to provide resources and living conditions for an adequate level of human welfare.

Nature conservation is the field of environmental policy that is directly responsible of the safeguarding and administration of natural ecosystems, although their state is also influenced by other less specific policies, such as energy, agriculture, and tourism policies. Inconsistent progresses in biodiversity protection along with novel management perspectives led to a number of transformations in nature conservation that resulted in the emergence of new managerial paradigms (Lackey, 1998).

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2. HISTORY OF MANAGERIAL PARADIGMS

The history of paradigms in the management of natural resources started with the agricultural vision that was continued by the approach based on stock restoration. Further this was completed by habitat management and renewal, coded by scientific management, reinvented as adaptive management and improved with business management based on objectives and total quality management (Bottom, 1996). This evolution could be interpreted as an expression of the incapacity to provide sustainable solutions, but also of the continuous effort invested in seeking the optimal balance between conservation and use.

In its' initial stages nature conservation was based on the romantic ethic according to which nature's role is not limited to being a resource pool. Thus nature needs conservation due to both its intrinsic value and its representation of the divine creation. In this stage the social dimension is not considered in the management of protected areas, which is focused on preserving a certain status of ecosystems.

Since the forth decade of the last century there are more and more prominent opinions that support the need of establishing protected areas border based on ecological criteria (e.g. the habitat of large carnivores). In other terms it is signaled the fact that protected areas cannot be considered ecosystems, since their borders do not respect ecosystem limits.

Nevertheless, the bias concerning the ecosystem concept made difficult the redrawing of protect areas.

Starting with the 1980s it becomes obvious that there is a relation between the outcomes of conservation efforts and the social perception of them. Thus, the first book on ecosystem management recognizes that along with border definition, goal setting, monitoring, and inter-institutional cooperation political involvement is also needed. It is acknowledged the fact that the success of nature conservation is determined by the social context in which the activities will be deployed.

According to Grumbine (1997), the factors that favored the integration of social dimension in the managerial paradigms of nature conservation are as follows:

- increasing path of biodiversity loss;
- the implemented policy initiatives did not proved a real capacity to lower the path of biodiversity depletion;
- progresses in conservation biology;
- low safety provided by legislation in relation for natural ecosystems facing pressure factors (industrial development, demographic growth, affluence);
- more and more intense environmentalism and criticism of policies applied for the management of natural resources;
- little public implication in decision making;
- changing social perception on the human-nature relationship.



3. MANAGERIAL PARADIGMS OF NATURE CONSERVATION

Nature conservation and the use of natural resources are processes that are confronting each other on the field of different managerial paradigms. Among the most well known we mention dominant use, multiple use, environmentally sensitive multiple use, ecosystem approach of natural resource management, and ecoregional management. According to Yafee (1999), these approaches could be differentiated based on the following criteria:

- general objective;
- biological objective;
- spatial approach;
- key principle;
- ecosystem concept, and
- ethical perception.

Considering a continuum of evolution from dominant use to ecoregional management, the major shift occurs between environmentally friendly multiple use and ecosystem approach of natural resource management, since the anthropogenic perspective is dropped (fig.1).

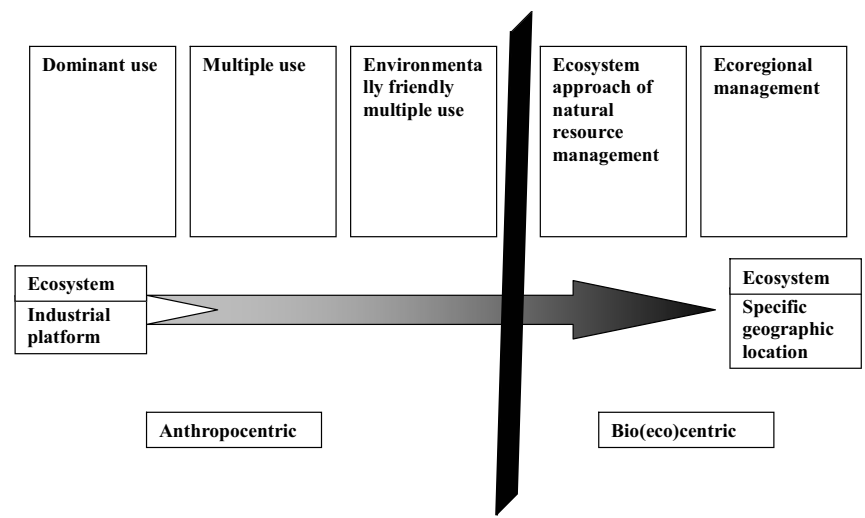


Fig.1. Continuum of nature conservation managerial paradigms

Dominant use pursues to satisfy some single human objectives focusing on individual management of resources (trees, large mammals, fish etc.). More attention is given to species with economic value, which are managed with spatial limits established by administrative measures or by property rights (forest area, farm, river segment). Although maximum harvest is the general objective, approaches that are more recent envisage the protection of production means, including species' habitat.



Multiple uses recognize the diversity of human interests associated with landscape. Traditional multiple use attempts to maximize harvest for each of the uses. Therefore sustainability is perceived as to continuity in producing the desired products. Managers' attention is focused on species with commercial value and on landscapes with a high scenic value in administratively outlined territorial units or in private property plots. Ecosystems are assimilated with industrial production plants for goods and services that are needed by society. The metaphor reflects the social vision that dominated the industrial era from the late eighteenth and nineteenth century. As in any industrial model, control is a central theme in securing production predictability. Consequently, ecosystem variety is often removed since it hindered the control capacity and simplification of ecosystems is a major forest and fish management goal. Thus, plantations, and meanders replace deforested areas by straight channels.

Environmentally sensitive multiple use aims to satisfy different human needs, but recognizes the fact that this objective could be accomplished on long run only by respecting ecosystem limits. This vision is an extended form the multiple use paradigms, which was promoted after the Second World War based on the utilitarian ethic. According to this paradigm, conservation means wise and prudent use of resources.

Management is focused on satisfying human interests through stimulating the production of goods needed by humans. Species composition is still a major concern although it is recognized the importance of spatial structure for biocenosis. Territorial units are established using administrative and property criteria, but the spatial scale to be used is problem specific.

Key principles of management are sustainable harvests (that are not always maximum), minimization of negative environmental impact, including cumulative effects and protection of species' diversity. The paradigm supposes the assessment of economic implications of different alternative, and respect for the interests of different stakeholders and their involvement in decision making. Ecosystems are still viewed as industrial platforms, but also as pieces of a landscape, that influence decisions and are influenced by decisions.

Ecosystem approach of natural resources management supposes a deep understanding of ecological systems according to which ecological integrity (or ecosystem health) is the explicit objective of nature conservation. The ecosystem term is used as a mental construct that suggests the complexity and system interactions, but not the territorial projection. The success of this approach depends on the existence of adjacent landowners who are willing to collaborate and on managers that take in account the needs of multiple species.

Apart from previous paradigms, the general objective is the maximization of ecological integrity. Although managerial alternatives are exclusive, priority is given for protecting ecosystems against the desires and needs of humans. Ecological objectives envisage both species and ecosystems and their functions. Therefore restoration and preservation of ecological processes such as nutrient cycling, water circuit or perturbations regime become important for maintaining



the composition and diversity of species. Managers struggle to delineate territorial units using ecological criteria. Thus, water quality problems are addressed at watershed level, jobs are treated considering regional labor markets, species protection is approached considering habitats and migration regimes.

Ecoregional management considers that the most appropriate scale for nature conservation management is the landscape. This is viewed as real and distinct geographical units defined by abiotic and flora components, and by associated animal species and communities. Success is measured in the capacity to maintain and restore ecological functions associated to any landscape unit.

Ecological problems have priority on human needs. Biological objectives are concentrated on ecosystems' structure and functions. The management pursues to restore and to protect critical ecological processes such as perturbation regimes and carbon sequestration. Animal species are not considered in explicit manner assuming that they will find the best solutions for survival as long as their habitat is preserved. If certain species go extinct in such conditions, their disappearance is interpreted as a consequence of natural dynamic.

The approach has important practical implications since it focuses on the establishment of spatial limits for ecosystems. This need institutional reorganization and decentralization of planning and decision-making.

The social dimension of nature conservation becomes important starting with the environmentally sensitive multiple uses paradigm that stresses the need of preserving the „production plant” which provide goods and services needed by humans. The following managerial paradigms give more and more room to this dimension by formulating their objective in accordance with human involvement and costs and by stimulating public participation in decision-making.

4. CONCLUDING REMARKS

The paper addressed the topic of nature conservation by considering the managerial paradigms that support this activity, but also its' most important opponent – use of natural resources.

Preserving nature or making a rational use of natural resources was a challenge approached in different manners along time. The underlying philosophy of each period was different and proposed various methodologies to establish the borders of exploitations. The social dimension of nature conservation was always present in the managerial paradigms, although its expression was quite different according to the mental representation of human nature relationship. The last three paradigms, which are now applied worldwide, embody the ecosystem management vision. In this approach perception and values are important cornerstones in defining objectives and planning activities that will involve local communities by making them responsible for the implementation of management plans.

Further research could consider the empirical support for a quantitative approach by measuring the degree of representation for the social dimension in various settings.



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