

How Relevant is the Participatory Planning of Natural Protected Areas?

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ABSTRACT

Natural protected areas pass as a paramount accepted strategy designed for the conservation of ecosystem services and the prevention of biodiversity loss. Still, considering the insufficient planning interventions on the distribution and extent of natural protected areas, the impact of this conservation tool on local communities remains controversial in environmental policies. In addition, the success of conservation measures is most often indicated by the degree of local support in maintaining natural protected areas, which is, on its turn, influenced by the community's perception on the socio-economic pressure in the protected area. This paper points out significant conclusions of several empirical studies concerning the relevance of environmental education and of local community involvement in the process of planning the conservation measures in natural protected areas. These conclusions are drawn from relevant studies in this field and from strategic plans, which basically prove how participatory planning of natural protected areas could bring decisive improvements to the preservation of biological diversity, beyond solving certain specific nature and national parks related issues, mainly the restriction of ownership rights and the general access to resources. Finally, the paper indicates a possible analysis framework of the possible development of natural protected areas focusing on the concept of 'livelihood'.

1. INTRODUCTION

Most of the natural protected areas are located in isolated places, mountainous, arid, covered with forests, inaccessible due to infrastructure or topography in such manner that effects of market economy and economic progress are attenuated or slowed down [1]. In addition, location of communities in "vulnerable" areas is most often associated with poverty [2], youth mobility towards more developed urban areas and various financial restrictions.

This generates two questions, namely: (1) how natural protected areas could be used as instruments in reducing poverty, and (2) could the use of natural protected areas as poverty reducing instruments be compatible with the preservation of the remaining

natural ecosystems? Among the models of poverty reduction in natural protected areas Fisher R. (2003) argues for the option of resource management by the local communities [3].

A greater community consensus can be pulled off by involving local actors both in the process of policy-making as well as in the implementation process, due to the participation of community members in these processes [4].

Therefore, it is expected for them to comply with and implement the policies they were consulted about. This study follows McNeely's theory (1994) that, on a long run, the sustainability of natural protected areas cannot be imagined without the participation of local communities [5].

2. THEORY AND METHODOLOGY

Participatory planning can be traced to the specific sphere of urban planning where it brought its contribution to embedding public policies [6], [7]. Biologist and town planner Patrick Geddes developed the thesis of public participation, emphasising that a new phase of a city's life had to be realised by its citizens, calling on local knowledge to join in creating a city [8]. Geddes' model includes a linear approach of survey → plan → action that strongly influenced the ecological perspective on planning of Benton MacKaye and Lewis Mumford who have considered the growing need for a social and environmental approach that could assist planners in analysing the problems of a region.

This new approach is called ecological planning or applied human ecology [9] and may be defined as the use of biophysical and socio-cultural knowledge to suggest opportunities and constraints for informed decision-making. The ecological planning method turns to the unexplored reality of community conflict in rural resource planning and the need of survey in revealing the most fit land uses. On that account, the use of local knowledge is no longer confined to urban planning but to various fields of public policies [10]. Thus the philosophies of natural resource management have shifted towards a pluralistic recognition of relevant scientific and local knowledge systems [11]. For instance, participatory conservation turns to traditional ecological knowledge that is produced through continuous social interactions within specific contexts [12] to be incorporated into biodiversity assessment [13], this way linking research to policy and practice [14].

Improved knowledge systems based on participation would enable people develop realistic expectations and reduce resistance to change [15] and can be very instrumental in shaping planning decisions that bridge rural development and environmental management. Local knowledge is also a constituent of participatory democracy, either individual or through community-based representatives, in managing public resources. Research on public involvement indicates participatory budgeting as an instrument for the construction of a participatory democracy, which was first implemented in Porto Alegre in 1989 and contributed to the United Nations Global Campaign for Good Governance [16]. These are examples of pioneering works in researching participatory actions that pursue the effective engagement of communities in producing the knowledge required to guide societal development towards sustainability. In this regard, Rio+20 United Nations Conference on Sustainable Development launched a new paradigm for an integrated scientific and local knowledge system within the "Future Earth" initiative on global sustainability

research, bringing into debate complex concepts like co-design, co-production, and co-dissemination of socio-ecological knowledge [17] that could further facilitate planning solutions.

This paper presents a possible analysis framework of planning natural protected areas using the concept of livelihood strategies. Considering the overlap between biological diversity, specific development regulations and human poverty that affects these areas, the analysis framework that we propose focuses on the livelihood approach, and data referring to households located in natural protected areas, therefore attempting to identify what people do in order to overcome their current constraints. This approach attempts a valorisation of these activities in development processes based on the objective situation of the communities in terms of resources/capitals and constraints/opportunities, but also of methods that communities use to survive or to make a living.

The central concept is that of livelihood which was especially implemented by the United Kingdom governmental Department for International Development (DFID) [18] at the beginning of the '90s, but it was also implemented by other international organisations as the World Bank or the United Nations Development Programme for Romania, especially in rural areas affected by poverty, hunger or natural disasters. The concept of livelihood refers to "*capitals (natural, physical, human, financial and social), activities and access to these (mediated by institutions and social relationships) which determine the living status of an individual or a household*" [19]. Therefore the interaction between capitals and activities determines the livelihoods.

The main analysis unit in livelihood studies is represented by the household because "*people as individuals can get involved in various economic and social activities, but the impact of these activities is clearly reflected at the household level but the household welfare is generally the main objective for most people, at least in rural societies*" [20]. Scoones (1998) stated that any analysis of livelihoods should start from the following question: "*considering a particular context (political, historical, agro-ecological and socio-economic), what is the combination of resources (different types of capitals) that could produce the capacity to implement a particular strategy to insure its existence (intensive/extensive agriculture, diversification and migration) and with what kind of outcomes? Within this analysis framework, a particular interest is given to institutional process (included in the matrix of institutions, and formal or informal organisations) which mediated the capacity to implement these strategies and obtain these outcomes or not*" [21].

Considering the key components (context, capitals, structures/processes, strategies and outcomes)

and the interrelations, the analysis framework of livelihoods offers a starting point in identifying the key questions from an analytical perspective and potential leverages that substantiate proper interventions of the

planning policies (Fig. 1). The following flowchart does not indicate the direct causes but it suggests the dynamic relationships and mutual influences among elements.

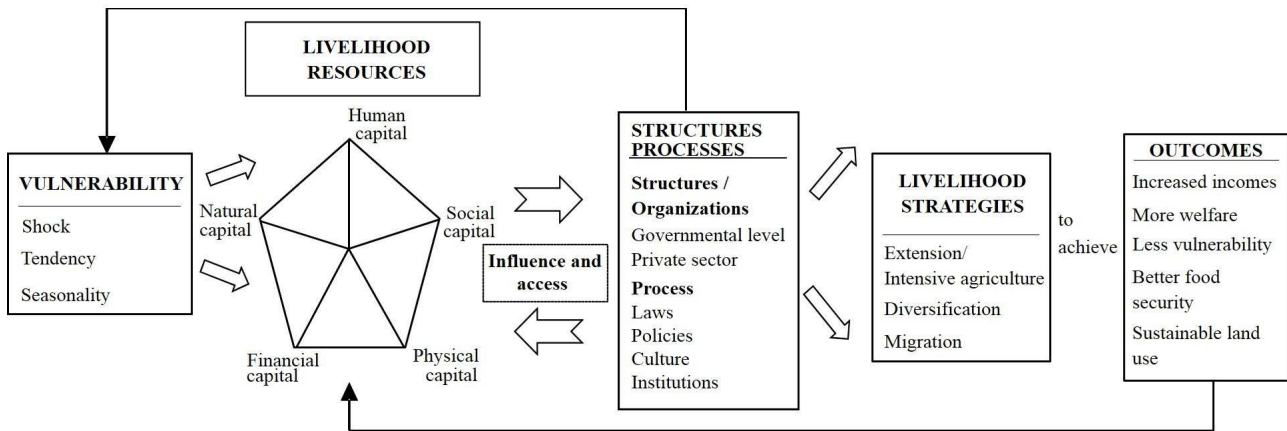


Fig. 1. Livelihood analysis framework [18].

The vulnerability conditions refer to the external context (social, economic, political) of the community on which it cannot expand its control or can have a limited control and that affects the available resources and activities. The capacity of households to avoid or reduce vulnerabilities and increase economic productivity is highly sensitive to the initial resources and the households' capacity to transform those resources in income, food or other goods that would satisfy the basic necessities by intensifying the existing strategies or developing new strategies [22].

Economic goods (capitals or resources) include properties, rights and access. They are both material and/or non-material and they are understood as resources that can be brought up in the direction of creating livelihoods. Resources or capitals are highly varied but, from the perspective of livelihood, the analysis most often focuses on five categories of capital: natural, physical, human, financial and social [20].

These types of capital are operationalised on several levels: (1) individual or household; (2) community and local; (3) regional or national [20].

a). *The natural capital* is a term defining the stock of natural resources (land, water, forests, etc.) which determines the flow of resources and services used in livelihoods.

b). *The physical capital* includes the basic infrastructure and products required to support livelihoods (e.g. efficient transport, proper housing, water supply and sewerage, clean and accessible energy, access to ICT).

c). *The human capital* includes competences, knowledge, experiences, labour capacity and health status, which can offer people the possibility to follow various livelihood strategies in order to achieve their goals.

d). *The financial capital* (or economic) refers to financial resources (cash, deposits, remittances, etc.) that people use to achieve goals related to livelihoods.

e). *The social capital* refers to social resources (networks, relationships, affiliations, associations) used in following livelihood strategies.

The transforming structures and processes represent institutions, organisations, policies and legislation that shape livelihoods [18]. These act at all levels, from households to the international level, both in private and public sectors, hence determining:

- the access to various types of capitals and livelihoods;
- conditions favouring different capital trades;
- economic incomes or associated to a particular strategy.

Structures represent public organisation (e.g. legislative and executive at national, regional and local level) or private (companies, associations, non-governmental organizations) that produce and enact policies and laws, provide services and achieve various functions influencing the livelihoods, whilst processes determine the way structures and individuals act and interact. These processes include policies, laws, institutions, norms and social beliefs, power relations. Livelihood strategies represent "combinations or sets of activities that produce livelihoods" [23].

The analysis of activities takes into account the following: type of activity (agricultural or non-agricultural, formal or informal), dimension (small, medium, large enterprise) and seasonality of the activities, localisation (urban or rural), associated risks, and occupational status. Livelihood strategies include strategies that can be distinguished based on the necessity-choice dichotomy [24], consequently shaping out survival strategies and accumulation strategies.

The survival strategies are related to crises or shocks that affect households (economic crises, job loss, losing work capability, natural disasters, armed conflicts, etc.) representing diversification strategies of income sources that were developed involuntarily,

“forced” by the combination of irregular (occasional) activities and with reduced productivity (precarious incomes) which usually lead to increased household vulnerability in facing future crises.

The *accumulation strategies* are intentional income diversification strategies based on choices reflecting resources, values and opportunities, through remunerated activities (for instance, temporary activities, intensified efforts in the main activity), temporary migration, entrepreneurship, investments in child education. Opposing the survival strategies, these usually lead to vulnerability reduction in facing future crises.

The outcomes of the livelihood model consist of livelihood strategies. The most direct outcomes are related to income structure and stability, but they also refer to non-material assets: subjective welfare (the welfare feeling is influenced by a series of factors, such as: self-esteem, feeling in control and included, safety of family members, health status, access to services, access to political rights, preserving the cultural legacy, etc.); low vulnerability; improved food safety; sustainable use of natural resources.

These results are important in helping us understand: (1) what the current configuration of factors has led to, given that it constitutes the framework of livelihoods; (2) which are the causes of human behaviour; (4) which are their priorities; (5) what is the probable response to new opportunities?

This approach also has a few shortcomings:

- the use of ‘strategy’ concept, because a strategy implies a rational intervention of adapting means to purposes. This critical perspective concerns the individual rationality, justifying that most often individuals do not have the necessary information to make informed decisions [23];

- it overestimates the individuals’ capacity to act as agents, thus making it more suitable in the case of subjects that are not the poorest, considering that the lack of resources and alternatives does not allow them to act based on strategies but more likely on circumstances;

- the analysis at household level regarded as making decisions and acting as a thinking entity with unique purposes. From this perspective, the household is an analytical and artificial unit. It is not the household or the unit making decisions, but their inhabitants.

3. RESULTS AND DISCUSSION

Studies regarding the management of natural protected areas have approached conflict resolution from the perspective of place attachment, particularly the “*positive emotional links developed between individuals and their environment*” [25].

Place attachment can be identified and measured through concepts such as “*place identity*”

(cognitive reflections of specific environmental conditions) and “*place dependence*” (connections based on activities taking place in a particular territory, thus indicating the importance of place in providing economic benefits; ex. forestry and pasture). Kyle (2003) emphasised on the strong correlation between high place identity and community attitude towards regulations within the borders of nature and national parks [26]. From this perspective, the growth of local support towards the protection of natural ecosystems was empirically correlated with the efficiency of environmental education in biodiversity conservation and with possibilities of transposing place identity on the economic benefits of tourism activities and trading of local products.

On the other hand, considering place attachment, restrictions in land use or in using certain resources can determine a sense of loss among the local communities. Therefore, land use conflicts could be triggered along with biodiversity loss [27], [28], [29]. For instance, place identity changes caused by restrictions in using natural resources raises the challenge of sustainable management of natural protected areas that can support social actors in establishing survival and/or accumulation strategies.

The outcomes of Kyle’s study (2003) enforce the idea that communities showing a strong place attachment also benefit of high living standards and offer a significant support to biodiversity conservation at their turn [14]. It can be concluded that people living in the proximity of natural protected areas are more likely to be involved in the protection and conservation of natural ecosystems, particularly when there is a strategy of raising community’s awareness on the role of the natural and cultural heritage, as well as on valorising traditional lifestyles. In attaining this purpose, the planning process can also include livelihood strategies of people living within or close to natural protected areas. This concept reflects the way in which the community’s capital or resources are used and invested. This is not a participatory method but it represents a “*bottom-up*” approach that starts from the people’s activities to insure income based on the available resources. In this regard it is more probable to solve possible land use conflicts, along with protecting the community’s interests.

International debates focused on the conservation of natural ecosystems have created the official framework for widening the perspective on the environmental impact of social, cultural, economic and democratic life. At the beginning of the 19th century the United Nations has decided on declaring the ‘Decade of Education for Sustainable Development’. The programme launched a challenge for adopting a new type of environmental commitment, of planning in establishing life strategies for communities that interact with natural protected areas.

One solution to this challenge is environmental education in communities living close to natural protected areas. The concept was first used starting with 1984 at the *“International Association for Nature and Natural Resources Conservation”* conference. The original definition of *“environmental education”* gave priority to the process of recognising natural values in view of developing practical abilities and environmental behaviour needed to acknowledge the man-culture-environment relationship. It is often described as the formal and informal education aiming at growing human awareness of the natural environment and environmental problems, as well as connections to the economic, social, cultural development. Consequently, communities should be able to understand the changes occurring in their surroundings and the effects of its actions on the environment [30].

Starting with the ‘70s, the western society has produced three main models of environmental education, initially focusing on education outside the classroom, then including global problems in the curricula in order to produce global knowledge of environmental issues, while in the ‘90s the attention moved to the convergence of areas affected by poverty and areas with high environmental values or those slightly influenced by human presence [31]. Recently, environmental education took a step forward to preventing negative attitudes among the young generation in order to solve environmental issues by locating the causes to that problem, while determining positive attitudes and possible solutions [32].

Ultimately, the purpose of environmental education is to improve life quality, to identify and promote natural values. In addition, it produces knowledge, abilities, and motivations for the local community members for an efficient use of natural resources. In fact numerous Romanian nature and national parks as well as Natura 2000 sites have the potential to be used as educational resources. Natura 2000 is an ecological network of special natural protected areas set up by the European Union in order to prevent further biodiversity loss and to assure the long-term survival of the Member States’ most valuable species and habitats [33], [34]. Numerous European educational programmes focusing on Natura 2000 sites have proven their efficiency in producing place attachment in relation to natural areas among students, based on guided tours [35]. Educational trails or thematic routes have been designed as environmental education instruments in most protected areas in which projects for biodiversity conservation were implemented with LIFE funding instruments, the operational programmes for environment or the regional development programmes. However, Goldstein’s study (2003) on the community awareness of natural protected areas issues has proven that formal

education alone is not enough to tackle specific problems [36]. Therefore, even if children attending schools are the target group of environmental programmes, it becomes increasingly important for the short run conservation objective that parents should also be involved in these awareness campaigns in order to encourage ecological practices in the family.

In addition, there are few European studies that clearly have related biodiversity conservation practices to skill formation. France is a European example for monitoring and stimulating positive relationships between biodiversity-environmental education and professional training-job market offer [37]. The professions and abilities required in the field of biodiversity use and conservation were identified and structured in a database called *“Métiers de la Biodiversité”*. In this case, all jobs related to biodiversity and ecosystem services share the common feature of *“contributing to the knowledge, management, protection, promotion and biodiversity restoration, as well as contributing to raising awareness on the challenge of including biodiversity in other economic activities”* [38].

From the same perspective, Europe 2020 Strategy also draws attention on the need to develop practical abilities in agriculture, forestry, fishery of disadvantaged communities that are located in natural protected areas [39]. Therefore, it is noticeable a potential of guaranteeing employability and income stability in these economically declining Romanian sectors and eventually the contribution to reducing poverty in natural protected areas, or to increasing the income sources for this socially excluded population. The European Biodiversity Strategy also emphasises on the role of environmental education in creating jobs related to natural protected areas, either within or outside their limits in interrelated economic sectors (e.g. tourism, ecological agriculture, research).

Jobs related to biodiversity valorisation and conservation actions have been classified by ICF GHK (2012) as follows: (1) jobs pursuing biodiversity conservation purposes practiced by nature conservation specialists, researchers, and conservation advisors, as well as additional staff required for the administrative, financial and human resource management of protected areas; (2) jobs with significant impact on biodiversity, including activities from the primary sector, natural resource processing and distribution up to jobs in the tertiary sector that may include planning activities or tourism [40].

4. CONCLUSION

Even though numerous international studies have the evaluation of sustainable development of natural protected areas as central topic, our research highlighted the fact that there is limited attention paid

to those effects which are consequential to implementing the protective status on territories which have been long used by traditional local communities. Our preliminary research of published studies in the field of living in natural protected areas shows the immediate necessity of a systemised analysis of the models of community implication referring to participatory planning of natural ecosystems and in conflict resolution on the matter of resource use [41]. Therefore it becomes mandatory to solve the need of understanding the methods that could facilitate the establishment of sustainable communities in protected areas in the context of unavoidable conservation restrictions, even by employing unconventional environmental education methods and participatory planning. Moreover, the analysis of perspectives to natural protected area development could benefit from the use of the 'livelihood' concept. Even though it does not represent a participatory planning method, this approach, which is focused on identifying livelihoods, it represents a 'bottom-up' strategy that proceeds from those activities undertaken by individuals/households based on the available resources.

This method allows us to identify solutions to possible conflicts that could occur between resource use, environmental protection and local interests for development.

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