

Part 2

Promotion of regional development and PES (payment for ecosystem services) schemes in the regions of Tatra (PL) and Slovensky Raj (SK) national parks, and Maramures Natural Park (RO)

Abstract

Protected areas provide crucial ecosystem services to the local, regional, local and global economy. Specifically regarding the regional aspects, protected areas may promote re-gional (economic) development, but may also be affected by development activities.

Given that a effective and sustainably funded park management is institutionalized, protected areas can fulfill their crucial role in regional development. However, the “use” of protected areas as tools for regional development presupposes that there is indeed an effective, efficient and sustainably funded park administration in place, that the park management has the decisive authority over land-use within the park’s boundaries, and that the regional development authorities and plans have established close communication and cooperation with the park administration, and vice versa. This includes the acknowledgement of the potentially crucial role of the protected area’s ecosystem services as inputs for regional (economic) development in the current development plans. The current report finds that only in Tatra National Park (PL) the main preconditions for a connection between biodiversity conservation and regional development are fulfilled. The other two parks, Slovensky Raj National Park (SK) and Maramures Mountains Natural Park (RO) lack the basic fundamentals, such as sufficient funding and institutional stability and authority, to promote regional development substantially by the respective park’s ecological management.

1 Introduction and problem setting

The current report is the second part of the research project “Economic and cultural values related to Protected Areas” commissioned by WWF International (Danube-Carpathian Programme).

The first report (see above, Part 1) presented the results of valuation of ecosystem services in Tatra (PL) and Slovensky Raj (SK) national parks. The valuation of ecosystem services in both national parks shows that ecosystem services may be of great importance.

In total, Tatra national park (PL) provides ecosystem services annually worth EUR 742m (potential range from EUR 593m to 888m), while Slovensky Raj national park (PL) provides around EUR 232m of ecosystem benefits (range from EUR 155m to 342m per year). The differences are due to the different ecosystem services provided, but also to the different size of the relevant economies and stakeholder groups. Table 1 presents a summary of the results.

Table 1: Values for ecosystem services provided by Tatra (PL) and Slovensky Raj (SK) national parks

	Tatra national park (Poland)			Slovensky Raj national park (Slovakia)		
	Lower bound of value	Reasonable mean value (in tds. EUR, per year)	Upper bound of value	Lower bound of value	Reasonable mean value (in tds. EUR, per year)	Upper bound value
1.1 Forest products						
1.1.1 Timber	0	0	0	285	856	1,426
1.1.2 Non-timber products	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1.1.3 Water provision, supply	2,585	3,700	5,280	624	1,480	1,971
1.1.4 Water retention / flood protection	363	726	862	455	808	1,068
1.1.5 Carbon sink, climate regulation, CO2 sequestration	56	91	240	52	90	224
1.1.6 Erosion control			see 1.1.4			
1.1.7 Medicinal resources	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1.2 Agricultural products						
1.2.1 Cattle, grazing	0	0	0	0	0	0
1.2.2 Grains, food production	0	0	0	0	0	0
1.3 Fishing	0	0	0	2	2	n.a.
1.4 Hunting	0	0	0	n.a.	n.a.	n.a.
1.4 Recreation values	435,000	519,000	601,000	99,431	152,325	215,273
1.5 Recreation (Transport costs, entry fee, museum)	18,000	21,000	24,000	20,272	30,972	43,763
Rough estimate of use values	438,004	523,517	607,382	100,849	155,561	219,962
1.7 Biodiversity conservation values						
1.7.1 Existence values	65,971	92,100	119,410	11,250	15,938	25,417
1.7.2 Option / quasi-option values	35,027	48,900	63,400	5,000	7,083	11,296
1.7.3 Bequest values	54,302	75,810	98,290	37,750	53,479	85,287
1.8 Cultural values	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Non-use values	155,300	216,810	281,100	54,000	76,500	122,000
Rough estimate of TEV (Total Economic Value)	593,304	740,327	888,482	154,849	232,061	341,962

Source: Getzner, 2009.

Recreation benefits are most significant for both national parks. About two thirds total benefits have their origin in recreation benefits. Biodiversity conservation (non-use values) is also significant as the second most important ecosystem service. Other ecosystem services (water, timber, erosion control) are especially significant to the local communities.

The existing valuation study for the Maramures Natural Park (RO) shows that also this protected area can be of eminent importance to the provision of ecosystem services in money terms.

The most important ecosystem services in Maramures Natural Park (RO) are hay and timber production, watershed protected and CO2 sequestration. Recreation or non-use values only play a minor role – possibly due to the limited number of visitors in the region.

Based on these studies valuing ecosystem services, the current report discusses the following issues:

- Foundations and scenarios for a PES (Payments for Ecosystem Services) scheme in the three regions; discussion of the importance of benefit sharing and stakeholder involvement;
- Potentials and conditions for regional development based on the existence and management of the protected areas, and consideration of regional development plans; discussion of the mutual push-and-pull effects

between conservation tar-gets and economic tar-gets, with the rough outline of a strategic concept that harmonizes both targets;

- Recommended actions for future activities.

Table 2: Values for ecosystem services provided by Maramures Natural Park (RO)

Ecosystem goods and services	<i>in 1,000 RON, per year</i>	
Water supply	1,848	
Hay	34,685	
Timber	31,876	
Non-timber forest products	3,645	
Hunting	102	
CO2 sequestration (lower/upper bound)	26,470	171,722
Watershed protection	43,295	
Erosion control	3,189	
Wildlife habitat	800	
Recreational fishing	685	
Recreation	4,835	
Cultural heritage	737	
Traditional landscapes	589	
Total Economic Value (TEV), per year	152,756	298,008

Source: Ceroni, 2007.

The current report deals specifically with these questions and draws on the results of three workshops held in Baia Mare (Maramures Natural Park, RO) on 18 February 2010, in Spiška Nova Ves (Slovensky Raj National Park, SK) on 25 February 2010, and in Zakopane (Tatra National Park, PL) on 26 February 2010. The report deals with the results in a joint discussion, where necessary, specific conclusions for the different regions and protected areas are drawn separately. However, the main parts of the report outline with fundamentals of regional development and sustainable financing of protected areas and aim at functioning as a base-line and handbook to be considered by the respective park management and authorities. The final section deals with specific recommendations for the three parks.

The first part of the report (Getzner, 2009) included an introductory discussion on biodiversity, ecosystem functioning, ecosystem services, and the drivers of change, and high-lighted the importance of economic reasoning for ecosystem service valuation. This discussion will not be repeated in the current paper.

2 Ecosystem services, regional development and financing of parks

2.1 Economic concept of ecosystem services and support of sustainable development through protected areas

The basic economic notion of dealing with ecosystem services is the differentiation between the ecological capital and the flow of services provided by this stock:

- Ecological capital refers to the whole stock of elements of biodiversity and natural resources, such as the full range of all elements of an ecosystem. This ecosystem consists of the different animals and plants (genetic and species diversity), and energy and material flows, dynamics and interdependencies (ecosystem and landscape diversity).
- Ecosystem services (environmental services) refer to the flow of goods and services provided by the ecological capital stock over a certain period of time (such as one year). The services can consist of use and non-use benefits (e.g. production of timber, recreation services; existence values).

From an economic point of view, it is practically impossible to value the ecological capital stock in money terms as such. There is, however, a wide range of economic valuation techniques which may put a money value on the flow of goods and services provided by the ecological capital, and which therefore can also value the change in the quality of the ecological capital (environmental quality).

Biodiversity conservation, for instance in protected areas, may contribute significantly to the future provision of ecosystem services. The benefits of conservation, however, are not only locally enjoyed, but also accrue to regional, national and even global beneficiaries.

Many biodiversity hotspots are located in peripheral regions, considered on a global level as well as on a regional level (Friedl et al., 2007).¹⁾ While developing countries are especially rich in biodiversity, poor and peripheral regions in developed countries such as in Central Europe (e.g. Slovakia, Poland, Romania) also exhibit above-average species and ecosystem diversity. This concentration of biodiversity has implicitly been recognized by the Convention on Biological Diversity (CBD), passed in 1992 at the UN conference on environmental and development (UNCED) in Rio de Janeiro, with its reference to the importance of benefit sharing of biodiversity conservation. While the conference concentrated on an integration of environmental and equity issues, it was also acknowledged that the sharing of conservation benefits is a prerequisite for effective conservation management and poverty reduction (Convention on Biological Diversity: Secretariat of the CBD, 2005). As such, the conservation of biodiversity is important for regional sustainable development both as a precondition for sustainability, as well as a major potential consequence of securing the livelihood of residents, and of regional development (Wells and McShane, 2004). The conservation of biodiversity therefore can integrate the crucial dimensions of sustainable development (cf. for instance Barker and Stockdale, 2008):

- (1) Biodiversity conservation contributes, of course, to the ecological aims of sustainable development by protecting genetic, species, ecosystem (habitat) and landscape diversity; the conservation of biodiversity in situ in national parks is especially important due to the stringent ecological management plans and subsequent international monitoring. Hence, the establishment of a national park preserves the natural capital by observing the carrying capacity, and limiting and steering visi-

tor flows which would otherwise be a threat to the ecological integrity of the regional ecosystems.

- (2) Biodiversity conservation, with its aims of providing benefits for the local population, also contributes to the economic dimensions of sustainable development by supporting the livelihood of people and the regional/local economic development, provided that potential conflicts between economic and ecological development are solved (i.e. ecological and economic goals are considered as complementary). Regional economic sustainable development may therefore be supported since local residents find new income opportunities which are also ecologically sustainable – options which only a protected area is able to provide. These effects of biodiversity conservation in protected areas are discussed more thoroughly in the following sections.
- (3) Biodiversity conservation also contributes to the social goals of sustainability, by distributing the costs of conservation equally among stakeholders (and national and international tax payers), and by empowerment and participation of (otherwise marginal) stakeholder groups. In addition, further aging of the population may be reduced, and a favorable population structure may be supported.

In European countries, the problem of poverty alleviation is certainly much less dramatic than in developing countries. However, the public debate on biodiversity conservation – especially conservation in situ in protected areas such as national parks, nature reserves, landscape conservation areas – is very much focused on an equal sharing of the burdens (e.g. local land owners and holders of land-use rights) and on providing benefits for the local residents besides the aims of protected areas for nature conservation, education and scientific research (WCPA, 2000). For instance, Mose (2007a) has presented a range of approaches and models for protected areas and regional development. It turns out that, in general, protected areas can enhance regional sustainable development. However, it is of equal importance to address adequate management strategies, e.g. regarding inclusion and participation of all relevant stakeholders in order to maximize benefits of establishing and managing protected areas. The existing Central European case studies (e.g. Mose, 2007b; cf. also Kletzan and Kratena, 1999; Getzner, 2008; Getzner, 2003; Getzner and Jungmeier, 2002; Getzner, 2010; Hammer, 2007a; Hammer, 2007b) concentrate on a broad range of topics, such as

- impacts of protected areas on regional (economic) development;
- economic effects of expenditure due to establishing and maintaining a protected area;
- issues of acceptance and identity;
- tourism, visitors' motives to visit the region, and expenditure of tourists.

In many case studies, quantitative research is limited, often due to the lack of consistent time series of relevant socio-economic data. For instance, one of the major Austrian studies (Fleischhacker, 2001) presupposes that national parks, as a main category of protected areas, lead to enhancing tourism in national park regions. However, this conclusion is drawn on the basis of qualitative research and assumptions about the potential regional impacts of protected areas. On the other hand, studies on certain aspects of regional development are quantitative but limited on value added and employment effects of protected areas (e.g. Getzner and Jungmeier, 2002).

2.2 Conservation and regional development: conflicts or complements?

Regarding biodiversity conservation from the viewpoint of economics, the very nature of economic activities has to be borne in mind. Every economic activity, such as production and consumption, uses natural resources in the form of energy, materials, land. Of course, capital and labor are crucial inputs to economic production. However, from the point of view of social ecology and resource economics, every single human activity is connected with the use of natural resources. While the production of services are considered less resource-intensive than industrial production, services need as underlying backbones and infrastructures a broad range of products stemming from resource-intensive industries (e.g. construction, heavy industries).

Figure 1: Reallocation of natural capital from the ecosystem and its nonhuman species to the human economy

Source: Czech, 2008.

Czech (2008) has pictured the conflict between the size of the economy and the land remaining for biodiversity conservation in a simple graph.

With a growing economy, the amount of resources transformed to inputs of the human economy grows. That means that under scarce resources (in particular, land) the eco-systems have fewer resources left for reproduction.

With respect to protected areas, these conserve land for the protection of biodiversity. However, the extent of conservation is determined by the category assigned to the protected area, and by the stringency of the actual management plans and measures.

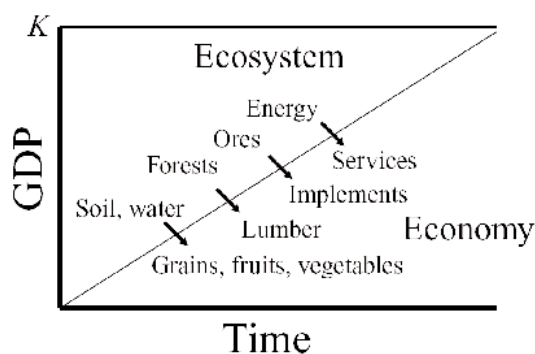
Regarding protected areas providing ecosystem services, these services might be crucial for the local and regional economy. The valuation studies in Slovensky Raj (SK), Tatra (PL) and Maramures (RO) protected areas showed that water provision, forest products, and recreation are the most important ecosystem services for the local and regional economy.

However, the expansion (economic development) of adjacent communities around the parks increases the pressure on ecosystem in terms of resource use, high numbers of visitors, new infrastructures for tourists, and also utilities for the local economy (water and energy supply, waste water treatment).

Therefore, ecosystems can provide crucial services to the local economy, but can also be affected by local and regional (economic) development.

2.3 Conditions for regional development

For balancing the use of resources by the local economy, and nature conservation on the other side, there is one main condition for this balance. The institutions establishing protected areas have to care



for a credibly implemented, effective and efficient nature conservation policy.

This means that the ecosystem services needed for the local economy must be secured in the long run, and not be jeopardized by short-term considerations. Otherwise, the unique selling proposition of the region is lost.

Such a policy presupposes essentially three main frameworks:

- Authority of the park administration over measures and policies within the park boundaries: The park management not necessarily has to be the land owner, but has to have the full authority over all activities within the park.
- Effective ecological management plan: During the life-cycle of a park, there are numerous activities (see IPAM, Integrative Protected Areas Management, www.ipam.info). However, the central part of management is certainly an effective and efficient management plan with which the policies can be implemented.
- Sufficient financing of protected areas management and policies: Without a sufficient funding of park administrations, effective policies cannot be implemented.

These three major policies secure that the parks conserve their ecological capital for future provision of crucial ecosystem services in a sustainable way, that management policies are effectively implemented, and that the park can also be “used” for regional development in the long run. Otherwise, the ecological capital may be deteriorated, and the ecosystem services unique for the single parks may be deteriorated in the long run.

While the above-mentioned aspects can be influenced by the national park administration and have to be set up by the local, regional and national nature conservation institutions, it is also of crucial importance to consider an additional aspect in regional development policies.

Park administrations have to be involved in regional planning and development. That means that the regional development plans and strategies have to account for the existence of the park, of the provided ecosystem services, and have to direct the regional strategy with respect to the “use” of the park for regional development. Only with coordinated efforts of the park management and the regional and local planning authorities, joint design and implementation of development strategies are effective. It is not only crucial to establish a formal system of

communication and cooperation, but the park administration has to set up a communication platform for regional development in which regional stakeholders can discuss park policies, and also assess economic consequences of park policies.

2.4 Payments for Ecosystem Services (PES) and sustainable financing mechanisms of protected areas

2.4.1 Importance of sufficient funding

The financing of protected areas is one of the most crucial ingredients for effective and efficient protected areas management. Without sufficient funding (i.e. resources devoted to the co-management of biodiversity conservation, education and information, and scientific research), management would not be effective, and is therefore also not able to provide contributions to regional development based on ecosystem services provided by the PA.

In the following, some key-aspects are discussed in more detail.

2.4.2 Functions and tasks of Protected Areas with public and private elements: Strong indications for public financing

Economic relevance of Protected Areas

The economic characteristics of Protected Areas (PAs) are derived from the functions of PAs (nature conservation and protection of biodiversity, recreation, education and information, and scientific research), the economic attributes of PAs as public, private and/or meritory goods, the impacts of PAs (e.g. internal vs. external effects), and the valuation of PAs and their functions (e.g. use values, non-use values).

The consideration of PAs as providing goods and services is complicated by intergenerational existence of PAs, ethical standards and commitments, lack of information, uncertainties and ignorance.

Taking these arguments as the baselines for financing PAs does not only result in different approaches to financing (public-private), but also leads to different conclusions regarding the role of private households and companies as contributors of financial resources of PAs.

Establishing a PA is connected with opportunity costs in a variety of aspects. The area where the PA is located may be used for other options (economic development, housing, agriculture). Establishing and managing a PA therefore is connected to foregone benefits of alternative use of funds. The financing – private and public – is as well related to opportunity costs.

Ecosystem functions

As discussed above, ecosystems and Protected Areas provide a number of ecological functions determined – among others – by the category of the PA (e.g. national park, state park, landscape conservation, Natura 2000). While the conservation of biodiversity is certainly one of the most important aspects, PAs also should provide – to varying degrees – recreation and education opportunities, research, sustainable (regional) development and economic opportunities for the local population.

All these functions include public and private components that may rest on a variety of financing instruments and mechanisms. In principle, the public functions of PAs are more likely to be financed publicly, while some of the more private functions (e.g. tourism) may be based on private financing and private decision making.

Public goods

We now turn to describing a number of economic concepts that are relevant arguments for public financing of the core functions of Protected Areas.

Public goods – opposite to private goods – as well as (to a certain degree) common pool resources (“commons”) are characterized by non-rivalry and non-excludability. Non-rivalry means that a good can be “consumed” (used, enjoyed, valued) by many people at the same time. Non-excludability means that no one can be excluded from “consuming” the good even if he/she does not pay for the provision of the good.

Private companies and households – based on the attributes of public goods – therefore do not (or not sufficiently) provide public goods due to strategic and free-rider behavior. This kind of market failure leads to the conclusion that the public sector (state, government) is responsible for providing such goods. However, the public may, of course, commission private agents to fulfill public tasks.

Environmental/natural goods and services often carry attributes of public goods. For instance, Protected Areas include many public goods (or common-pool resources) attributes in their functions (each related to their “public elements”):

- Conservation of biodiversity (genes, species, ecosystems, landscapes);
- Social equity and justice;
- Education;
- Recreation and leisure.

Biodiversity may be used and valued by everyone, no one may be excluded from more/less biodiversity, and is also affected by the state of biodiversity in one or the other way.

Social justice and social functions of PAs are valued by most of the members of society.

Education is also perceived partly as a public good since the state of education and training within a society affects every member of that society.

Recreation also carries public components related to public health and safety.

Taking the manifold function of PAs, the core issues carry public elements and are therefore subject to public (state) intervention including a regulatory framework and public financing of PAs’ tasks. In particular, biodiversity conservation as the core tasks of PAs has to be financed publicly, and an efficient and effective management of this core task may be the basis for the many other functions and tasks of PAs, some of them possibly financed by private sources.

External Effects

External effects are unintended effects of consumer or producer activities on other households and companies without adequate compensation. External effects can be positive or negative. In the case of Protected Areas, they very often exhibit (positive) external effects in many ways, such as regional development, biodiversity conservation also outside the area, tourism opportunities etc.

On private markets, goods that exhibit positive external effects, are offered in a quantity lower than the optimum, at prices above the optimum.

In order to correct such market failure, state intervention into the market in the form of regulatory frameworks and subsidies (public financing of PAs) is appropriate.

Increasing economies of scale and natural monopolies

Subsidies (public financing of PAs) may also be reasoned by natural monopolies exhibiting increasing economies of scale. Taking the efficient price of a natural monopoly results in a price below production costs. Therefore, in order to provide the good, the public has to subsidize the production of the good in order to secure an efficient supply.

Protected Areas exhibit some elements of increasing economies of scale since networks and larger PAs may fulfil the core functions of PAs much better than smaller and dispersed areas.

Meritory goods

Meritory goods are goods whose consumption is mandatory. Consumer sovereignty is limited to issues of public interest such as mandatory school attendance of children between 6 and 14 years, or traffic safety (e.g. seat belts). PAs with their specific education and recreation functions may carry some meritory elements since it is commonsense that education and recreation are important for the standard of living, and should therefore be supported (and ultimately subsidized by the public).

Further arguments for public financing

There have been discussed many more arguments for public financing, for instance:

- Asymmetric or insufficient information;
- Institutional rigidities;
- Incomplete mobility of factors of production;
- Incomplete capital markets;
- Subsidies to foreign producers;
- Adjustment to new market conditions;
- International trade considerations;
- New growth theory.

However, public financing and recommendations for financial instruments may best be laid on the following arguments:

- Protected Areas as public goods
- External (positive) effects of PAs.
- Increasing economies of scale;

- Meritory elements of PAs.

Inefficiency of public financing

The principle call for public financing of public tasks has, of course, to be discussed thoroughly in terms of the efficiency and effectiveness of the public sector.

Only if the overall economic costs are smaller than the benefits of public financing, state intervention is justified. Problems with state intervention and public financing include:

- Inefficiency of bureaucracies;
- Political economy of public actions;
- Crowding out of private funds by public financing;
- Inadequate, ineffective public intervention.

When choosing a certain policy instrument such as public financing of PAs, it has to be stressed that the principles of public financing have to be tested in the concrete situation. If the costs such as "red tape", efficiency losses due to taxation, limited effectiveness, outweigh the benefits, public action may not be recommended.

2.4.3 Criteria for choosing instruments for financing nature conservation

Choice of policy options

Choosing instruments for Protected Areas (PAs) and PA networks has to be considered in a variety of contexts, not only of economic considerations, but of ecological, social, administrative, institutional and instrument specific dimensions.

Ecological effectiveness

A policy instrument should lead to fulfillment of ecological goals and targets which have to be based on sound scientific evidence. Especially in nature conservation, where potentially irreversible effects may result from inadequate or ineffective measures (such as species extinction, habitat loss), ecological effectiveness is the main and foremost objective of any instrument regardless whether the instrument is

regulatory (command-and-control) or economic (taxes, subsidies).

Economic efficiency

A policy instrument should be efficient in the sense that a certain goal is achieved with the lowest cost, and that action should be taken when benefits are larger than costs. There may be different effective instruments for achieving a certain ecological goal but there may also be more and less efficient instruments among these effective instruments.

Social equity and justice

Nature conservation policies should also take into account social fairness, equity and justice. For instance, it has to be explored which social group (e.g. income group) enjoys the main benefits, and which social group bears the costs. In a broader sense, social fairness also means that peripheral regions with income below average may be supported if they face restrictions in the economic use of resources due to the establishment of a PA.

Administrative feasibility

Some instruments for nature conservation and environmental protection may be close to the “polluter-pays-principle” while they cause high administrative costs. For instance, it might be feasible to charge visitors of a national park closely according to their activities in the park. However, such system would be too costly in terms of administration; therefore, uniform entrance fees (if any) are charged.

Political acceptance

Nature conservation policies are not only influenced by experts, managers and planners of PAs, but take place in a political context. Some instruments may be efficient and effective, but there might not be a political will to realize such policies.

Flexibility and reversibility

Instruments in nature conservation and PA management should also be flexible enough to account for changes in the managerial context. For instance, public funding should be flexible in order to account for extensions of the PA area, or for changes in management objectives.

Differentiation in time and space

Finally, instruments should also be differentiated according to local requirements, and also account for different seasons.

2.4.4 Protected areas on their way to financial sustainability²⁾

The concept of financial sustainability is more than just increasing the annual budgets of protected areas. It can be a tool to improve the core objective of a protected area, i.e. conservation management. According to IUCN (Emerton et al., 2006), financial sustainability is “the ability

- to secure sufficient, stable and long-term financial resources,
- and to allocate them in a timely manner and in an appropriate form,
- to cover the full costs of protected areas, and
- to ensure that protected areas are managed effectively and efficiently with respect to conservation and other objectives.”

Finances shall be factored into the protected area planning and management processes and financial tools such as business planning shall be employed. Financial sustainability therefore needs adequate sources (= supply side) and wise use (= demand side) of funds and is impossible without “strong and effective institutions for protected area management” (Emerton et al., 2006).

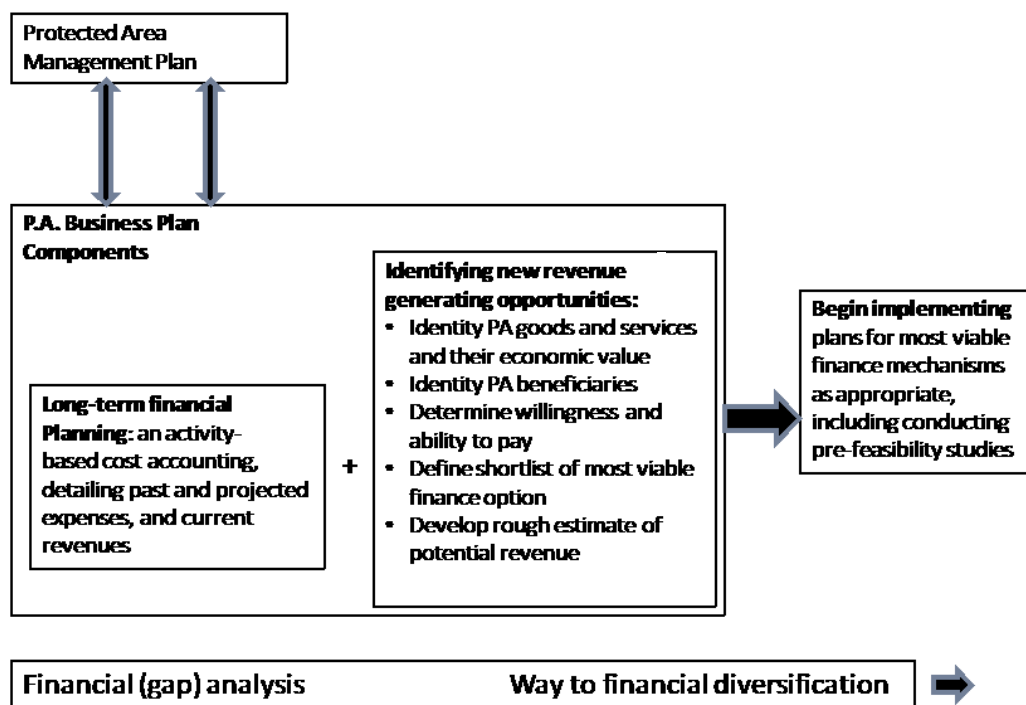
Business-oriented financial planning as a process

Sustainable financial planning is a working framework that includes interactive processes involving numerous stakeholders in order to create broad ownership across constituencies, systematise actions and attract a sufficient and stable resource base. It fosters entrepreneurial thinking among managers and administrators to run the protected area as a business making it ecologically, socially and financially sustainable.

Steps in the financial planning process include a financial (gap) analysis which lists current income sources and identifies funding needs according to the protected area management plan; the resulting financial gap is the basis for the next and most crucial step, the identification of feasible financing mechanisms. The financial plan condenses all pre-

vious analyses and formulates financial strategies and their implementation (Figure 2).

Figure 2: Parts of the financial planning process as defined in the Conservation Finance Guide



Source: Conservation Finance Alliance.

- validation of results leading to a shared understanding of the funding gaps and the funding framework.

Financial (gap) analysis

Funds needed depend on the type and extent of management action taken. PA managers need to prioritise measures in order to fulfil the conservation objectives according to the management plan and quantify the financial needs based on the past experience and projections taking into account cost effectiveness. The financial (gap) analysis is the baseline for all your efforts to increase and diversify the protected area financial portfolio.

The process of a financial (gap) analysis generally involves various stages (e.g. Flores et al., 2008):

- planning and preparation to define scope and methodologies;
- information collection involving stakeholders;
- processing and analysis of past and projected financial streams using different scenarios for future management action (e.g. mission critical and optimal state); and

Ways to financial diversification

There is a universe of potential funding mechanisms for protected areas or biodiversity conservation. Table 3 shows the broad range of potential funding instruments.

In order to identify and assess feasible financing mechanisms for a specific protected area (system), it is necessary to understand the assets and ecosystem services provided by the PA. At best there is already an economic valuation of the use and non-use values in the protected area.

On the way to diversify the funding portfolio the following actions should be considered:

- Identification and evaluation of benefits of the protected area;
- definition of the products and services (public and private goods components) offered;

- assignment of customers/markets to these products and services;
- assessment of their willingness and ability to pay;
- overview of potential financial mechanisms resulting from the above analysis;
- feasibility assessment for the shortlisted mechanisms; and
- selection and implementation of the chosen funding instruments.

Generally, PAs will depend mostly on public funds (from various local, regional, national or international sources) such as public coverage of management costs, ear-marked funds, coverage of project costs, or funding from international institutions. As PAs produce various public goods and services (biodiversity conservation, scientific research, and recreation), the scope of private funding is commonly limited. Furthermore, private funding (e.g. sponsoring, merchandising, local products) especially need efforts in terms of time and money to be effective. Therefore, the costs and benefits of private funding programmes have to be taken into account before starting such venture.

Table 3: Overview of financial mechanisms for biodiversity conservation

Local Level Financial Mechanisms	
More traditional <ul style="list-style-type: none"> - Protected areas entrance and fees - Tourism related incomes - Local markets for sustainable rural products - Local NGO and charities - Local businesses good will investments 	More innovative <ul style="list-style-type: none"> - Earmarking public revenues - Local green markets - Local markets for all type of ecosystem services (PES)
National Level Financial Mechanisms	
More traditional <ul style="list-style-type: none"> - Government budgetary allocations - National tourism - National NGO fundraising and fund granting - National businesses good will investments 	More innovative <ul style="list-style-type: none"> - Earmarking public revenues - Environmental tax reform - Reforming rural production subsidies - National level PES - Green lotteries - New good will fundraising instruments (internet based, rounds, up, etc) - Businesses/public/NGO partnerships - Businesses voluntary standards - National green markets - National markets for all type of ecosystem services (PES)
International Level Financial Mechanisms	
More traditional <ul style="list-style-type: none"> - Bilateral aid - Multilateral aid - Debt-for Nature-Swaps - Development banks and agencies - GEF - International NGOs fundraising and fund granting - International foundations - International tourism - International businesses good will investments 	More innovative <ul style="list-style-type: none"> - Long term ODA commitments - Auction or sale of part of carbon emission permits and other cap-and-trade schemes - Environment related taxes - Other international taxes - Reforms in the international monetary system - Green lotteries - New good will fundraising instruments (internet based, rounds, up, etc) - Businesses/public/NGO partnerships - Businesses voluntary standards - International green markets - International markets for all type of ecosystem services (PES)

Source: Gutman and Davidson, 2007.

PES = Payment for Ecosystem Services; ODA = Official Development Aid; GEF = Global Environmental Facility.

Business planning

In the corporate world business planning is an exercise of strategic management in which the potential

economic success of a business idea is assessed. It leads to the production of a document, the business plan. It is characterised by a succinct and well-structured form of presentation and its comprehensive information content. It serves internal (adaptive management) and external (communication, finance) functions. Business planning for protected areas is less standardised due to different enabling environments and methodological approaches, growing but limited good practice, varying terminology and few guidelines and tools.

The financial plan as discussed above forms part of a business plan document. For a protected area, this document could contain the following components:

1. Executive summary.
2. Protected area at a glance: short description of geography, size, zoning, natural asset base, management categories, rights and ownership.
3. Organisational information: areas of operation, organisational structure, management, employees, legal form, decision-making.
4. "Products and services" (findings as of financial analysis process).
5. "Business environment": protected area system, legal and regulatory framework, stakeholders, marketplace, customers, competition, socio-economics of area.
6. Strategy & implementation: from vision to action plan (describing also scenarios, if used in financial analysis process), marketing.
7. Financials: historic and pro-forma numbers and assumptions (based on financial gap analysis and new financing instruments).

Financial planning and participation

Planning for sustainably financed protected areas is complex, needs time and adequate (human and financial) resources, and above all the commitment of government and relevant authorities (later also stakeholders). Although it is a core competence of management and decision-making bodies within the protected area, it generates a "learning" dynamic for the larger group of involved people with regards to economic values of goods and services provided by protected areas and their real funding needs. It can increase public awareness finally leading to a higher willingness to pay for biodiversity conservation.

Regional development and benefit sharing

Financial planning unveils the beneficiaries of and contributors to conservation ("winners", "losers") and by structuring of tailor-made financial mechanisms allows for the distribution of the costs and benefits. A lot of the funding instruments are targeted not only to the site level but rather to the system level of protected areas like government budget allocations, environmental tax reforms, earmarked international donor assistance and philanthropy, international markets for ecosystem services etc. Such instruments generally focus beyond financing the protected area but rather improving economic development in the region with the protected area being an important player in the region.

A trend towards the commoditisation of biodiversity assets, liberalisation of capital markets, privatisation and globalisation may also have impacts on local protected areas. There is a need for local ownership, effectiveness, transparency, accountability and customer-mindedness if protected areas are to become financially sustainable in the long run. The financing and use of resources may be of eminent importance to regional (economic) development. As a PA can be considered a major local and regional project also in economic terms (e.g. number of jobs created), the PA management can influence regional development by

- purchasing goods and services from local companies;
- setting up networks and partnerships with commercial stakeholders; and
- contributing to the development of regional marketing and destination management.

Furthermore, the PA may also influence decisions on how resources are financed, e.g. by earmarked taxes and charges for certain (specific) user groups.

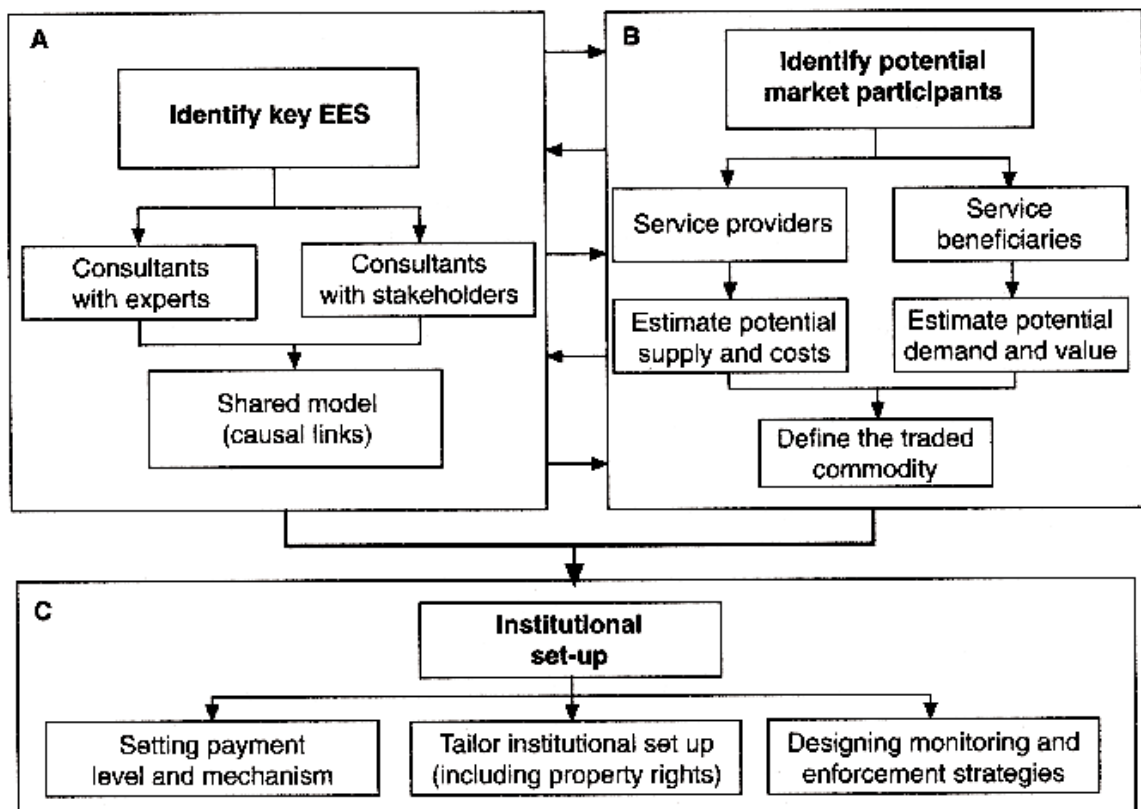
2.4.5 PES Payment for Ecosystem Services schemes

In the following, one specific financial instrument, the PES scheme, that was already mentioned above in Table 3 is described in Figure 3.

The design of a PES scheme starts out with the identification of key ecosystem services (see Part 1 in Figure 3). The current valuation study (Getzner, 2010a) has provided a range of valuation results regarding the economic values of ecosystem services. While water provision and forest products are

significant, the most important service provided by Slovensky Raj and Tatra National Parks is recreation. There is a range of recreation benefits provided within the region. However, with respect to the provision of national park services, the national park administration is clearly the provider of the services. For some, the park administrations take the planning responsibility and commission certain services to local providers (part B). The institutional set-up (part C) with concrete pro-posals for the three protected areas is discussed below in the summarizing section 3

Figure 3: Design of a PES scheme



3 Summary, conclusions and recommendations of Tatra and Slovensky Raj national parks and Maramures Mountains Natural Park

3.1 Preconditions for regional development and financial sustainability: general conclusions

In order to “use” protected areas for regional development which also serves as a basis for financial sustainability, a range of pre-conditions have to be met.

For balancing the use of resources by the local economy, and nature conservation on the other side, there is one main condition for this balance. The protected areas have to care for a credibly implemented, effective and efficient nature conservation policy.

This means that the ecosystem services needed for the local economy must be secured in the long run, and not be jeopardized by short-term considerations. Otherwise, the unique selling proposition of the region is lost.

Such a policy presupposes essentially three main frameworks:

1. Authority of the park administration over measures and policies within the park boundaries: The park management not necessarily has to be the land owner, but has to have the full authority over all activities within the park.
2. Effective ecological management plan: During the life-cycle of a park, there are numerous activities (see IPAM, Integrative Protected Areas Management, www.ipam.info). However, the central part of management is certainly an effective and efficient management plan with which the policies can be implemented.
3. Sufficient financing of protected areas management and policies: Without a sufficient funding of park administrations, effective policies cannot be implemented.

The first framework includes a country's willingness to set up organisations and institutions which are responsible for the management of certain areas that may be protected according to existing national or international standards. This realm cannot be deci-

ded upon by the protected area management itself but has rather to be discussed at the re-gional and national level.

However, if the protected area management is in place, there is a broad range of Fields of Activity (FoA; www.ipam.info) in which both stakeholder involvement and regional de-velopment can play a crucial role. According to this second framework, the effective eco-logical management plan is a central part in all Fields of Activity. Over the “life-cycle” of protected area, there are several phases to be detected:³⁾

- During the preparatory phase (“pre-phase”), the first ideas for the establishment of a protected area are collected and discussed publicly, a feasibility check is made, and a first direction of the further development is drafted.
- The planning phase is divided into the period of basic planning which includes basic research, and planning of designation and implementation, and ends with the legal nomination of the area as a protected area; and into the period of detailed planning with a focus on specific plans for the ecosystems (ecological manage-ment plan), regional economy, management set-up, and monitoring. The focus on the latter is to establish a system of adaptive management, and clear institutions and rules for transparent responsibilities and decision-making.
- The implementation and management phase begins with the legal establishment of the protected area and involves the full range of management activities such as business planning and management, visitor steering and infra-structure, marketing and day-to-day business decision making.

As all three protected areas that are discussed in the current report are already estab-lished, but lack to a broadly varying degree some of the basic and detailed planning steps, the following list of the Fields of Activity of PA management may serve as an input to further implementation of management steps:

Pre-Phase

FoA (Field of Activity)-1: Development of Idea and Vision. The idea of establishing a pro-ected area is often raised and developed by a limited number of people (stake-holders) dedicated to the conservation of biodiversity. By involving all relevant

stakeholders a broader vision has to be agreed upon in an extensive process of discussion and debate.

FoA-2: Feasibility Check. Once the vision of developing a protected area is clear, the feasibility of its implementation is analysed by focusing on the regional situation in spatial, socio-cultural and economic dimensions. Potential problems or risks are identified and balanced with the opportunities for the region stemming from the potential establishment of a protected area.

FoA-3: Communication and Participation I. Previously identified stakeholders are informed in an appropriate way and have the chance to become involved in the further planning process. Already at this stage, it is also crucial to involve potential opponents of the prospective protected area.

FoA-4: Incorporation into PA-Systems. The site to be developed as a protected area is envisioned to fit into the existing national (and international) protected areas system. Core functions and unique attributes of the intended protected area are identified.

Basic Planning

FoA-5: Planning Handbook. The basic planning processes of a protected area are set up as precisely as possible in order to avoid misunderstandings, mistrust, or potential flaws which consequences may multiply during the further planning and management of the site. The “road map” for the whole process can nevertheless differ considerably according to environmental, economic or legal conditions of a particular region, and has, of course, to be adapted to changes in the relevant frameworks.

FoA-6: Communication and Participation II. Involving a broad range of stakeholders allows for a better understanding of the potential resistance and generally also increases the acceptance of the protected area. Key-players are identified, regularly informed and invited to contribute to the planning of the protected area.

FoA-7: Basic Investigation. All kinds of data and information are collected for the planning process, such as ecological and economic data, GIS (Geographical Information System) and remote sensing data.

FoA-8: Implementation Planning. The implementation plan contains all basic information required for the (legal) designation of the protected area, for instance, fixed boundaries, proper zoning and a defined organisational structure. The implementation plan also has to correspond to the legal frameworks and the international requirements of the chosen protected area’s category.

FoA-9: Designation and Establishment. The (legal, official) designation is the final act of the basic planning process. After a successful application the new protected area is nominated by national or European legislation and/or an international organisation (e.g. UNESCO, Ramsar Convention). The establishment includes the formal (legal) set-up of the protected area (e.g. legal and organisational implementation).

Detailed Planning

FoA-10: Mission Statement and Basic Concepts. Once a protected area is designated, it has to be pointed what it stands for. A mission statement highlights the core values and objectives of the site in a few words. A corporate identity is developed to express and promote the mission of the protected area.

FoA-11: Ecosystem-based Management Plan. An ecosystem-based management plan indicates how the habitats and species in the protected area can be used, developed and managed in order to achieve the conservation objectives. A monitoring system is established to measure the effectiveness of all management activities.

FoA-12: (Regional) Economic Programmes. Nature conservation does not necessarily prevent economic development. In contrast, protected areas often stimulate regional economic development as the PA often attracts tourists and provides a platform for presenting, promoting and selling regional products and services.

FoA-13: Specific Planning (Subsidiary Plans). Certain issues such as public and private transport and waste (water) treatment may affect a protected area. They are taken into account when planning and managing the site.

Implementation and management phase

FoA-14: Personnel & Organisational Development. A particular type of organisation (e.g. limited company, government body or authority, commu-

nity or NGO based management) and professional staff are chosen to form the managing structures of the protected area. Specific emphasis lies on the management of change from organisational as well as economic and ecological viewpoints.

FoA-15: Evaluating Management Effectiveness. The whole process of establishing a protected area is monitored and evaluated, from site-based actions to broad political and policy reviews. SMART (specific, measurable, achievable, relevant, time-bound) indicators have to be defined which can easily be monitored.

FoA-16: Financing (Business Plan). Financing is one of the major concerns of protected areas. The expected earnings and expenditures are usually presented and forecast in a business plan. When planning the financial component of the protected area's business plan, the benefits the park to its customers (e.g. local and regional stakeholders, visitors) are to be considered. Innovative ways of funding are discussed and developed. A good mixture of funding sources can substantially widen the financial opportunities and independence for a protected area (financial sustainability of PAs).

FoA-17: Impact Assessment and Limitation. Protected areas may be affected by other infrastructure projects such as road construction, electricity production, industrial or housing development. In such cases, public authorities and, often, legal regulations, require an assessment of the environmental impacts on the parks ecology. Park staff may offer to pre-check a planned project. Therefore, clear procedures for impact assessment have to be established to ensure transparency and completeness of potential impact assessment processes.

FoA-18: Data and Information Management. An ICT (Information and Communication Technology) system is developed according to the specific needs of the park in order to collect, store, control and disseminate information and data relevant to the protected area.

FoA-19: Research Setting and Monitoring. It is generally advisable to prepare an overview on the research already available or still required by the protected area. A long term monitoring programme is set up.

FoA-20: Communication and Participation III. All relevant stakeholders are permanently involved in the ongoing management activities (participatory

management). However, a clear differentiation is made between decision-making, controlling, and consulting bodies, and informative groups of stakeholders. Differentiated technical information is provided to stakeholders, decision makers and the broad public.

FoA-21: Development of PA's Region. Developing the region of a protected area means that there will most likely be a need to adjust or develop regional strategies, policies, programmes and guidelines with the focus on social, economic and ecological sustainable development.

FoA-22: Co-operation Design. For the long term benefit of the protected area a strategic network is created with regional, national and international partnerships including, for instance, individuals, NGOs, governmental institutions, international bodies, and umbrella organisations.

FoA-23: Information, Interpretation & Education. With few exceptions, protected areas have the task of educating and raising public awareness regarding nature, ecology, sustainability and related issues. The core messages and target groups are clarified in order to plan and manage all educational and information activities.

FoA-24: Visitors, Services & Infrastructure. Visitor management, which includes regular ways of collecting feedback and opinions the PA's customers, is one of the main tasks of PA management. The needs of visitors, local tenants and residents are equally considered. A well balanced range of infrastructure and an adequate visitor programmes has to be provided. The behaviour, activities and spatial distribution of visitors as well as the feedback mentioned above is recorded for strategic purposes.

FoA-25: Marketing and Public Relations. A professional marketing approach comprises several key elements, like client analysis, product definition, development and contribution, competition evaluation, strategic partnerships, campaigns and advertising. Protected areas can be promoted as a regional or even national "brand".

In all Fields of Activity, stakeholder participation may be considered, and is important for both efficient and effective PA management. Stakeholders may be included to a varying degree of participation:

- Information (basically one-way communication): Stakeholders are informed, and may also give feedback/responses to the information provided.

- Consultation (two-way communication): Stakeholders are involved in workshops, seminars, excursions, informal meetings, or may also be included in the concrete decision making processes, e.g. in a “national park forum” or another consulting or deciding body.

In addition, the regional development strategies and the park management plans have to consider each other, in the sense that while nature conservation is secured, the park contributes to regional development, for instance, by providing visitor infrastructure, information and education, recreation, and by setting up a business network in order to strengthen the regional economy by its demands for intermediate goods.

Regarding funding in general, the financial basis for all three parks considered below can only consist of public funds. With the examples of parks chosen, it seems that very sophisticated PES (payment for ecosystem services) schemes are not warranted, except for compensation payments of land owners to comply with park regulations, and fees and charges for users of the parks.

3.2 Conclusions and recommendations for Tatra National Park

The Tatra National Park (PL) is certainly one of the well-established and managed protected areas in Poland as well as in the Carpathian region. The park administration is fully established, nature conservation plans and policies are effective, and financing is secured. The authority of the park management over the park's area is fully acknowledged, and the park also has a range of own revenues complementing the substantial government's funding.

If recommendations are justified, they may be formulated in two directions:

4. Future policies should clearly focus on strictly implementing national park (conservation) policies according to IUCN's category II; that means that no compromises should be allowed in or near park boundaries. The region of Zakopane is one of the major tourist regions in Poland and Eastern Europe. A strict observation of national park regulations does not deter visitors from coming to the area.
5. Funding may be extended by increasing the entry fee of tourist tickets, and by charging a tourism

tax (with an addition to the costs of an overnight stay in the region). Both funding instruments have the advantage that the systems are already in place. If the government of Poland decides to extend the own funding of the park, these two options of already existing system should be discussed further.

Regarding regional development in general, the valuation study (Getzner, 2010a) highlighted that visitors spend their holidays in the region for several reasons that are not closely connected to the existence of the national park. It might be advisable, also regarding the acceptability of further fees or taxes benefiting the national park, that even more information on the national park and its objectives are distributed among visitors.

3.3 Conclusions and recommendations for Slovensky Raj National Park

The Slovensky Raj National Park (SK) faces a number of problems which are also hindering regional development and funding of the park. Most important, the national park is acknowledged only by national law but is far from being internationally recognized.

The valuation study showed that forestry is a major economic activity within the park's boundaries. While some parts of the area are conserved based on the EU's Natura 2000 frameworks, the rest of the area is commercially used. Therefore, one crucial ingredient for the international recognition of the park as a “national park” is not fulfilled. In essence, this problem has its origin in the institutional set-up of the national park and its administration. The current management of the park has basically no authority regarding the decisions of land-use within the park's boundaries, and also has no substantial funds to finance management activities.

Therefore, a major precondition for supporting regional development and sustainable financing is not met in the park. Suggestions for improvement include:

6. Establishment of an institutional system with strict authority and, thus, also responsibility of the national park administration to design and implement a management plan and organization in accordance with IUCN's criteria for a national park (category II). This refers especially to the decisions which activities take place within the

park boundaries (visitor steering and use of infrastructure; forestry).

7. Sufficient funding for a national park administration; this can be financing by national government funds, but also by international donors and project acquisition. Furthermore, the possibilities to charge local taxes (e.g. surcharge on the user fees of visitor infrastructure) should be used. The charging systems are already in place, and the number of annual visitors is substantial so that funds may be crucial for the financing of the administration.

Regarding funding, it has also to be discussed whether the forest company now responsible for forestry within the park's boundaries has to be compensated, or whether the Slovak government accepts the foregone revenues of forestry by allowing for sustainable or national park conforming forestry.

Regarding regional development, the national park administration does not seem to currently have a stake in regional development. For using the park for regional development, however, it is important to build up a formal and informal communication and cooperation platform with the regional planning authorities as well as all regional stakeholders.

3.4 Conclusions and recommendations for Maramures Mountains Natural Park

The problems described in section 3.3 regarding the lack of financing and authority in Slovensky Raj National Park are even worse and more fundamental in the Maramures Mountains Natural Park. While the park's administration has established regular communication with the regional planning authorities, this communication does not seem to be binding in the sense of a strong commitment.

However, more fundamental are the problems of financing of the park. Sometimes over months, the lack of financing leads to the problem that park staff is not paid, or is paid with a delay of several months. The lack of authority of the park administration regarding land use and land use rights is also a fundamental problem. The lack of authority not only concerns decisions on the park's area. It also refers to the lack of authority of the park's management to apply for funds, and to communicate as a legal entity. For instance, all applications for funding or for projects have to be taken over by other authorities.

The processes seem therefore to be bureaucratic, inefficient and ineffective.

Before discussing regional development or sustainable financing of the park, a number of key issues have to be addressed:

8. Establishment of a park administration with authority over land use, and with a legal authority to apply for funds and projects, and to discuss with all stakeholders in the very role of the park's managers.
9. Clarity about the different aims and objectives of the Maramures Mountains Natural Park, and discussion about the "correct" assignment of the protected area as a natural park. The ecologically valuable area extends to the neighboring country of Ukraine. It should therefore be of highest priority to consider other options of designing an international protected area.
10. At least, the park's administration has to be funded sufficiently, otherwise, all nature conservation efforts will be ineffective since management and monitoring of all activities (e.g. by private landowners) cannot be implemented.

Interestingly, the Maramures Mountains Natural Park has a detailed management plan (MMNP, no year), and according to the UNDP's (2004) report, an efficient management authority should be in place at the latest by 2009. The recent problems of funding the park's administration point to the lack of implementation of the different plans.

The park's existence has been acknowledged in the different planning documents only to a marginal extent. The most recent document, the Development Strategy of Maramures – Ivano – Frankivsk – Zakarpattia cross border region (County Council of Maramures, 2009) addresses many important issues of development but lacks a comprehensive understanding of the value of the natural heritage in the Maramures mountains. The existence of the mountains is considered as a weakness because the hilly landscapes are a barrier to efficient agriculture (see page 12 of the document). The vast area of undisturbed nature, the richness in species diversity, are not mentioned in the report as an asset on which substantial regional development and cooperation between Romania and Ukraine may be built.

Unfortunately, the other planning documents do not take into account the substance of the natural park as a large protected area. The regional plan for Romania (Ministry of European Integration, 2007)

acknowledges the landscape diversity and natural assets in the region in just one sentence, and there is also no reference to the potentials of re-gional development based on the Maramures Mountains Natural Park.

The most pressing recommendations for the Maramures Mountains Natural Park can therefore be the following:

11. Establishment of an effective and sufficiently funded management of the park with authority on the park's areas, clear property rights, and an authority on its own to apply for funds and projects.
12. Revision of the existing planning documents and initiation of a debate, both public and between stakeholders how the protected area may be used for the promotion of regional development.
13. Establishment of an effective system of compensation payments of private land owners (PES scheme) so that the management plans of the park's administration can be implemented.

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- 1) The following paragraphs are taken and adapted from Getzner (2010).
 - 2) Section 2.4.4 is based on Getzner et al. (2010).
 - 3) For the following, see Getzner et al. (2010), and www.ipam.info.
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DISCLAIMER

This report was written based on good scientific conduct with the latest methodo-logical approaches available. All data sources have been indicated properly. However, the author cannot guarantee flawlessness of all data and results presented in here. Therefore, no claims can be accepted that may stem from the use of the results. The copyright of the report lies with the author, copying or using the report requires written approval by the author.

The conclusions and opinions presented in this report do not necessarily represent those of Klagenfurt University, WWF DCP or the park administrations.

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