

ODRŽIVI RAZVOJ ZAŠTIĆENIH PODRUČJA: FINANSIJSKI ASPEKTI

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Sažetak: Cilj ovoga rada je da prikaže metodologiju, koja podržava uspostavljanje održivih, ekološki reprezentativnih i efektivno finansiranih regionalnih i nacionalnih zaštićenih područja. Finansijska održivost će dorinijeti značajnom smanjenju stope gubitaka biodiverziteta i pridonijeti ukupnom održivom razvoju. Iako je postignut određeni napredak tokom poslednjih 10-tak godina, do danas su sistemi zaštićenih područja nedovoljno finansirani, uglavnom zbog ograničenih nacionalnih budžeta, nedovoljnog korišćenja sopstvenih finansijskih izvora, slabe podrške međunarodnih organizacija i kratkoročnog međunarodnog finansiranja projekata. Generalno, nedostatak kvalitetnog menadžmenta, posebno finansijskog, je jedan od glavnih razloga za nepovoljnu situaciju u pogledu održivosti zaštićenih područja.

U radu se polazi od hipoteze da je potrebno obezbijedi sigurne izvore finansiranja zaštićena područja. Obezbeđenje adekvatnih finansijskih sredstava je nužan ali ne i dovoljan uslov da se zaštićenim područjima upravlja efektivno i finansijski održivo. Potrebno je takođe postići kvalitet, formu, taiming i raspoloživost finansijskih sredstava. U cilju razvoja metodologije koja uzima u obzira navedene elemente u radu će se razmatrati metodološki prilaz koji obuhvata: (1) istraživanje različitih aspekata finansijske analize (finansijske potrebe i nedostaci finansijskih sredstava zaštićenih područja), (2) određivanje i izbor finansijskih mehanizama, (3) analiza uslova koji omogućavaju razvoj finansijskih strategije i (4) kreiranje finansijskog plana i moniteroning njegovog sprovođenja.

Ključne riječi: *finansijski menadžment, održivi razvoj, zaštićena područja, finansijska održivost.*

SUSTAINABLE DEVELOPMENT OF PROTECTED AREAS: FINACIAL ASPECTS

Abstract: Ambition of this paper is to provide framework which will support establishment of comprehensive, ecologically representative, and effectively financed and managed regional and national protected areas. This will contribute to significantly reduce the rate of biodiversity loss, and help the overall sustainable development. Although some progress has been achieved over the past decades, to date most protected area systems around the world are still severely underfunded. In most cases, protected areas are still dependent upon limited national budget allocations, support from international conservation organizations and short-term international funding through projects. Lack of good management, especially financial management, is the serious reason for that. The hypothesis of this paper is that it is necessary to provide secure sources of funds for PAs. Securing adequate funds is a necessary but not sufficient condition for PAs to be managed effectively and financed sustainably. It is also necessary to consider the quality, form, timing, targeting, uses and sources of funding. In order to address the above issues, the paper encompasses the next stages: (1) examination the different aspects of financial analysis (the financial needs and gaps of protected areas), (2) defining financial mechanisms, (3) analyze the conditions that enable the development of financial strategies, and development of financial plan.

Key words: *financial management, sustainable development, protected areas, financial sustainability.*

1. INTRODUCTION

One of the greatest challenges facing governments and their partner organizations is the need to develop financially sustainable protected area systems and solid organizations able to efficiently manage these natural assets. Although some progress has been achieved over the past decades, to date most protected area systems around the world are still severely under funded. In most cases, protected areas are still dependent upon limited national budget allocations, support from international conservation organizations and short-term international funding through projects. During the 7th Conference of the Parties of the Convention on Biological Diversity in February 2004, 188 national governments adopted the Global Program of Action on Protected Areas to support establishment of comprehensive, ecologically representative, and effectively financed and managed regional and national protected areas. This contributed to the three objectives on the Convention and the 2010 Goal to significantly reduce the rate of biodiversity loss. Although the 2004 Global Program of Action on Protected Areas reinvigorated many government's commitments to finance protected areas, there has not been a significant increase in funding to protected areas. In order to achieve the financial sustainability of national systems of protected areas it is critical to take into account the need to increase the capacity to self generate additional revenue at national levels, including market value of payments for ecosystems services such as water service, carbon sequestration, and scenic beauty. On the other hand, it is equally important to improve the institutional capacity to adequately manage financial resources and carry out the necessary legal and regulatory reform to enable reliable long-term funding. The paper is organized around three key aspects of the financial planning process: a) a detailed financial analysis that identifies funding needs and gaps, b) a pre-selection and analysis of different financial mechanisms, and c) a formulation of the financial plan to guide the implementation of a sustainable financing strategy for the PAs. The aim of this paper is to provide practical, accessible, and easy to use methods for improving financial planning, and a road map for the implementation of business-oriented financial plans for the national systems of protected areas. It is a road to achieving the sustainable financing of PAs.

2. FINANCIAL ANALYSIS (DEFINING FINANCIAL NEEDS AND GAPS)

The first step in our planning processes is the financial analysis. The financial analysis allows analyzing of protected area costs, review of different income sources, to determine of current and potential resource use, and to identify of cost-reduction opportunities; and to determine financial gap. These financial elements make it possible to establish the size of the existing financial gap that must be covered to meet conservation priorities; further, these financial elements facilitate the identification, design, and implementation of appropriate strategies for

sustainable financing of protected areas. For the purpose of this paper, financial analysis consists of quantifying the financial needs and gaps of an individual protected area or protected area system. In the process of financial analysis, conducts a comparison of the resources currently available with the resources needed for both a basic scenario (essential management programs to ensure protection of basic ecosystem functions) and an optimal scenario (a set of management programs for optimal ecosystem functioning). The key inputs are:

- Income by source: national or international;
- Level of actual expenditures by activity, program, or subprogram;
- Identification of cost-reduction opportunities;
- Level of needs by activities, programs, or subprograms, defined at both the basic and optimal levels; and,
- Existing financial gaps by programs, subprograms, or activities through the comparison of income vs. expenditures, and of needs vs. income. The financial gap is the difference between available funds and funds needed for basic or optimal levels of conservation.

These defined elements are used to quantify the investments needed and to optimize the strategic allocation of funds to close the financial gaps. Thus, a financial analysis is essential tool for selecting financing mechanisms and determine investment priorities. Through using the adequate method costs are located according to the organization of activities carried out in protected areas through functional areas and programs. The functional areas consist of the different categories of operational activities required to manage protected areas, which include programs and subprograms, with programs being the parts of the operation that require separate management. Using metrics, costs are allocated to each program and subprogram for basic and optimal levels of conservation; financial gaps are determined by comparing available resources with financial needs (basic and optimal). Financial analysis carries out through four steps: planning and preparation, information gathering, processing and analysis and validation of results.

According to Emerton, the process of information collection, follows by stage aimed at organizing and consolidating information for the purpose of drawing conclusions, and includes the coding, review, validation, and organization of data on operating expenses, investments, program implementation, financing mechanisms, and income sources (Emerton, 2006). Collection of financial information on PAs must encompass all planning levels (see Table 1).

Table 1 Levels of financial information collection on PAs

<i>Operating cost level</i>	<i>Investment level:</i>
Planning documents: Management plans, period covered, and costs of preparation or updates.	Infrastructure, vehicles, and equipment: Type, quantity, date of acquisition or construction, and estimated useful life and unit costs.

Protected area staff: Number of workers by position, description of each position (manager, park rangers, legal counsel, etc.), net monthly and annual salaries received, and type of work.	Income level:
Operating costs in the field: Unit of measure for each resource, quantity, unit cost, and monthly and annual cost of each expense item (fuel, rent, per diem, messenger services, etc.).	Detailed information on all current and potential financing sources: State resources, own resources (self-financing), transfers and donations, international cooperation, and resources from private organizations, NGOs, foundations, etc.
Administrative costs: Monthly and annual cost of all necessary resources (water, electricity, telephone, insurance, etc.).	Current income from protected areas: Annualized amount by source and term of main financing agreements.
Training: Monthly and annual costs by type of training (carried out by the National System of Protected Areas or by other organizations).	Average income over the last five years: Annualized amount of historical income received.
Vehicle, infrastructure, and equipment maintenance: Monthly and annual costs of preventive and corrective maintenance, etc., and unit costs of maintenance.	Potential income from protected areas: Annualized amounts by source, dates when this income will become available, and potential cooperating organizations.

Source: Flores *at all*, p. 25

The analysis is based on conservation priorities. The analysis recognizes conservation objectives as key input for the development of financial estimates. Conservation priorities include criteria related to biodiversity, ecological balance, ecological gaps, and preservation. These priorities are translated into management programs (for example, administration, control and surveillance, expansion of conservation areas, participatory planning, community development, and environmental education), which are key elements of other important protected area management tools, such as the master plan or strategic plans. The analysis defines a basic management scenario (basic level). The basic scenario is the minimum level of funding required to operate key conservation programs while meeting basic program's requirements to sustain the functions of the ecosystems in the protected areas. The analysis defines an optimal management scenario (optimal level): According to Emerton "The optimal scenario describes the ideal level of funding required to operate all programs to reach and sustain optimal functions of the ecosystems in the protected areas" Emerton, 2006, p. 89). It describes the ideal state of the programs if all necessary funding, personnel, equipment, and other resources were available to achieve that state (CPM, 2002). This ensures the achievement of short, medium, and long-term goals for the protected area, in accordance with the highest environmental, social and economic standards.

2.1. Determining the basic and the optimal scenario

Management of the PAs over years of development have usually been directed its efforts primarily on preserving the natural characteristics of the space. To achieve the objectives and sustainability of PAs, and successively preserved of entire ecosystems, the future development strategy should be set as follows:

- respects primarily natural and cultural heritage, through the responsible use of resources, and provides support for increasing the adventures to visitors with quality interpretation of the space;
- be economically sustainable, so that the whole system works in the long run and gives long term benefit not only to businesses, and tourists, but also to positive impact on complementary forms of economy (e.g. agriculture) through multiplicative effect, and
- be socially responsible, through the involvement of local communities through cooperation and partnerships in order to promote the value of tourism, education about the importance of tourism, and their inclusion in the optimization of benefits provided by tourism (economic, social, cultural, natural).

To achieve the above strategies, or achieve a basic scenario, and then the optimal scenario, it is necessary to eliminate current deficiencies and provide funding for: increasing the number of employees, purchase new vehicles and equipment, improve management and planning, to improve the protection and monitoring, as well as improve tourism infrastructure. It is necessary to improve human capital with specialists for PAs, and for management of them.

On the basis of empirical parameters and analysis of requirements of PAs in Montenegro, the basic scenario requirement for annually financing of national parks is €2,566,403, and for the optimal scenario. €4,256,985 (see Table 2). With taking into account and other protection areas, then the required level of funding of PAs for the basic scenario is € 2,746,403, and for the optimal scenario is €4.506.985. With the total funding, the gap for the basic scenario is 1,008,058 (excluding the direct government budget, it is €1.958.058), and for the optimal scenario is 2.768.640 (or 3.66 million - when the direct central government funding is excluded). That means that it is necessary to identify financial mechanism which will establish new alternative financial resources.

3. FINANCIAL MECHANISMS: PRE-SELECTION, SELECTION AND DIVERSIFICATION

The next step in the financial planning process is identifying and selecting financial mechanisms that can maintain and increase income from existing sources and establish new alternative resources in order to reduce financial gaps. This step requires a systematic approach. The identification and selection of financial mechanisms should focus not only on conventional options, such as annual government appropriations, international grants and trust funds, which are often subject to political pressures and difficult to capitalize (in the case of trust funds). The range of financial mechanisms should include innovative alternatives (i.e., environmental compensation funds, payment for environmental services, taxes, and other pricing instruments).

Table 2. PAs in Montenegro – basic and optimal scenario (2012 year)

PROGRAMS AND SUBPROGRAMS	Available resources	Basic Scenario	Gap for basic scenario	Optimal scenario	Gap for optimal scenario
Resource conversation					
Protection and surveillance	695,338.00	828,561.20	133,223.20	1,078,394.00	383,056.00
Resources management	399,819.35	476,422.69	76,603.34	620,076.55	220,257.20
Public use					
Tourist and recreational use	69,533.80	82,856.12	13,322.32	107,839.40	38,305.60
Environment education	17,383.45	20,714.03	3,330.58	26,959.85	9,576.40
Research	34,766.90	41,428.06	6,661.16	53,919.70	19,152.80
Management support					
Operations and administration	399,819.35	476,422.69	76,603.34	620,076.55	220,257.20
Planning and monitoring	69,533.80	82,856.12	13,322.32	134,799.25	65,265.45
Citizen participation	34,766.90	41,428.06	6,661.16	53,919.70	19,152.80
Total	1,738,345.00	2,071,403.00	323,066.26	2,695,985.00	955,870.65

Financial mechanisms are tools designed to raise, generate, or mobilize funds to cover the different costs related to the implementation of conservation programs. Financial mechanisms also contribute to build financial management capacity because different sets of skills are required to design, assess, and implement the great variety of existing financial mechanisms. Financial mechanisms may be designed to mobilize social and environmental benefits in addition to fiscal benefits. A solid connection between the allocation of funding from a diversified portfolio of financial mechanisms and priority investment programs is critical to reducing financial gaps and ensuring the long-term financial sustainability of the protected area system. Different criteria are used to classify financial mechanism in order to facilitate planning and selection of financial options. We used geographic, market, and non market criteria to classify financial mechanism in order to facilitate planning and selection of financial options. Geographic criteria — international, national, and local is used to indicate the origin of the source of income. Market and non-market criteria focus on environmental externalities. There are international sources of financing such as Global initiatives (Global Environment Facility), Debt-for-nature swaps, Multilateral organizations (donations, cooperation), donations from foundations. The Global Environment Fund (GEF), established in 1991, is an international mechanism attached to the Convention on Biological Diversity (CBD). Its purpose is to finance environmental protection projects in developing countries.

A national protected areas trust (endowment) fund illustrates a mechanism with a national scope when it supports the entire national protected area system. It generates resources through rates of return on stock market investments to finance the cost of conservation

programs over time. “Environmental funds have been set up in many countries as a way of managing funding for protected areas. Such funds are typically established in conjunction with large, one-off contributions from donor agencies or NGOs. These funds may be supplemented or replenished by private sector contributions, fiscal revenues, and earnings from marketbased charges for PA goods and services. Three types of trust funds are common: endowment funds spend only income while attempting to maintain or enhance capital; sinking funds liquidate all of their assets over a specified period of time (for example, international projects or grants); while revolving funds are designed to receive regular replenishments often from various sources (for example, the GEF, which is replenished by donor governments every four years). Of these, only the first is truly a long-term or revenue-generating financial mechanism” (IUCN, 2003). Individual protected area entry fees and site-based tourism concessions that generate income which is retained by the protected area are examples of financial mechanisms with local scope.

Market and non-market criteria focus on environmental externalities¹⁷² generated by market failures. To this end, financial mechanisms aim to: a) cover the environmental costs of production or consumption activities that are not included in prices by imposing taxes or charges on products or processes, b) use property rights to establish environmental compensation or mitigation payments, and c) develop alternative markets for environmental services. Market-based mechanisms are expected to offer competitive alternatives and create special niches so that the different stakeholders can act in ways that most benefit them without deteriorating the environment. Mechanism such as government appropriations, trust funds, and grants are considered non-market mechanisms since they are designed not to deal with externalities. It should be noted that the above-mentioned classifications are inclusive and complementary; that is, in practice, mechanisms can be situated at the protected area level, but their financing comes from a combination of various sources. For example, a trust fund for a specific protected area can be financed by both national and international resources.

3.1.Pre-selection of Financial Mechanisms

The identification or pre-selection of financial mechanisms requires conducting a basic analysis of the viability of different financial options using specific criteria such as level of complexity and potential impact. This analysis allows us to:

- a) identify simple financial mechanisms not requiring detailed studies or any legal reform for their direct implementation;

¹⁷² Harm or benefit experienced by an individual or business as a result of actions taken by other persons or entities: Positive externalities are produced when an agent's actions increase the well-being of other agents of the economy. Negative externalities are generated when an agent's actions reduce the well-being of other agents of the economy. Examples of negative externalities are: pollutant emissions and tailings from mining extraction, which are not usually included in the costs and prices of the minerals, and, similarly, emissions and organic waste resulting from the production of fish meal, which are not generally included in fish meal costs and prices.

b) identify more complex financial mechanisms that require detailed economic, social, legal, and environmental viability analyses before making a definitive selection, even if the possibilities seem promising, and

c) determine which financial mechanisms are not viable due to their high complexity and low impact.

The first level of analysis is based on the comparison of the expected financial impact and the complexity of implementing the mechanism. Financial impact is the capacity to generate financial resources, while respecting environmental and social standards. Complexity includes variables such as duration, multisectoral coordination required, and the need for legal, institutional and administrative reforms, among others. This first level of analysis makes it possible to identify which financial mechanisms would have a greater or lesser impact, and which would involve a greater or lesser complexity of implementation. Figure 1 presents an example of matrix for impact-complexity analysis.

The second level of analysis is based on the principle that it is possible to link a protected area's goods and services to potential investors through one or more appropriate financial mechanisms.

Relative impact	High	Preceed quicqly	Preceed Strategically
	Low	Preceed as apropriate	Reject
		Low	High

Complecity of implementation.

Chart 1: Pre-selection of financial mechanisms

3.2.Selection of Financial Mechanisms

The selection of financial mechanisms is guided by the results of the feasibility analysis of one or more preselected financial mechanisms. The results of the feasibility help to determine whether or not to proceed to implement the financial mechanism under study. If, during the analysis, a financial mechanism is determined not to be economically, socially, and environmentally viable, this will save time, money, human resources, and further complications. A viable financial mechanism generates an adequate flow of fiscal, social, and environmental benefits. The feasibility study analyzes and outlines different alternatives or methods to make

the preselected mechanism financially viable; that is, the feasibility study helps to define the best operating model to implement the financial mechanism. There are various reasons why a feasibility study should or should not be carried out. The directors of national parks, protected areas, or those who make final decisions, or those who make financial decisions, are often under internal and external pressure to avoid carrying out a feasibility analysis and are encouraged to proceed directly with implementation of financial mechanisms with the expectation of rapidly generating funds. However, a feasibility study is a very strategic step at both program and financial levels, and has the added benefit of promoting transparency and responsibility. Most successful businesses usually have a detailed feasibility study. A feasibility study should be conducted by an expert consultant or team with experience in the area of financial mechanisms for conservation. Thus, conducting a feasibility study is a strategic and essential step, and, if carried out to high quality standards, can be the best investment the protected area has ever made.

4. SYNTHESIS OF THE FINANCIAL PLAN

This document establishes lines of strategic action to mobilize financial resources and build financial management capacity to support a network of protected areas. In this sense, a financial plan evaluates the financial condition of protected area operations, provides information on current and future needs, and defines options for leveraging resources from both the public and private sectors.

In the process of considering presumptions for the financial plan we took into account the next key facts:

- Protected area financing is about more than money; it involves mobilizing and managing funds to address a range of challenges associated with biodiversity conservation.
- It is necessary to provide secure sources of funds. Securing adequate funds is a necessary but not sufficient condition for PAs to be managed effectively and financed sustainably. It is also necessary to consider the quality, form, timing, targeting, uses and sources of funding.
- Assessing and achieving PA financial sustainability involves considering and addressing a wide range of issues, including:
 - Building a diverse funding portfolio, including multiple funding sources, is a key element of PA financial stability and sustainability. In this plan we have tried to determine the most achievable financial mechanisms.
 - This plan requires that funds are managed and administered in a way that promotes cost efficiency and management effectiveness, allows for long-term planning and security, and provides incentives and opportunities for managers to generate and retain funds at the PA level.
 - The board support of the government is necessary in considering indirect and opportunity costs as well as local development benefits as key elements of PA funding needs; targeting cash and in-kind support to groups who incur PA costs, while also securing fair contributions from PA beneficiaries, is critical to PA financial and economic sustainability.

- Making PAs financially sustainable also means identifying and overcoming the broader market, price, policy and institutional distortions that act as obstacles to PA funding and financial sustainability.
- Factoring finance into PA planning and management processes, and ensuring that there is sufficient human capacity to use financial tools, is a key strategy for improving PA financial sustainability.
- PA financial sustainability can be defined as 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 PAs and to ensure that PAs are managed effectively and efficiently with respect to conservation and other objectives. In short, financial sustainability is not possible without strong and effective institutions for PA management.

CONCLUSION

This paper establishes lines of strategic action to mobilize financial resources and build financial management capacity to support a network of protected areas. In this sense, a financial plan evaluates the financial condition of protected area operations, provides information on current and future needs, and defines options for leveraging resources from both the public and private sectors. In order to identify, and support financial sustainability, we propose the methodology which encompasses the next stages: (1) Examination the different aspects of financial analysis (the financial needs and gaps of protected areas). This phase includes the review of different income sources, the level of current and potential resource use, and identification of cost-reduction opportunities. These aspects determine the existing financial needs and gaps to cover conservation priorities. (2) Defining financial mechanisms and then focuses on the pre-selection, feasibility analysis, selection of financial mechanisms, and conceptual and practical aspects of the diversification of financing sources. (3) Analyze the conditions that enable the development of financial strategies. These conditions are based on the premise that financial gaps and the low returns of many financial mechanisms (such as national park entrance fees) are due largely to the low capacity to generate, administer, and distribute resources in an efficient manner, and to the existence of excessively complicated and outdated legal and institutional frameworks. (4) Development concepts and definitions of financial plans, examines business management principles that apply to financial plans, their components, and implementation.

We hope that this paper will help in finding sustainable financial solutions for PAs, especially in improving of financial planning.

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