

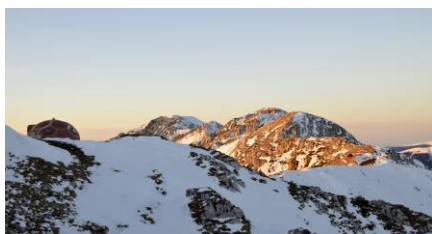
SEE BioREGIO CARPATHIANS



Integrated management of biological and landscape diversity for sustainable regional development and ecological connectivity in the Carpathians

WP4

Financial Mechanisms and Economic Tools for Protected Areas in the Carpathians



Produced by: UNEP Vienna – Interim Secretariat of the Carpathian Convention (ISCC)
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Glossary

AP – African parks

CNPA – Carpathian Network of Protected Areas

ES – Ecosystem Services

GDP – Gross Domestic Product

GEF – Global Environment Facility

IUCN – International Union for Conservation of Nature

PA – Protected areas

UNDP – United Nations Development Programme

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In particular, national case studies from the Carpathian countries were mainly collected on the occasion of the Second International Workshop on Sustainable Financing of Carpathian Protected Areas held in Sinaia (RO) on 13-15 November 2013.

Executive summary

The present study aims at providing an overview of the financial situation in the Carpathian protected areas, on the basis of the available data and information. Regional protected areas often suffer from structural lack of funding which impacts on their capacity to deliver basic conservation goals. The study argues that protected areas in the Carpathians experienced a crisis of the centralised management and public funding schemes that used to be the common practice in the region.

In order to address the limitations of the present situation, the study is intended to propose some methodologies to identify the distinctive, unexploited values stored in nature sites across the Carpathians, study the composition and preferences of the potential users of the areas and their values (including goods, services, assets, biogenetic resources, etc.) by applying the concept of “customer groups”, scrutiny the possible novel sources of funding for these sites on the basis of international experience, good practices and literature, and suggest how needs and funding sources can be matched to improve the financial and management performance of the Carpathian protected areas.

Finally some incremental institutional changes aimed at increasing the autonomy, responsibility and financial independence of PAs within the regional network will be put forward and a more central role for protected areas networks as appropriate tool for decentralised innovation in financing schemes will be discussed.

More in detail, the study will analyse:

- the nature and aims of PAs as well as their organisational structure as prevailing in the Carpathian region;
- the current financial performance of PAs worldwide and in the Carpathians and the main institutional and legal shortcomings;
- the assets, goods and services that those Carpathian PAs are likely to be supplying to various “customer groups” that to be identified in the region;
- the potential “customer groups” and their role in reaping the benefits of the supply of the PAs;
- the mechanisms that can be used to capture financial resources from regional “customer groups” to cover conservation expenses of PAs, on the basis of a few analyses recently conducted in the Carpathians;
- a possible suitable institutional framework for the Carpathian system of PAs based on the principle of decentralisation and diversification of financial sources;
- Moreover, the study will make use of some case studies concerning PA management aimed at providing a basis for sharing the experience already available in the region and complementing it with novel instruments developed in other world regions.

1. Introduction

Financial restrictions represent a major feature in today's nature conservation policies, inside and outside Europe. In particular, the regions where both a strong potential for economic development and a remarkable endowment in natural resources and pristine areas are to be found clearly express the twofold need to improve their economic performance and implement consistent conservation policies, minimizing the impact that economic growth can exert on the natural capital stored in their protected areas (PAs).

Reconciling the search for sound economic growth with the social objective to keep natural areas and their resources alive and assure their proper conservation is a primary challenge for central and regional governments worldwide – especially in these countries that are experiencing a remarkable economic growth, also in times of global financial crisis.

Financial constraints on nature conservation and the related policies are to be found also in countries traditionally high-ranking in income-related statistics at the EU and world level. There is a dramatic lack of public resources earmarked on environmental policies and especially on nature and biodiversity conservation, deriving from the major restructuring of public finance most western countries experience in these days. Moreover, it is well documented how variable the priority of nature conservation and – more in general – environmental expenditure in national political agendas are and how scarce investment from alternative sources to the national budgets or international assistance.

2. Protected Areas in the Carpathians: definition and aims

A PA can be defined as “an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means” (IUCN 1994).

We can thus assume that a PA is an organization, which has some institutional ends and is managed aiming at the achievement of such ends. A failure in ensuring the sustainability of such an organization damages the ends of the PA – and the rationale for its setting up, that can be assumed to be, according to IUCN (1994), “*the protection and maintenance of biological diversity, and of natural and associated cultural resources*”. Specific aims may differ according to the PA type, on the basis of the functions that are performed (or supposed to be performed) by specific PA categories.

In this paper, PA management and planning will not be analysed in their effectiveness to deliver conservation policies and ends. Rather, the financial aspects will be explored which, on the background, allow to make these conservation goals attainable in practice.

The prevailing trend to establish new PAs in the Carpathian region is also taken into account as well as the resulting contrast between this enlargement of the land subject to specific protection measures and the decreasing funds available to cover conservation costs - that might give rise to serious inefficiencies and asks for novel mechanisms and approaches to conservation and PA management.

Among the concerns of this paper supplying some attainable examples from regional and international practice aimed to tackle the challenge of decreasing public funding for nature conservation and PA management is to be seen as a primary one. Certainly not all mechanisms are equally cost-effective and can be applied everywhere. This is why a reasoned selection will be proposed.

2.1. Approaches and structures for conservation policies in protected areas

A PA can take different formal shapes on the basis of the legal, institutional and cultural context where it is found. Interestingly, in theory the pursuance of conservation targets is an objective being completely independent from the structure that is used to attain them. In practice, though, in most Western countries (especially in Europe and in the United States) conservation has been interpreted as a state duty that is to be managed through public bodies.

In the region where this study focuses, nature and biodiversity conservation have been clearly set as public policies - being largely implemented by governmental bodies and public law institutions. Nevertheless, the registered regional trend concerning the expansion of the territory subject to some type of conservation, as well as the expected and required world and regional increase in protected land (CBD), leaves some room for innovation in the field.

PAs are *organisations* whose ends are different from strict profit maximization. They enter the large and differentiated category of “not for profit” bodies (which also includes public administrations). It is to be noticed that they are mostly classified as public institutions, whose ends are of public interest and also quite easy to recognise (Cowen 2009). As it is often the case with this kind of organisations, it is possible to assume that they have to ensure their existence in the long run: in financial terms it is equaled to their long-term sustainability.

Historically, PAs have been assimilated to public bodies worldwide. They are managed by public officers and financed through public budgets. The same international law regulating biodiversity conservation and PAs management is generally oriented to national states.

International conventions, declarations and legal instruments ask the national governments (eventually through their internal administrative organisations) to ensure that the principles set at the international, regional or global level are translated into actual policies and measures and implemented on their respective territories. Then, it is the national government which is held responsible for a proper implementation of conservation policies. Quite coherently, especially in wealthier countries¹, PAs are public administrations, whose functions and management are assigned to public officials and whose expenses are covered with public budgets and fiscal revenues. The responsibility on PA's performance rests with the national or regional government. Their establishment and management thus is a governmental task and are dealt with through legal regulations or "*other effective means*", according to the IUCN (1994) definition. In line with other PAs worldwide, most of Carpathian PAs meet the same destiny.

Typically, figures show² some natural fluctuations in the overall amount of fiscal resources available for the governments as well as a changing priority in the political agenda of nature conservation, and PAs management and development - that can be held responsible for the reduction in the availability of financial resources earmarked on PA management, and the often uneasy conditions under which PA managers operate.

Nature conservation can also be achieved by commercial or private management of naturally significant sites. Some interesting experiences in this direction have been developed, on which only scattered data are available. This typology of PAs will be also described in the report.

A promising method to allow or improve service for nature conservation and reducing the need for public subsidies is the establishment of *public-private partnerships* through specific arrangements aimed at implementing a responsible commercialization that has demonstrated to be able to contribute to the core-functions of PAs (Saporiti, 2006). A similar approach is ongoing also in the Carpathian region (*e.g. in the Apuseni Nature Park, in Romania*).

Interesting and advanced solutions based on the possibility to establish and manage PAs on private lands often require a specific institutional and legal background that is not often found in Europe have been identified and partially tested in South Australia, often as a complement to state-managed parks and planning functions (DENR 2011).

In this line, these innovative solutions deserve a particular attention from the Carpathian countries, if some structural reform of the PA system is envisaged, since they don't depend on centralised sources of funding and have to compete to get any form of public aid – which enters a wider and necessarily more diversified financial portfolio.

¹ Private PAs as well as public-private-partnerships for nature conservation inside the PAs and in the buffer zones are relatively more common in developing countries, especially in Africa (Saporiti 2006, Mitchell 2007, Gallo et al. 2009, Bond et al.2004).

² See for EU countries: European Commission, 2011. Environmental protection expenditure in Europe — Data 1995-2009Luxembourg: Publications Office of the European Union ISBN 978-92-79-20789-1 doi:10.2785/15925 Cat. No KS-30-11-214-EN-N

2.2. Carpathian Network of Protected Areas (CNPAs)

A few general figures on the PAs in the Carpathians and their features have been summarised in the VASICA, 2009 quite a recent survey on the whole region, on which this section is largely based.

The Carpathian Mountains together with the Carpathian Basin are one of the regions in Europe most rich in biodiversity. Species, which hardly occur in the territories located north or West of the Carpathians, are found in this region. The proportion of forested land is remarkable in the region. Even in the least forested country i.e. Hungary (18,2% of its entire territory covered by forests), 52% of the areas inside the Carpathian region is forested, whereas in the core-areas of mountains this proportion increases up to 88-94%. Forests play a major role in helping maintain biodiversity especially in those border areas where multidirectional impacts add up, for example in the foreground of the Northern Carpathians, the Gemer-Torna Karst with Carpathian, Pannonic and sub-Mediterranean impacts.

The large number of endemic species (flora and fauna) of the Carpathian region is one of its greatest ecological assets. This fact strengthens the need for, and priority to be given to, nature conservation within the area. The number of national parks, the size of areas under some kind of formal protection and the natural values deserving specific conservation measures increase rapidly.

The development of the Natura 2000 network in the Carpathian region provided a further reason to commit to nature conservation and set up appropriate policies and plans by the national and territorial institutions. The resulting network links valuable natural sites and habitats into a more or less strictly connected chain. Natura 2000 sites within the region spread out on 2,6 million hectares in 2004 and have continued to significantly expand.

The “Carpathian EcoRegion Initiative” (CERI) is an informal consortium where more than 50 partners from 6 countries take part, aimed at achieving nature conservation across the Carpathian mountain range and, at the same time, at supporting local economy, heritage and culture for the long-term benefits of the people living in the “heart of Europe”. (CEI Vision). The CEI was a vital project for the whole region that produced some substantial outcomes principally in the field of ecological analysis and eventually brought to the birth of the Carpathian Convention. The CEI identified thirty priority areas for biodiversity conservation that encompassed 15.6 percent of the Carpathian Mountains. Until 2006 this NGO was managed under the umbrella of WWF. Later, it became independent, established in Bratislava and was renamed “Carpathian EcoRegion Initiative” (CERI). More recently, mainly due to a lack of funding the activities developed by CERI have been reducing.

The Carpathian Network of Protected Areas (further recalled as CNPA) is “a thematic network of cooperation of mountain protected areas in the Carpathian Region” established by the 1st meeting of the Conference of the Parties (COP1) to the Carpathian Convention in December 2006 in Kyiv, Ukraine. CNPA plays an important role in the achievement of the goals listed in Article 4 of the Convention³, and supporting the Carpathian Convention Working Group on the conservation of biological and landscape diversity (VASICA).

Different categories of protected areas extend over some 36.000 km², and make up around 18% of the area covered by the Carpathian Convention. CNPA includes 36 national parks, 51 nature parks and protected landscape areas, 19 biosphere reserves, and around 200 other

³ Article 4 of the Carpathian Convention is dedicated to the “*Conservation and sustainable use of biological and landscape diversity*”. It sets both classical conservation objectives and calls for the integration of “conservation and sustainable use of biological and landscape diversity” into numerous sectoral policies, by openly recalling agriculture, forestry, river basin management, tourism, transport and energy, industry and mining activities.

protected areas. In order to qualify as members to the CNPA, the nature sites need to have a surface higher than 100 ha and be managed by their own staff or by a responsible administrative body, which can act quite independently from central administrative structures⁴. Just to mention some figures from a few countries, in Poland 6 national parks out of 23, and 13 landscape parks out of 120 are included in the CNPA (539.632 ha). In Slovakia 9 national parks and 14 protected landscape areas are included in the CNPA. In Ukraine some 10% of the area under the Carpathian Convention is made up of PAs (570.000 ha), that has been growing by 123% since 1992 (+332.000 ha) (Communication of Mr. Veghelet on CNPA, Sinaia, 2013).

Some prior studies have examined the situation with PAs in the Carpathians and highlighted some facts from which the present study starts.

Among the most interesting facts, a growing trend in delimiting new PAs in the region in the last 20 years (Veghelet, 2013) that is expected to continue. The main challenges identified during the 2nd CNPA Conference (2013) include the structural lack of funding across the region – of the utmost importance for this study – as well as the risk of implementing an unsustainable model of development.

2.3. IUCN PA management categories within CNPA and their pertinence to this study

A brief analysis of the PAs reported as being members to the CNPAs shows a prominent presence of two IUCN management categories, i.e. National Park (IUCN II) and Landscape Protected area (IUCN V). Quite often a deeper look discloses the existence of more strictly protected sites within national parks and some specific protected areas (e.g. Geoparks, nature reserves, etc.)

According to IUCN, those two prevailing management categories are defined as follows (IUCN 2011):

Category II protected areas: National parks - are large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities.

Category V protected areas: Protected landscape/seascape - protected area where the interaction of people and nature over time has produced an area of distinct character with significant ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.

⁴ A certain degree of independence of single PAs helps ensure a proper functioning of a networking mechanism, that is supposed to be democratic and its members should be able to express their preferences as well as to run actions agreed at the network level.

The available figures show the following regional situation.

Country	PAs	Total area (ha)	Total area (sqkm)
Romania	106	1,057,487	10,574.87
Slovakia	64	817,720	8,177.20
Ukraine	77	355,880	3,558.80
Poland	21	536,496	5,364.96
Hungary	15	161,487	1,614.87
Czech	13	205,832	2,058.32
Serbia	1	62,943	629.43
Total	297	3,197,845	31,978.45

Overview of Carpathian Protected Areas (Own elaboration on figures from UNDP-GEF project document, 2009)

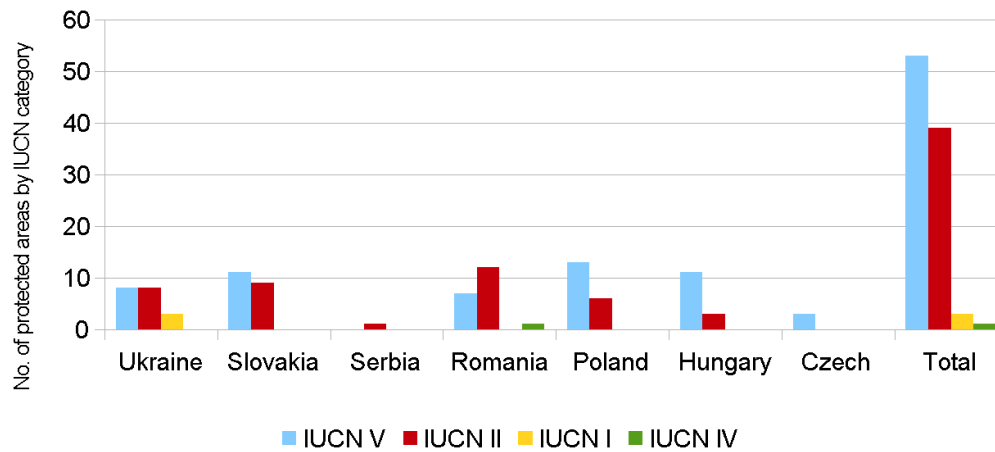
It is worth mentioning that, fully in line with IUCN 1998, we can assume that the number of possible alternative uses of a given land being subject to some form of protection tends to increase out of IUCN category I sites (i.e. a IUCN category I site is likely to have less possible alternative uses than other IUCN category sites). Economically speaking, the opportunity costs of an IUCN site of higher category than I are likely to be many, and higher in absolute value. In practice, more alternative uses of the same land are feasible – which means that diverse forms of management can be implemented on that portion of land.

Within our sample (CNPA website) the resulting situation concerning the *frequency* of IUCN categories is represented in the figure below, both in regional and national terms, for Carpathian countries.

With a few significant national differences, IUCN V is by far the prevailing category of the sampled sites in the Carpathians, covering more than 50% of the total protected areas within the CNPAs. Still, another significant category in the examined sample is IUCN II (i.e. national parks), having similar management priorities to IUCN V (IUCN 2001), as shown in the table below.

Most frequent IUCN categories in protected areas in CNPAs

(Figures on a country-basis)



Primary management objectives of IUCN II and IUCN V protected areas

Priority management objectives	IUCN II	IUCN V
Scientific research	2	2
Wilderness protection	2	-
Preservation of species and genetic diversity	1	2
Maintenance of environmental services	1	2
Protection of specific natural and cultural features	2	1
Tourism and recreation	1	1
Education	2	2
Sustainable use of resources from natural ecosystems	3	2
Maintenance of cultural and traditional attributes	-	1

Key: 1 Primary objective; 2 Secondary objective; 3 potentially applicable objective; – Not applicable

(Adapted from IUCN 2001)

Each management objective of a PA can be used as a very rough indicator of goods and services the PA can provide to its “customers” (or stakeholders): the services a PA supplies to community, users and visitors are largely dependent on the natural and other assets a PA stores. Thus, there is some room for a wise valuation and enhancement of those “values” that are particularly rated by relevant stakeholder groups for each PA and can trigger local sources of funding for PAs. Planning at the PA level requires significant changes in order for those financial flows to be captured and used to increase the financial performance of the managed site.

Certainly, surveying the available goods and services within a PA is only a first step in the assessment of the endowment of an ecosystem in terms of natural capital being able to produce positive changes in human utility. Nevertheless, it does not immediately solve the problem of securing a continuous flow of financial resources to allow for an effective management of the site and the estimated potential needs to be put in comparison with the existence of a “customer base” and its willingness to pay to enjoy the assets of the PA, either directly or indirectly.

Moreover, the mechanisms that should be set up in order to capture the estimated ecological values of a PA can be both costly and morally challenging⁵. They need to be assessed on a *case by case* basis.

Eventually, it is also decisive to mention that a PA is richer and more complex than the ecosystem it hosts and other “values” can be found in it which can be enhanced and delivered to the community and the frequently recalled “customer base” of the area. As a consequence, the scope of possible alternative uses of PA land is considerably widened if the opportunities to be singled out are not limited to the sole ecosystem values and also include the social, economic and cultural components of a PA: new management actions are possible and more sources of funding can be potentially activated with regard to the more extended and developing category of “landscape values”⁶.

⁵ To a large extent the proposed mechanisms refer to a market-oriented paradigm, whose strict application can raise moral dilemmas e.g. in the field of hunting rights (e.g. a license to shoot a limited number of head of endangered species can be bought in some parks acting as an incentive for ranchers to raise and protect the species). On the moral limits of markets, see: Sandel MJ (2012).

⁶ On landscape values and their identification in PAs, see: Raymond C. & Brown G. (2006). On more general methodologies to be applied also on territories different from PAs, see also: Gómez-Sal A. et al. (2003) and Brown G. (2006).

3. Financial performance of Carpathian PAs

Securing PAs survival over a long period of time and the achievement of both their internal and superimposed ends can be considered a broad goal for PAs. The search for the necessary financial capacity to allow that management activities as well as investments are made within a PA is a primary challenge for parks worldwide.

Many national parks in developing and transition countries, including the Carpathian region, lack funds to pay for staff salaries, patrol vehicles, or wildlife conservation programs. Insufficiently protected, these parks are vulnerable to poaching, deforestation, and agricultural use by local communities, or simply they are not properly managed with frequent episodes of over-exploitation of scarce resources. With a partially different extent, similar problems (more often linked to insufficient public funding) are gradually spreading also to developed countries where parks have been classically managed according to centralised methodologies and criteria.

It is also to mention that often legal restrictions significantly reduce the actual applicability of innovative schemes for collecting funds for nature conservation, especially in Europe. The analysis and interpretation of these often strong barriers represents a fundamental step in all processes aimed at reforming a PA system opening it up to significant innovations and voluntary actions.

Countries where legal reforms were recently implemented tend to assure more freedom in action to PAs by making it easier for them to introduce innovative mechanisms and institutional arrangements allowing for a greater freedom of action at the single park's level.

Box 1

Room for application of the “Beneficiary Pays Principle” in the new forest code in Romania

The Forest Code in Romania is currently under review. It is worth mentioning the debate on the inclusion of a new principle concerning the sources of income for the so-called Forest Management Unit that may include (art. 15, para. 5, c.) a provision concerning a form of “beneficiary pays principle” according to which direct and indirect beneficiaries of the forest’s ecosystem services could be called to pay for the maintenance of the forest protective functions.

3.1. Finance for PAs at the global level

A first assessment on the effectiveness in using the available financial resources to meet the existing financial needs of national PAs systems, as required by the CBD Programme of Work on Protected Areas (Goal 3.4), did not bring to fully clear results. The identification of the specific needs of PAs and the options for meeting them “*through a mixture of national and international resources and taking into account the whole range of possible funding instruments*” (CBD 2004) are instead still a largely unexplored field. The search for novel financial mechanisms to pay for nature conservation and allow the increase of PAs in number and quality has found some stronger legal and political bases also in Europe.

The available figures on environmental protection expenditure (EPE) for biodiversity conservation at the country level in Europe show some volatility, a small dimension in absolute terms and a tendency to shrink over time (EU 2011) often consistently with the trend of public

expenditure over the last few years. Coherently, the whole current and historical expenditure for nature conservation has been covered by public funds.

The small amount of money earmarked to protect biodiversity by the private sector does not seem – in contrast – to have been subject to significant oscillations as a share of total industry expenditure in Europe (EC 2011). Private investment on biodiversity conservation remains low everywhere in Europe, even though private funds are almost unanimously considered a promising source of finance for PAs.

In particular, private resources could play an essential role in diversifying financial sources for PAs, by complementing traditional ones and reducing the risks associated with income fluctuation (Flores et al., 2008).

Funding for biodiversity conservation from bilateral donor agencies seems to have remained stable at best cases and often has decreased. Global development assistance for public PAs in developing and transition countries has also been subject to relevant cuts in recent years. Nevertheless, this method of financing has to be seen mainly as a short term solution that should eventually be used to trigger experiments of approaches that may prove financially sustainable in the long run.

A different trend is instead perceivable with regard to private and community funding to PAs, which has increased in the latest years (IUCN 2006). Nevertheless, the overall significance and absolute economic value of private funding sources for nature conservation (including: business, philanthropic foundations, local communities and NGOs) is likely to be low and certainly is difficult to assess, due to the unavailability of a comprehensive database on the matter.

At any rate, it is clear that classical financing schemes for biodiversity conservation and PA management, heavily relying on public finances fail to collect sufficient resources to cover operational costs, pay for basic management expenses and make any longer-run investment - as some of the analyses carried out for Romanian parks under the UNDP-GEF project “Romania: Improving the Financial Sustainability of the Carpathian System of Protected Areas” demonstrate (http://undp.ro/projects.php?project_id=57). Predictably, such a situation is particularly evident in low income countries e.g. in African parks (Saporiti 2006), but is also perceivable from the figures and assessments available for some Carpathian PAs (UNDP-GEF 2011-2012).

At the global level, according to IUCN (2006) there is little reliable information on PA finance and a global database is far from being updated. According to some estimates, global spending on PAs would have amounted to around US\$6.5 billion a year mainly spent in developed countries (James et al. 2001), while estimates of the amount required to fully support conservation would range between US\$12 billion and US\$45 billion (Saporiti 2006). Nevertheless the bulk of funding for PAs appears to be provided through domestic government budgets and international donor’s assistance, with increasing non-governmental and private sector funding shares (IUCN 2006).

Prudential estimates concerning the financial resources required to meet the objectives set by the Convention on Biological Diversity (CBD) in its Strategic Plan for Biodiversity 2011-2020⁷ indicate a need for a 76.1 billion US \$ annually to reduce the extinction risk of globally threatened species (Target 12) and manage conservation sites of global significance and “particular importance for biodiversity” (Target 11). Financial needs of PAs have been estimated in 1.09 billion US \$ for lower, and 2.82 billion US \$ for higher-income countries – to cover respectively 69% and 50% of the needs (McCarthy et al. 2012). These amounts are likely to

⁷ CBD, Conference of the Parties Decision X/2: Strategic plan for biodiversity 2011-2020

increase further, considering that threats to biodiversity are recognized to be growing steadily and the surface of territory subject to some form of conservation has been growing: in 1990-2010, global PAs coverage increased from 8.8% to 12.7% in terrestrial and from 0.9% to 4% in marine areas under national jurisdiction (Bertzky, 2012) and is set to further increase (CBD SPB, 2011).

Funding for PAs has struggled to stay aligned with the remarkable growth in the number and surface of protected areas occurred worldwide: over the 2000-2005 period, some US\$ 6.5 billion would have been spent on protected areas, which had grown of 50% in surface in comparison to 10 years before. Though, significant variations at the national level have also been registered.

3.2. Some figures on the financial performance of Carpathian PAs at the country-level

When analysing the few financial figures available at the country-level concerning environmental expenditure on nature and biodiversity conservation and particularly financial resources assigned to PAs located in the Carpathians, the results already available for Romanian PAs (UNDP-GEF) are roughly confirmed for other countries of the same region, according to a scheme that is not far from the situation recently found also in Western Europe, and to a larger extent worldwide (McCarthy et al., 2012).

The collected figures for Romania concerning the financial health of mountain PAs in the country depict a situation characterised not only by a structural lack of funds, but of their declining availability over time (along the 2007-2009 period total finances available for the national PA system in Romania have been reducing by some 34%, according to UNDP-GEF, 2009).

Also, the share of annual revenues being locally generated at the single PA level equals some 2,75% of the total along the 2007-2008 period, 63,6% of which is based on tourism-related activities, with a steep annual increase between 2007 and 2008. Quite clearly still underexploited appear those opportunities linked to payments for ecosystem services (PES) and ecosystem markets to be set up by partnering with private companies⁸.

These facts unveil the often recalled lack of appropriate incentives for PA managers to capture revenues at the site level that is also common in Europe, and especially in the Carpathians (Birda, 2012). It is to mention that some legal reforms or adjustments of existing legal instruments have been tried and state budget laws often represent a major impediment to the actual implementation of any innovative solution. For instance, major changes to legal instruments have been openly required in the framework of the UNDP-GEF project recalled above⁹.

In particular, it is worth recalling the structural lack of funds directly earmarked to investment and the serious difficulty to cover staff and daily management costs, which confirms the need to find some novel sources of funding in order to comply with international commitments as the already mentioned Convention on Biological Diversity (CBD) and other national obligations on nature conservation and goals (e.g. in terms of increase of protected land in countries being members to the CBD).

⁸ In this line it is worth mentioning that consultations with private companies have been started in the framework of international donors' financed projects – as it is the case with a mineral bottled-water company in Romania, with local PAs (UNDP-GEF Proceedings, 2011) and the agreements with small businesses under development in the Apuseni Nature Park in Romania (UNDEP-GEF Proceedings, 2013).

⁹ See: “Second International Workshop on Sustainable Financing of Carpathian Protected Areas”, held in Sinaia on 13-15 November 2013: presentation on the project results <http://undp.ro/libraries/projects/CharpathianPA/UNDP-GEF%20Project%20Results%20%E2%80%93%20Mihai%20Zotta.pdf>

A few, scattered figures on PA management in some Carpathian countries (Hungary, Czech Republic, Slovakia and Ukraine) contribute in delivering a similar picture for the whole regional PA system, where scarce (and often declining) state funding for biodiversity conservation and PA management as a GDP share goes hand in hand with negligible on-site decentralized generated revenues, but a few tourist fees.

PA expenditure in some Carpathian countries as a percentage of GDP

Country	2004	2005	2006
Ukraine	0.051%	0.054%	n/a
Hungary	0.046%	0.026%	0.039%
Czech Republic	0.037%	0.041%	0.037%
Slovakia	0.012%	0.012%	0.011%

Source: WWF and Carpathian countries, 2013

A few more specific figures for Romanian parks have been made available by the financial analysis that was conducted in the framework of UNDP-GEF project in the region of the Romanian Carpathians (Birda, 2011). The work concludes recognizing a significant disconnection between conservation goals as set in the management plans and costs estimated to achieve those goals with a variable degree of completeness.

In particular, the resources available to the member sites of CNPA in Romania would be able to cover only 57% of the required funds under a “basic” conservation scenario. Another financial analysis which surveyed 18 mountain parks in Romania delivered even worse results, by estimating a gap of 76% between the total expenditure covered and the estimated “basic” management scenario (data 2010), which increases to 194% for an “optimal” scenario, with dramatic gap estimates for programs concerning tourism and biodiversity management, and sub-programs (between 294 and 727% for inventory and mapping).

4. Financial sources for conservation in the Carpathian Protected Areas

Currently, the main sources of finance for biodiversity conservation to be found also in the Carpathians are:

- *domestic and international public budgets*
- *international assistance*
- *multilateral funds*
- *bilateral donors*
- *private funds (including national and international NGOs)*
- *community funds*
- *market (including tourism and the emerging “green markets”, in the case of sustainable use of biodiversity in production landscapes¹⁰)*

Classical sources of finance for biodiversity conservation and PA management include domestic government budgets, international assistance, multilateral funds, bilateral donors, private and community funds – where the latter category includes a wide array of subjects, from NGOs to land owners and local communities.

Domestic government budgets are the main source of PA financing worldwide (mainly because PA are mostly considered as public bodies with purposes of general interest). As a share of total government spending, the sums involved are relatively small – often much lower than 1% of GDP . The available data for some Carpathian countries confirm this trend with quotas varying between 0,01 and 0,05% of national GDP.

International aids and foreign donors provide funding to many PAs in developing countries. There are both multilateral and bilateral donor agencies, issuing grants according to different criteria and working on a thematic basis. Biodiversity conservation and PA finance represent a share of the total amount of fund disbursed by those institutions, that are more often engaged in humanitarian, social and poverty alleviation programs. Nevertheless, quite often those aims coexist and sustainability has become a typical requirement in any kind of project. It is quite clear how a sizeable dependence on external assistance and foreign aids to cover biodiversity conservation and PA management expenditure is unlikely to make park agencies able to ensure their own long-term financial sustainability.

Private and community funds are another relevant source paying for conservation programs. They include both business and philanthropic foundations, but also NGOs operating at different levels, and local communities. The increasingly diffused phenomenon of private and community-managed PAs falls under this category. Also smaller suppliers of funds (small businesses, charitable organisations, private landowners, local communities) can participate significantly to financial sustainability of PAs. Private sources of funding are scarcely registered in official databases. For Slovakia, that provided a few figures on the matter, they represent a negligible share of the expenditure for PA management, as the table that follows shows.

¹⁰ Examples of “Green markets” include the ones for organic food from sustainable farming.

Public and private funding for PA management in Slovakia

Total funding to national PAs (national currency)	170991447	184049465	179859938
Public funding to national PAs (local currency)	166170000	173490000	172000000
Private funding to national PAs (local currency)	4821447	10559465	7859938
Private funding as a proportion of total funding (%value)	2.82%	5.74%	4.37%
Proportion of budget of national PAs from public sector	97,2 %	94,3 %	98.00%

Acknowledging such an almost absolute reliance on governmental funds to cover the cost to run a PA from the analysed data for the Carpathian region gives rise to some remarks.

Dependence on public funds, whose provision does not depend on local performance or the application of any specific metrics designed on conservation needs suitable to be used for allocating public resources, can bring to a minimization of the responsibility of PA managers on the collection of financial resources. The demands to and pressures on the government authorities responsible for PA management risk to be reduced to a request for an increase of public funds devoted to nature conservation – or, as it was the case with, in the latest few years, for a reduction to the dramatic spending cuts affecting that policy domain. In no case, under those circumstances, any real incentive can exist for single PAs to develop substantive fund raising as well as financial management capacities within PAs.

Thus, the available figures seemingly suggest how detrimental and disproportionately prominent the reliance on a *single* source of finance for the long term sustainability of a PAs system (as well as of a single PA) can be and how important to develop alternatives to this “closed circle” could prove.

5. PAs institutional arrangements and the “centralization bias”

In the Carpathian countries, funding of PAs is generally managed at the central level (UNECE 2007, VASICA, 2009). For instance, in Romania, where more information was available, management is performed through the National Forest Administration (NFA) being totally government-owned¹¹. Money transfers to PAs are legally defined on a yearly basis by administrative decision of the central government, and cannot be changed. In addition, also the total admissible expenditure for PA management is determined by the government, and PA own revenues are deducted from that amount, which reduces accordingly.

National legislation in Romania also seems not to allow PAs to freely procure investment goods (e.g. vehicles) by setting up open bids. Rather, those goods can be occasionally paid through EU funds.

Given some local differences, this is seemingly a common problem to several state-managed PAs, heavily dependent on centralised funding and bound to return revenues to the central government or to see a proportional reduction of their annual state-funded budgets (IUCN 2000).

Some legal constraints exist which make more difficult to achieve cost-effectiveness in management and take independent decisions for public administrations. In some cases, amendments and adjustments to existing national law have been proposed and implemented – e.g. in the Slovak republic, private land ownership rights have been fully restituted to the owners: as a consequence the ownership structure in the country today is diversified and there is a significant share of the land that is privately owned (Kluvankova-Oravska et al., 2010)

Due to the often unsatisfactory results of a hyper-centralised model of management for conservation policies a single sourced, too centralised funding scheme can be held, in this historical moment, as a “bias” that should be overcome, by introducing a *portfolio* of alternative funding sources for regional PAs. The priorities to be tackled with these innovative instruments are:

1. *considerably increasing the (currently negligible) share of decentralised sources in the financial structure of PAs*
2. *Ensuring the sustainability of the novel decentralised sources of finance in the long run.*

¹¹ In particular, by the Romanian Ministry for the Environment.

6. Needs, shortcomings and considerations concerning the Carpathian PAs

The study will address the main financial shortcomings identified with the PAs in the Carpathians that were discussed in the paragraphs above. A few general considerations will be drawn and principles suitable for regional application identified. Nevertheless, further local studies are needed to capture the values stored in a particular PA, design appropriate management strategies based on the specific values determined and enforce. Therefore, the paragraphs that follow are expected to propose a few adjustments to a prevailing model of PA financial management aimed at improving the financial sustainability of the Carpathian PAs inspired to a general framework calling for an increasing indecency of park authorities, coupled with responsibility and a light consultative and coordination mechanism (a *network*) to be joined on the basis of a free choice of PAs.

On the basis of the analysis presented above and the reported facts and figures, the *most remarkable needs* of PAs in the Carpathian region can be summarised as follows (Box 2).

Box 2

A summary of the main management needs of Protected Areas in the Carpathians

- A higher level of investment in infrastructure and facilities;
- Greater freedom to contract with external providers, also using open bids and auctions;
- Greater freedom and clear rules on how to manage partnerships with other organisations (including NGOs, volunteers, enterprises, etc.) and in particular the private sector and the civil society;
- More flexibility in managing staff contracts aiming to help find the optimal dimension of staff, depending on the seasonal job load;
- Improved ability in matching specific cost categories with financial sources for conservation and management actions within PAs across the Carpathians.

Furthermore, the analysis of the available financial figures and measurements performed in some sample sites in the Carpathians highlights, as recalled above, a *few recurring problems* (Box 3).

Box 3**A few recurring critical issues detected in Carpathian Protected Areas**

- the inability of the currently available funds to cover the costs to assure that basic conservation objectives are met (data surveys and financial scorecards confirm, for the areas where they were applied, that only some 50% of the estimated financial needs can be covered);
- the composition of the sources of funding used to finance PAs management and the overwhelming share of a centralised management approach to deliver criteria and financial support to decentralised territorial institutions as PAs (higher than 96% in Slovakia and even higher for some Romanian parks);
- the lack of appropriate incentives for local managers to operate freely, introduce financial innovations and mechanisms and search for methods to capture additional funding at the local level, largely due to limitations in the legal and administrative frameworks – notwithstanding their better knowledge of the territory and potential of regional PAs.

A significant lack of funding from traditional sources is thus to be ascertained, which confirms, also for the Carpathian region, a substantial failure of the most classical centralised model of finance management of nature conservation and policies for PAs. The main financial shortcomings identified for PAs and briefly summarised below (Box 4) are to be taken into account, when adequate responses are to be envisaged for the Carpathian PAs where often parks cannot deliver their expected outcomes, even under a basic management scenario (UNDP-GEF).

Box 4**Shortcomings in financial management in the Carpathian PAs**

- Structural lack of funds to cover even basic conservation expenses;
- Declining availability of funding over time;
- Negligible share of annual revenues being locally generated at the single PA level;
- Over-reliance of PAs on tourism-related activities for locally generated revenues;
- Under exploitation of alternative sources for revenues and more innovative financial mechanisms (e.g. PES, biodiversity markets, etc.);
- Lack of appropriate incentives for PA managers to capture revenues at the site level;
- Lack of investment on basic infrastructure that might be used to capture novel streams of finance;
- Significant disconnection between conservation goals as set in the management plans and costs;
- Dramatic inability of resources available under a BAU scenario to cover even basic conservation goals in some PAs.

7. Opportunities for action and change

A promising opportunity for the countries where legal barriers to the introduction of novel financial mechanisms are detectable, seems to lie in the actions informally performed by non-governmental, private and community actors that can back the attainment of PA targets. In practice, within an intricate legal system where burdensome procedures are generally to be followed, indirect support to conservation goals can be supplied by NGOs or local communities committed to biodiversity conservation and management on the basis of a private initiative, being those bodies less strictly controlled by national law than PAs.

Such an action has been proposed also in the framework of the UNDP-GEF project for Romania recalled on several occasions, also aiming at delivering a more effective action in the short-run. A particularly suitable instrument being currently available is the National Association of Park Managers¹², as it happens in Romania, where it qualifies as NGO (Birda, 2011 and UNDP-GEF Project Document, 2009).

In order to avoid a serious failure of conservation policies in the absence of adequate public funding, relying on almost a single source is no longer possible. Notwithstanding the significant restrictions to autonomous action by single PAs, it is advisable to develop a strategy to switch to a more diversified portfolio of funding sources – as standard financial practice prescribes, aiming at properly distributing risks.

The prevailing financial situation observed for the Carpathians asks for the design and implementation of different schemes, more site-oriented than the ones that are currently in place. New localised approaches to collecting funds for conservation policies at the single PA level, may work as possible tools to increase the availability of economic resources and introduce a tighter financial management for the available funds.

It is advisable that specific grants, also from international donors or provided through EU or other financial programs of international agencies, are employed to cover some infrastructure and facility expenditures that may trigger further financial resources (e.g. by allowing leases, or bids, or tourist fees collection).

Partnering with external subjects, contracting out some services as well as more easily involving willing volunteers in some PA activities, might significantly reduce the incidence of some cost categories (e.g. staff salaries, operating expenses, services delivered by external providers) on the overall economic performance of the PA and widen the opportunities to find novel financial flows to be employed for nature conservation actions. Also, more flexibility in managing staff contracts might help find the optimal dimension of staff depending on the seasonal job load. A promising example of such a practice is the experience of “African Parks”, a non-profit organisation responsible for the rehabilitation and long-term management of national parks in partnership with governments and local communities in Africa that is working in cooperation with former park managers and SANPark staff and professionals¹³ (Box 5).

¹² A particularly well-known example of a foundation devoted to park management where both business community and conservation specialists cooperate has developed in Africa with “African Parks” (AP), see Box.

¹³ South African National Parks, (SANParks) is the national agency responsible for managing **the national park system** which represents the indigenous fauna, flora, landscapes and associated cultural heritage of the country. See. <http://www.sanparks.org/about/>

Box 5

African Parks: a world-class business approach to nature conservation and biodiversity restoration

African Parks is a non-profit organisation responsible for the rehabilitation and long-term management of national parks in partnership with governments and local communities in Africa. AP combines world-class conservation practice with business expertise and aims at achieving financial sustainability of PAs on the basis of a *portfolio* of financial sources including: long-term donor funding, tourism revenues, related business enterprise, and payment for ecosystem services (PES). All the finance collected and spent on the territory is aimed to provide a foundation for regional economic development and as a support to social policies.

African Parks is aimed at tackling the conservation challenges of the region where this NGO has been set up. There are different methods to ensure proper nature conservation, but since environmental and nature policies are typically pursued by governments, AP usually enters into long term partnership agreements with governments and take direct responsibility for managing and financing parks.

The management action performed tends to allow the parks to generate a mix of sustainable and diversified income streams to pay for running costs and capital replacements. Given the ecological, social and economic differences identified in each park, revenue streams tend to combine donor funding, commercial revenues (entrance fees, tourism concession fees and game sales), endowment income and payment for ecosystem services (PES schemes).

The main objective of AP is long-term biodiversity restoration through a conservation approach combining habitat management, wildlife introduction and monitoring programmes, as well as related research. Practical responsibility include a direct commitment to enforcing the existing rules and fight poaching practices. Partnerships have been established with governments as well as renowned world class institutions.

AP approach to local communities is centered on the target of easing the establishment of a conservation-led economy with the park at its core and with benefits created through job opportunities, skills development and enterprise development. Employment opportunities include permanent positions and temporary jobs in the park administrations. Further opportunities derive from tourist lodges and commercial activities set up by local community members and supported by AP.

Concerning tourism facilities and potential, AP declares that it is not making any significant investment in tourism infrastructure . The task is left to reputable tourist companies whose actions participate in implementing the sustainable conservation-led economies that AP aims to set up inside and at the borders of parks.

Certainly a more diversified portfolio of financial sources could help ensure the sustainability of PAs in the long run. Achieving such a diversification would require obtaining some change in the current prevailing legal and administrative systems in many Carpathian countries, aiming at increasing both the independence and the responsibility for actions of PA managers on the territory.

A certain degree of diversification of funding sources is certainly attainable also at the central level, where some funds are overexploited, even if other sources would be available. For instance, international assistance and projects still cover a minor share of the central spending and similar situations are to be recognised in the case of government grants for environmental projects that are scarcely applied for by PAs, even though they are fit to fund biodiversity conservation initiatives (UNDP-GEF Project documents) and would seem rather appropriate to pay for some infrastructure and facility investment that are needed in several Carpathian PAs (e.g. on patrol vehicles, forest roads, tourist facilities, etc.)

Nevertheless developing those still centralised sources of finance as well as attracting funds from EU programmes and other international donors do not seem the most appropriate solution to achieve a more sustainable financing scheme for nature conservation in the long-run and will not be analysed in detail in the present study.

8. Assets, typologies and services in Carpathian PAs

In order to look for some alternative sources of funding that are strongly rooted in PAs at the local level and can be exploited through novel financial mechanisms, it is advisable to start a review of those “values” stored in the Carpathian region, for which some demand is likely to exist. A useful guidance in such an exercise has been provided by IUCN 1998 that proposes a method based on the “screening” of the existing values, and a “stakeholder analysis” based on a client-approach.

Two are the elements that need to be analysed to assess the potential financial streams to be reaped in a PA: the benefits flowing from a PA, and the potential recipients of those benefits – usually referred to as the “customer base” for the protected site.

In this section some specific assets, functions, values, goods and services provided by Carpathian PAs are reported as a basis for the identification of appropriate financial mechanisms to be activated at the site level. Then, a customer base is proposed on the basis of the information available concerning a few protected sites located in the Carpathian region.

A particularly suitable method quite widely used in the analysis of ecosystem services is to review them with a specific purpose in mind, attaining both cost-effectiveness and significant time savings – as it has been successfully tried for businesses (Hanson et al., 2012). At any rate, the inner complexity of a PA would require a more in-depth analysis wherein also non-ecological values and prospects would deserve a special attention¹⁴.

8.1. Benefits and ecosystem services from Carpathian PAs and main customers

An analysis of the benefits that customer groups can reap on goods and services of PAs helps understand if novel financial mechanisms can be introduced to capture funds to be employed for managing the otherwise deprived Carpathian PAs.

The debate is lively in the scientific community concerning the definition of ecosystem services and their outreach in terms of wealth creation and well-being generation. Nevertheless a few standards ESs have been recognised as being distinctive of mountain areas (FAO SARD-M) and other have been specifically identified for some Carpathian protected sites, particularly in Romania (UNDP-GEF).

An ecosystem can help meet human needs, by providing services and performing a set of often competing functions, usually not included in any existing market.

Ecosystem services are a term being generally used to refer to the direct and indirect contributions of ecosystems to human wellbeing (TEEB 2010). The EU Commission recognizes that human well-being is dependent upon some “ecosystem services provided by nature for free”. Such services include, among others, “water provision, air purification, fisheries, timber production and nutrient cycling”. Under the purely economic point of view, these services are identified as “predominantly *public goods* with no markets and no prices”, a case bringing about

¹⁴ See, again: Raymond C. & Brown G. (2006), Gómez-Sal A. et al. (2003) and Brown G. (2006).

the disadvantage that “their loss often is not detected by our current economic incentive system and can thus continue unabated” (EU Commission DG Environment, web¹⁵).

We can assume, as a general rule, that ESs are more likely to be positively valued by stakeholders and potential users, when they meet well-defined human needs, wants or expectations.

All those conditions are more easily met when it is easier to appreciate the benefits deriving to human communities or individuals from a flowing stream of services, in turn depending on specific assets.

This is even more likely to happen when an area is wider, less strictly protected and more uses coexist for the same site. All those remarks are consistent with the assumed positive relationship between the number of possible utilization of a PA and its IUCN category (increasing) number.

In a perspective of credible acknowledgement and valuation within a PA, ecosystem services should preferably satisfy the two basic requirements of meeting some relevant and recognisable human needs (including business and market-oriented ones) and flow from the PA to a wider area with significant human utilization and clear economic or vital benefits deriving to the residents or users from the presence and continuation of these services, i.e. ecosystem function being used by humans to fulfill their interest.

Although the resources available within the environment are commonly perceived as providing services to mankind, either directly (e.g. drinking water, minerals, etc.) or indirectly (e.g. through the soil, which allows farming activities, electricity production by hydropower), it is difficult to find a unique definition for this concept. Moreover, the peoples' and scholars' perception of these assets has changed over time.

Some natural and environmental assets can be considered as constituting a special category of services provided by mountain ecosystems.

It is possible to draw a distinction between the functions performed and the services supplied to humankind by ecosystems. Services would include “the conditions and processes through which natural ecosystems, and the species that make them up, sustain and fulfill human life” (Daily 1997) and would thus comprise only a smaller group of functions and particularly the ones “that are useful to humans” (Kremen 2005). Since influencing on human utility (one of the basic concepts of economics), services can be subject to economic valuation. Some practical examples have been recalled below (Box 6).

Box 6

Ecosystem services: functions that humans use for their interest

- Goods for human consumption (food, air, landscape, timber, etc.);
- Absorption facility for polluting substances;
- Physical location for human settlements;
- Natural resources for industrial and handicraft production processes (raw materials, hydro- or solar- power);
- Leisure activities

Notwithstanding the current poor knowledge about the mechanisms lying behind the dynamics of ecosystems, the level of both environmental quality and the ecosystems' functioning appears

¹⁵ In particular, see: <http://ec.europa.eu/environment/nature/biodiversity/economics/> . For a further analysis, see the reports delivered under the TEEB initiative, available on-line: <http://www.teebweb.org/>

to be generally high in mountain regions. Moreover, mountain ecosystems are among the richest in biodiversity (Körner and Spehn, 2002) as it is also the case with the Carpathians (VASICA, 2009)

Some basic services of mountain ecosystems to lowlands have been partially investigated. The goods and services they provide to lowlands have been classified as follows.

Ecosystem services categories and goods/services supplied

Service category	Type of good/service supplied
Provision services	Freshwater, fresh air, timber, food, renewable energy supply, biodiversity.
Regulating services	Climate, water, air, erosion and natural hazard regulation, carbon sequestration.
Cultural services	Recreation/tourism, aesthetic values, cultural and spiritual heritage.
Supporting services	Ecosystem functions, including energy and material flow, such as primary production, water and nutrient cycling, soil accumulation, and provision of habitats.

(Source: Alpine Convention 2011)

For a few PAs located in the Romanian Carpathians, some specific services¹⁶ have been recently identified based on some site-research. Also some economic quantification has been tried, based on two scenarios. In the table that follows (developed in the frame of a recent study conducted in the Romanian Carpathians) a typology of ecosystem services and benefits that may be associated with a PA is provided (Popa and Bann, 2012). In particular, the likely provision of four widely recalled categories of services is reported against the IUCN PA management categories as well as the economic sectors that are more likely to be affected by those ESs flows (Table below).

Ecosystem services by type, attached benefits, affected PAs by IUCN management category and potential customer bases

ES type	Service	Benefit / outcome	IUCN PA management categories						Supported sectors
			I	II	III	IV	V	VI	
Provisioning	Food / agriculture products	Wild meats, fruits, freshwater fish and seafood harvested for commercial and subsistence purposes	x	x		x	x	x	Households Fishery, Tourism, Agriculture
	Wood & NTFPs	Timber, fuel wood and fiber		x					Households, Industry
	Water supply (reduced treatment costs associated with	Public water supply, water for industrial	x	x		x	x	x	Agriculture, Industry, Tourism

¹⁶ Services are used as a comprehensive term, including also the provision of goods that can be managed and sold separately. For simplicity we will not treat goods and services differently in this paper.

	regulating services of soil erosion and water flow regulation)	and agricultural usage							
	Natural medicines	Natural medicines	x	x		x	x	x	Household
	Biochemicals	Biochemicals and genetics	x	x		x	x	x	Agriculture
	Ornamental resources	Ornamental resources	x	x		x	x	x	Industry
	Source of energy (fuel, etc.)	Energy provision e.g., hydropower	x	x		x	x	x	Energy
Regulating	Regulation of GHGs	Carbon sequestration	x	x	x	x	x	x	Potentially all
	Micro-climate stabilization	Air quality	x	x	x	x	x	x	Potentially all
	Soil erosion and water regulation (storage and retention)	Flood and storm protection	x	x	x	x	x	x	Tourism, Industry, Households, agriculture
	Waste processing	Detoxification of water and sediment / waste	x	x	x	x	x	x	Tourism, Industry, Households, agriculture
	Nutrient retention	Improved water quality	x	x	x	x	x	x	Fisheries, Agriculture
Cultural	Spiritual, religious, cultural heritage	Use of environment in books, film, painting, folklore, national symbols, architecture, advertising	x	x	x	x	x	x	Tourism, Households
	Educational	A „natural field laboratory“ for understanding biological processes		x	x	x	x	x	Households
	Recreation and ecotourism	Bird watching, hiking, canoeing, etc.	x	x	x	x	x	x	Tourism
	Landscape and amenity	Property price premiums due to views		x	x	x	x	x	Tourism, Households
	Biodiversity non-use	Enhanced wellbeing associated for example with bequest or altruistic motivations	x	x	x	x	x	x	Potentially all

(Source: Adapted from Popa & Bann, 2012)

As a consequence of the many services that have been recognised as flowing from their territory and reported in the table above, PAs in the Carpathian region of Romania have been defined as “*a productive asset providing a significant flow of economically valuable goods and services*” (Popa and Bann, 2012).

If we look more precisely at the IUCN categories of the five sites¹⁷ analysed in Popa and Bann, 2012, we notice how the parks classified as within the most frequent IUCN PA management categories in our sample (i.e. IUCN II and V) are potentially able to supply all the mentioned typologies of services (Provisioning, Regulating, Cultural, Supporting). Certainly, only site-specific analyses based on a sound “customer approach” (IUCN 1998 and 2001) - described later in this study – that it was not possible to apply here, could reveal the actual interest of relevant stakeholders for the services actually provided by those PAs and allow build up a ranking of their preferences.

The figures reported above, showing the significantly prevailing presence of IUCN management categories V and II within the Carpathian PAs (in particular in parks being members to the CNPAs) participate in supporting the impression that there is some significant unexploited potential in terms of ecosystem services and values in most of the PAs located in the Carpathians. Similarly clear is the need to link the evaluation of such a potential to the presence of a sound willingness to pay for direct and indirect services that have been to a large extent traditionally provided *free-of-charge*. Quite interestingly for the aims of this study, in the field of tourism, even though scarce on-field studies have been conducted, Popa and Bann (2012) estimated “*a significant consumer surplus for tourism and recreational experiences*”.

¹⁷ The surveyed sites in the mentioned study by Popa and Bann, 2012 are The pilot sites are Apuseni Natural Park (ANP), Retezat National Park (ReNP), Piatra Craiului National Park (PCNP), Vanatori-Neamt Natural Park (VNP) and Maramures Mountains Natural Park (MNP).

Box 7

A methodology to assess the benefits of a Protected Area: The Protected Areas Benefits Assessment Tool (PA-BAT)

The Protected Areas Benefits Assessment Tool (PA-BAT) was developed by WWF (2009) and is aimed to identify some of the wider benefits that protected areas provide to human well-being and thus their contribution to poverty reduction. PA-BAT can fill an important gap in the toolbox of protected area agencies and conservation institutions. This method aims to help collate information on the full range of current and potential benefits of individual protected areas. The tool has been primarily designed for use by protected area managers to work with stakeholders to identify important values and the benefits that they bring to a range of stakeholders, from local to global. Here we notice the categories of values that are considered within this innovative tool, which go beyond the category of ecosystem services strictly considered and may include the ones reported below.

Type of value	Examples
Nature conservation Values	
Protected area management	<i>Jobs (rangers, managers)</i>
Values related to food	<i>Hunting, wild food plants, fisheries, traditional agriculture, livestock grazing</i>
Values related to water	<i>Commercial and non-commercial use of water</i>
Cultural and Spiritual Values	<i>Historical values, sacred sites, wilderness and iconic values</i>
Health and Recreation Values	<i>Collection of medicinal resources e.g. herbs, recreation and tourism</i>
Knowledge	<i>Education, collection of genetic materials</i>
Environmental Services	<i>Carbon sequestration, soil stabilization, flood prevention, water quality and quantity, pollination of crops or other pollination products (honey)</i>
Materials	<i>Management and removal of timber, including for fuelwood; extraction of other materials</i>

Source: Dudley N., Stolton S. (2009)

Apart from ecosystem services as defined above, PAs are known to be providers of benefits to the society at large (McNeely 1994), of assets for development also within specific sectors¹⁸ (ICEM 2003). Specific tools have been set up in order to assess the benefits flowing from a PA to the bordering areas and the society, often with an eminently practical aim and an open dedication to local, regional, national and global stakeholders (See Box 7).

¹⁸ Though, it was remarked how often “PAs are seen as having little economic or development value and generating few obvious financial benefits or public revenues, they have been given a low priority in development plans”

8.2. A possible customer base for the Carpathian PAs

The above mentioned study (Popa and Bann, 2012) also tried to define a basic “customer base” for those benefits flowing from the PAs, in particular by identifying the economic sectors that are more likely to be affected by the provision of such benefits. The identification of stakeholders of some economic weight is a fundamental step to a strategic planning aimed at involving in innovative cooperation initiatives through consultations and other methods.

More in detail the “client approach” (IUCN 1998) assumes that different groups of actors are free to decide which goods and services to buy with their own money and thus have to be considered as “customers” by any institution that is supplying goods or services on the market. Accordingly, PAs are to be treated as organisations supplying some specific types of goods and services (i.e. biodiversity-based services, or ecosystem services) which compete with other suppliers in capturing the preferences and money of potential customers that may wish to spend their limited economic resources elsewhere. Therefore, on the basis of their assets and inner biological production function, PAs provide a stream of goods and services (benefits) to a host of customers (those who hold a value for the benefits).

Each of the benefits flowing from a PA can be associated with a customer base, or beneficiary group. Different types of PAs may cater to different sets of beneficiaries, depending on the types of goods and services offered by the specific natural site, its own features (that can be approximated through its IUCN management category, for instance) as well as the ease to reap the benefits by the beneficiaries (for institutional, geographical, cultural or other reasons).

Once the relevant beneficiaries have been identified, they should be included in the PA financial plan, as potential customers of the PA, being available to pay for some of the benefits they reap from the area – in a way that is compatible with the set conservation objectives.

It has been observed that PAs classified under each IUCN management category will produce some level of benefits for different customers, but the relative level of production of benefits will tend to be different for each IUCN category. In general, however, direct local benefits will increase proportionate to other benefits, as the IUCN category number rises. PAs classified with lower IUCN categories tend to deliver more “global benefits” (addressing indirect customers: global and bioregional), while the ones with higher IUCN categories deliver local direct benefits that more easily meet the needs of direct users and visitors of the PAs (commercial customers and neighbors) (IUCN 2001).

A PA has been described as a supplier of a diverse set of biological goods and services to diverse customers, which are suitable to be classified in specific *groups* (see Box 8). The introduction of an entrepreneurial vision, distinctive of the private sector, in a typical domain for public policy as protected area management in Europe can be striking. In particular, thinking of a PA as an institution provisioning goods and services of some market relevance to some customer groups can help the nature site under inquiry to “sell goods and services in a way that will strengthen the ability of the protected area to support the conservation of biodiversity and sustainable use of natural resources” (IUCN 2001).

Box 8

The four customer groups of a PA (IUCN 2001)

1. *Neighbours and residents*: should derive some benefit from the presence of the PA without compromising its overall conservation objectives, thereby reducing the pressure to convert the land to other uses. They can also be seen as customers expecting some specific goods and services from the PA (e.g. timber and non-timber products, access to lands for grazing, watering holes for the dry season). Alternatively, they can represent a direct threat to the PA since they may be interested in PA land for intensive utilization more than they wish to conserve the site.
2. *Commercial customers*: may be interested to goods and services that can be harvested from the protected area and sold on the open market. In turn, they may be consumptive (e.g. timber, hunting, fishing, genetic resources, mining) or non-consumptive (e.g. tourism).
3. *Bioregional customers*: are likely to benefit indirectly from the services flowing from the PA downstream. They include downstream communities and enterprises or more generally the whole country or region. They may include farmers, ranchers, miners, manufacturers and villagers, urban dwellers – each of these sub-groups is likely to express its own specific demands and reap some particular benefits delivered by the PA services. Usually the potential link between the PA and these customer groups can be practically exploited only through the involvement of territorial public authorities and in the presence of appropriate legal frameworks.
4. *Global customers*: they include these indirect recipients of some services of global interest provided by a PA and by a PA system more in general terms. These global benefits should be found at least indirectly recognised within the mandates of global environmental agreements. These could include biodiversity conservation, carbon sequestration, habitat for endangered species and migratory species, replenishing fish stock for traditional and commercial fisheries, mitigation of natural disasters and impacts related to climate change. Ad hoc financial mechanisms at the global level have been sometimes set up exactly to reap and pay back for those services (e.g. the Global Environmental Facility – GEF).

Once the preferences of the customer base have been estimated and their role in the financial plan of a PA has been better understood, then the activation of financial mechanisms aimed at capturing the value assigned and the willingness to pay of the PA customer base, by assuring funding to PAs, can follow, and a survey on the most appropriate among those mechanisms is worth being started.

PA customers can be roughly classified into four groups (IUCN 2001), that are briefly described in the table that follows, where also the benefits they can theoretically reap from the PAs and the stakeholders that are expected to be involved in any consultation process (on the basis of previous experience with regional projects).

Customer bases, estimated benefits, financial mechanisms and potential stakeholders for Carpathian PAs

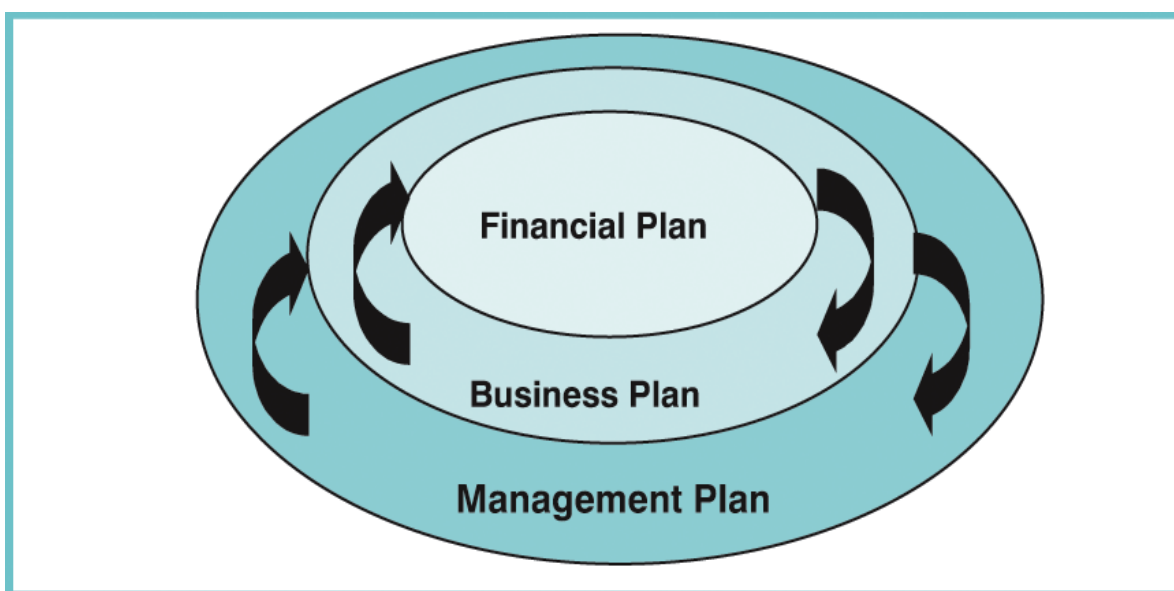
PA customer base	Benefits (financial mechanisms)	Stakeholders
1. Neighbors and residents	<p>Direct consumption or sale of harvested goods (extraction rights)</p> <p>Recreational use (access rights)</p> <p>Land and real estate premium (local property tax or voluntary contribution)</p> <p>Employment opportunities</p> <p>PA related products and services provided by local businesses (local taxes, visitor pay-back schemes, concessions, bids, PA profit sharing on specific goods and services)</p> <p>Voluntary donations, corporate philanthropy and corporate social responsibility (CSR) initiatives</p>	<p>Land owners</p> <p>Local civil society organisations</p> <p>Land use rights holders (formal and informal)</p> <p>Individuals</p>
2. Commercial customers	<p>Direct consumption and use (gate and user fees, donation boxes, equipment rental, specialised tours or packages)</p>	<p>Private sector</p> <p>Individuals</p> <p>Tourists</p>
3. Bioregional customers (e.g. downstream beneficiaries)	<p>Indirect benefits from PA goods (often public goods) and services (government funds allocations, taxes, partnerships)</p>	<p>National and local public institutions being able to change existing legislation</p> <p>Private sector</p>
4. Global customers	<p>Global values (funding programs from international agencies, grants, mechanisms in the frame of international environmental or other agreements: e.g. Clean Development Mechanism of the Kyoto Protocol, REDD+, etc.)</p>	<p>National and local public institutions being able to change existing legislation</p> <p>International agencies</p> <p>International organisations and institutions</p> <p>Private sector</p>

9. Financial mechanisms to capture PA values

In order to be properly managed and assure that the numerous required management and operational activities are performed and the conservation objectives pursued, a PA needs to collect money and match income sources with its own financial needs.

Financial planning is the procedure through which the amount of money needed to perform different types of activities is assessed and the most appropriate funding sources are located, taking note of the time-scale of both needs and financial flows.

Usually financial planning is considered to be a specific section within a wider business planning procedure, where it depends on the management objectives set in the management plan that is usually drafted for parks worldwide and more in detail in the business plan, that is expected to determine more practice-oriented goals that can also be economically quantified, and checked through “ad hoc” metrics and indicators.



A planning hierarchy for protected areas (IUCN 2000)

Critical in PA financial planning, especially after the significant crisis of public funding has become the identification of proper sources of funding that may substitute for classical, centralised streams – that recently have become especially insecure, difficult to schedule, volatile and scarcely cost-effective.

Financial information is critical in assessing the ability of revenue generating activities not only to cover the requirements of a PA, but also to secure an adequate time match between financial flows and actual requirements of the PA. In this line, the role of cash flows is often critical to assure that payments are made timely and higher quality staffs, service providers and contractors are retained.

The set of possible tools to be used to gather financial resources is wide and several collections of good practices in this field exist, performed either regionally or globally due to the widely recognised possibility to transfer the most effective experience from one location to another. Some of them will be described in the paragraphs that follow.

Aiming at tackling an increasingly difficult financial background, some park agencies have developed autonomous models that allow them to follow a more business like management approach and achieve a greater financial independence from public sources. This happened at first in these countries where an impressive abundance of areas of high natural value was coupled with a structural lack of economic resources and political instability (Bond et al.2004, Saporiti 2006, Mitchell 2007, Gallo et al. 2009, The Economist, 2010), but the current status of finance for PAs (insufficient human, institutional and financial resources represented a limit to the full implementation of protected areas networks and the management of individual protected areas, as noticed e.g. in the framework of the last COPs of CBD) calls for a shift to innovative solutions also in more developed contexts (on July 25, 2013 the U.S. Senate Committee on Energy and Natural Resources held a hearing on "Funding the National Park System for the Next Century").

The role of financial instruments for addressing the above mentioned constraints on management of PAs appears to be central, no matter which the nature of the source they will make use of.

A plain application of consistent financial planning to PAs requires an appropriate institutional and legal framework that is scarcely found in the region under enquiry. It is important to stress once again how an actual implementation of innovative financial mechanisms calls for a wide set of legal, institutional, infrastructural and cultural changes requiring long periods of time to be achieved and subject to a certain degree of uncertainty.

As we have observed above, strong legal, organisational and institutional barriers to innovation in the management of PAs and the tools that can be employed to convey financial streams from novel customer bases still survive in many world regions, including the Carpathians (Birda 2011; UNDP-GEF Project 2009; IUCN 2001).

9.1. Financial mechanisms aims and categories

In the field of PA management, financial mechanisms have been defined as tools designed to “*raise, generate or mobilize funds to cover the different costs related to the implementation of conservation programs*” (Flores et al., 2008).

The term “financial mechanisms” ideally should refer to “*mechanisms* that raise money for conservation (e.g. grants, government budget allocation, fees, green markets, PES, etc.), (Gutman and Davidson, 2007). Financial mechanisms basically establish a link between possible sources for funds and beneficiary activities or areas.

A classification aimed at defining standard categories of financial instruments is presented in the Table that follows.

Financial mechanisms, tools and level of the potential source of funding

Category and aim of the financial mechanism	Possible tools	Sources of funding
1. <i>Attracting and administering external flows</i>	Government budgets, bilateral funds, multilateral funds, donor budgets, NGO grants, private and voluntary donations (philanthropic foundations, corporate funding, personal donations)	International, domestic
2. <i>Encouraging conservation activities among the groups using or impacting on PAs</i>	Cost-sharing, benefit-sharing, investment funds, enterprise funds, fiscal instruments, arrangements for private or community	Users or beneficiaries of PA goods and services

	management of PA land, resources and facilities	
3. <i>Introducing market-based charges for PA goods and services, attempting to capture the willingness-to-pay of PA beneficiaries</i>	Resource-use fees, tourism charges, PES schemes	Users or beneficiaries of PA goods and services

(Source: Emerton, 2006)

The first category presented in the table refers to external funds to the PA, while the last two ones focus on resources that can be collected at the site level, by addressing the local customer base (e.g. residents, users, visitors, neighbors, local businesses, etc.). Mechanisms aiming at generating benefits for local communities from biodiversity conservation and PAs create incentives to community participation in PA management.

While external funds only limitedly depend on the direct users/stakeholders of a PA, suffer from competition for alternative destinations of either national or international public funding and development assistance and are increasingly difficult to access for PAs; the last two categories can be more easily activated through independent, site-level management – at least if the underlying institutional and legal regulations allow for a certain flexibility, or an alternative route to raise funds is found (e.g. by involving local NGOs and donors that can support the PA with either in-kind or cash contributions).

Since this study is mainly aimed at exploring opportunities linked to an increased autonomy of PAs and their ability to secure a sustainable financing portfolio in a decentralized way, our analysis will mostly focus on the last two categories of financial mechanisms for PAs.

9.2. Centralised or decentralised finance?

In order to increase the amount of funds and the number of potential financiers, the adoption of sound financial planning in PAs has been proposed as a preliminary condition for the test of novel mechanisms (Flores et al., 2008).

Financial plans and mechanisms should secure stable and long term access to funds, allocate them timely and appropriately, cover the full costs and ensure an effective and efficient management of PAs with respect to conservation and other targets (IUCN, 2006).

The most suitable mechanisms for a decentralized adoption address the direct users or beneficiaries of PAs and its goods and services (see categories 2 and 3 of the table above). Usually, to be effective, financial mechanisms are to be managed at the site level by the responsible officers, if the legal framework allows PA managers for some flexibility in decision making that is not always the case.

Decentralized financial mechanisms are self-generated and include fees chargeable on visitors, charges for natural resource use, permits and others. They are particularly suitable to be continued after a test phase and represent a decent means to financial sustainability in the long run.

Surveys on the economic values stored in each PA, stakeholder analyses for identifying the “PA customers” and an economic valuation for setting up a coherent business strategy for each specific site may be required (IUCN 1998). The information available for PAs localised in the Carpathian region is incomplete, scattered, and dispersed in several sources, but a growing number of studies has shed light on some formerly unexplored topics and tried some interesting valuation exercises on the natural and ecological assets and the resulting ecosystem services in some regional parks (Popa and Bann, 2012).

This information is required to try a selection among the diverse types of financial mechanisms being available from international practice, literature and research projects. A cost/benefit analysis is desirable when a new mechanism is to be applied – and it is rather clear that only the availability of at least some rough values makes possible to make a consistent selection among the many tools theoretically applicable in each PA. Usually specific analyses will be required at the single site level and will include the involvement of at least local stakeholders, park and public administrations in order to define a ranking of the values stored within the area and make all the economic, practical and political considerations being preliminary to the establishment of a specific financial mechanism.

9.3. PA site potential for novel financial mechanisms in the Carpathians

The financial mechanisms identified in literature can be basically organised on three main levels: local, national and international. Only a fraction of them can be considered market-oriented. The greater experience with financial mechanisms refers to traditional tools, often centralised and linked to fiscal policies that have been historically used to finance environmental policies and biodiversity conservation actions by using “command and control” tools, environmental taxation and public funding.

According to the OECD (2010), well-designed financial mechanisms would ideally be able to:

- remove perverse incentives (any conflicting market distortions, such as environmentally-harmful subsidies) in order to produce clear and effective incentives;
- define enforceable property rights over the resource in question in order to allow the individual or community to provide the ecosystem service;
- define financial mechanisms' goals and objectives in order to guide the design of the programme, enhance transparency and avoid ad-hoc political influence;
- develop a robust monitoring and reporting framework of biodiversity and ecosystem services, enabling performance assessment of the financial mechanisms, and allowing for improvements over time.

It is important to notice that financial mechanisms – since they are basically theoretical procedures – are potentially applicable to very diverse situations and suitable for transfer from different sites, but they relate particularly well with some specific ecosystem services and assets, highlighting a specific “value” to be measured and captured. The number of tools that can be classified as financial instruments or mechanisms for nature conservation is virtually high, since it depends on the level of detail that is selected to describe them. An interesting example of management through compensation has been applied in Serbia after a legal reform (Box 9)

Box 9**Compensation Measures: Djerdap National Park (Serbia)**

Djerdap is the largest national park in Serbia (63.608 ha) hosting approximately 15.000 people. It presents important geological heritage, a scenic gorge, the oldest neolithical settlement in the country and is extremely rich in biodiversity (1.100 plant species, 50 forest and shrub communities, endemic forest communities, 200 bird species). Some figures concerning compensations paid for Djerdap National Park are reported in the table below.

Purpose	Unit	Euro per unit	Euro in total
Hotel, motel apartment or similar	Per m ² per year	7.10	3286
Warehouse for storage of all types of goods, indoors	Per m ² per year	0.90	63
Pumps for liquid fuels and gas	Per m ² per year	26.80	39595
Owners / users of area where is performed industrial activity	Per building per year building per year	892.90	4464
Banks, post offices and exchange offices	Per m ² of business space per year	2.70	752
Owners and users of the power transmission line- 400 kV corridor width 25m	Per m ² of the power transmission line per year	0.40	47080
Owners and users of the power transmission line- 110 kV corridor width 15m	Per m ² of the power transmission line per year	0.40	12713
Owners and users of the power transmission line- 35 kV corridor width 10m	Per m ² of the power transmission line per year	0.40	65536
Owners and users of the power transmission line- 10 kV corridor width 5m	Per m ² of the power transmission line per year	0.40	210973
Owners and users of of underground (cable) power line	Per meter per year	0.90	7543
Owners and users of transformer station of higher (input) voltage of 35 kV and 110 kV	per m ² below the transformer station per year	3.60	850
Owners and users of switchgear	Per m ² per year	2.10	36617
Owners and users of MBTC 10 (20) / 0.4 kV and the pillar stations	Per object per year	12.50	988
Owners and users entrusted with the the management of hydro power water	Per hectare per year	32.10	189075

Historically, the main source of funding for the park was logging and timber trade. A minor amount derives from taxes on non-timber products collection and licenses for fishing and hunting. The main “customers” of the parks appear to be the members of the local community.

Since 2010 PA managers can set up charges on activities and business taking place on PA territory all over the country. This legal reform introduced a new instrument by which financial resources can be collected on the territory of the park.

The amount to be paid as a compensation (tax base) to the PA managing administration goes to the national government and depends on the following main variables:

1. type and volume of occupation of PA

Financial mechanisms to a large extent bring in the debate some novel motivations to raise funds according to a redefined rationale. Though, their strategic aim remains quite simple, i.e. to collect money for PA management purposes. These mechanisms are hardly completely independent from government *stimulus* or support, since they still depend, especially in the initial phase, on government or donors' funding to pay for start-up costs, assure the disadvantaged groups' well-being and that those mechanisms comply with prevailing social, legal and equity standards. In the paragraphs that follow, we will propose an institutional mechanism wherein a particularly relevant role will be assigned to PA networks as a compensatory means and a way to ease the dispersed creation of independent sources of funding, providing an insurance-like service to the members and a clear incentive to local experimentation and sharing of the most promising experiences in a cost-effectiveness fashion. The approach will be defined as the “decentralization argument”, after Cowen (2012) and a long tradition in economic theory¹⁹.

Since financial mechanisms are only “instruments” aimed at easing the gathering of funds, they can be applied rather indifferently both to classical sources of funding and to innovative ones.

In the table that follows a set of more and less traditional financial mechanisms for PAs have been classified according to the level at which they can be applied (from local to global). In general more structural and deeper reforms are needed in order to change and innovate those mechanisms that are classified at a higher level, whilst the ones suitable for local, site-level application basically needs some level of managerial autonomy. In order to assure a greater freedom and responsibility to park managers in the Carpathians, most of the legal and institutional frameworks should be amended or reformed – nevertheless, some first interesting experiments with local instruments are detectable also in some Carpathian parks.

Financial mechanisms for funding PAs classified according to their degree of innovativeness and level of application

Level of the mechanism	More traditional	Less traditional
Local	Protected areas entrance and fees Tourism related incomes Local markets for sustainable rural products Local NGO and charities Local businesses good will investments	Local markets for all type of ecosystem services (PES)
National	Government budgetary allocations National tourism National NGO fundraising and fund granting National businesses good will investments	Earmarking public revenues Environmental tax reform Reforming rural production subsidies National level PES Green lotteries New good will fund raising instruments (internet based, rounds, up, etc.) Businesses/public/NGO partnerships Businesses voluntary standards and CSR National green markets National markets for all type of

¹⁹ In the field of natural resource and environmental management a decentralization argument was brought forward with specific reference to management of rivers, e.g. by WANDSCHNEIDER 1984. The argument is usually applied in a wide array of topics and in particular in fiscal policies. The case with creation and innovation has been analysed by Cowen (2012) in the field of arts creation in the US.

International	Bilateral aid	ecosystem services (PES)
	Multilateral aid	Long term ODA commitments
	Debt-for Nature-Swaps	Environment related taxes
	Development banks and agencies	Other international taxes
	GEF	Reforms in the international monetary system
	International NGOs fund raising and fund granting	Green lotteries
	International foundations	New good will fund raising instruments (internet based, rounds, up, etc.)
	International tourism	Businesses/public/NGO partnerships
	International businesses good will investments	Businesses voluntary standards
		International green markets
	International markets for all type of ecosystem services (PES)	

On the basis of a survey of the available information concerning the state of the art in the Carpathian PAs, a brief reasoned collection of financial mechanisms that would seem particularly suitable for a regional application has been prepared in the following table, with short constructive remarks attached.

List of selected financial mechanisms for PAs and notes on their potential applicability in the Carpathian region

Financial mechanism proposed for CNPA	State of the art	Remarks
Tourism-based revenues	Ongoing	Fast growing activity but impact on PA may be problematic and distribution of tourism benefits may pose challenges
Natural resources extraction fees	Scarcely developed	Depending on the on-site availability of natural resources. Impact on PA may be problematic. Distribution of revenues might pose challenges and require discretion.
CO2 capture and storage	Not developed	Can be managed either through the regulatory market in the countries where it applies, or the voluntary market. Some technical details typically arise when applying specific accounting methods that should assure the respect of the criteria of additionality, permanence, and consider leakage from project implementation. It does require clear legal framework or shared rules to be effective.
Water user fees	Scarcely developed / not present	Particularly suitable for mountain PAs where natural springs exist and water can be directed to several alternative uses. If properly managed, this tool allows both for protecting the ecosystem and collecting money at the PA or community level. Distribution of revenues might pose equity challenges.
Royalties and revenues on sales	Scarcely developed	Suitable especially in bundle with other tourist orientated strategies.
Licenses and permits	Scarcely developed	Potentially growing, quite easy to implement at the local or regional level in the presence of resources to be harvested. Might be supported by funds allocation programs, earmarked on the conservation of the licensed resource. Several experiences are available worldwide, for different types of resources.

Concession fees / leases and rent fees	Scarcely developed	Depending on the on-site availability of natural resources, unique landscapes, tourist attractions, natural and cultural heritage. Impact on PA may be problematic if user's flows are not managed properly.
Natural hazard reduction fees	Not present	Potentially interesting, especially in the presence of protection forests and when afforestation policies are undertaken. Require some research and technical activities such as hazard maps and ecological assessment of ecosystems functions and services. Requires a huge stakeholder's involvement with both public authorities and private actors.
Timber royalties	Not present	Suitable especially if forests are underexploited and there is some potential to implement sustainable forest management on-site. Very often PAs host inside or within their buffer zones large forested areas. This action should be carefully balanced with the management of "timber royalties" (see above)
Improved forest compensation	Ongoing	Suitable especially if forests are overexploited and there is a need for afforestation policies. Since there is often a partial overlapping of PAs and Natura2000 sites, some EU funds can be employed for PES to forest and land owners implementing specific management practices.
Environmental compensation	Scarcely developed	Mechanism that can provide funds but has to be carefully managed in order to assure ecosystem / landscape functionality. Suitable especially for bordering areas and sometimes buffer zones. Different uses entail different levels of risk.
Corporate grants	Scarcely developed	Growing activity in the region, better suited for productive landscape (e.g. IUCN V). It can be linked to the core-business of the corporate-donor. Might be a short-run measure.
Environmental (PPP) taxes	Occasional / to be adjusted	Classical, centralised activity. Requires well-functioning fiscal system and appropriate redistribution policies. Revenues might enter a national environmental fund (NEF) and be redistributed to environmental ends. Often requires a fiscal reform.
Environmental subsidies (PGP)	Occasional / to be adjusted	Other classical centralised activity. Should avoid setting perverse subsidies. In the presence of pre-existing policies, they have to be carefully set up and managed aiming at avoiding inconsistencies. Requires a significant knowledge of the policy background.

Figures collected from different sources (Birda, 2011; Popa and Bann, 2012; UNDP-GEF Project documents, 2009) for the regional PA system (CNPA) confirm a prevailing share of tourism-based revenues in some Carpathian PAs, where surveys have been conducted. It is also rather evident that investing in tourism to raise financial resources to be spent on PAs, in the Carpathian region equals to picking the *"low hanging fruit"*, due to the relative advanced development of this economic sector and some linked activities (e.g. hunting, cultural services, whitewater rafting, kayaking, and canoeing), the ease in introducing simple mechanisms ("pay-per-nature view" or "payment for tourist services" on-site). International tourism and eco-tourism are already a major source of financing for biodiversity conservation in the Carpathians PAs, but also a threat to it: it is largely accepted that land has a limited carrying capacity that has to be taken into account (and on which available knowledge is still scarce, also in the Carpathians).

Nonetheless, this relative ease to concentrate on financial innovation in the tourist sector should not bring to undervalue the other opportunities offered by the regional context and that have

been at least partially explored in some smaller areas: e.g. the search for dialogue and potential partnership with the business community in the fields of agriculture, bottled mineral water and other nature-dependent sectors (UNDP-GEF Proceedings, 2011).

A few classical ways to make international (or domestic) tourism and recreation a source of income for PAs are listed below. The comments take note of the findings of recent regional studies in the field (Popa and Bann, 2012) and try to provide suggestions for the whole Carpathian region.

Type of financial mechanisms for PAs and comments on their applicability in the Carpathian region

Type of financial mechanism	Comments
<ul style="list-style-type: none"> • PA / buffer zones entrance fees 	<p>Entrance fees can provide flows of money at low cost. Feasible in particular locations and for specific customer bases with significant willingness to pay for services available in the restricted access zone (e.g. bird watching, hunting, wild berries, honey pots sites, etc.). Recently increasingly applied in the Carpathians. Requires a well-defined payment option (e.g. card, mobile, money box, etc.) and awareness raising initiatives. Its impact on PA may be problematic (carrying capacity) and distribution of tourism benefits may pose equity/distributional challenges.</p>
<ul style="list-style-type: none"> • Fees charged inside the PA for specific recreational activities (trekking, camping, fishing, etc.) 	<p>Targeted fees for specific activities require specific market analyses to determine potential customer bases, their willingness to pay and their management costs. They may require additional activities by the PA staff and some “ad hoc” facilities (investments required). Suitable for collaborations and partnerships with businesses and tourism operators with profit and/or investment sharing agreements. For some specific activities a careful assessment of carrying capacity is essential to assure that the recreational activity is ecologically sustainable in the long run.</p>
<ul style="list-style-type: none"> • Visitors donations 	<p>Funds earmarked on specific conservation goals for specific customer bases (e.g. bird-watchers fund for bird conservation programs). Private donation schemes from individuals, informal groups and organizations. Can be based on cause-related marketing (e.g. products or services with an explicit link to conservation: eco labelled products, special events and auctions in support of conservation). Adoption and “friends of ” programmes can generate funds or in-kind support (e.g. volunteer programs) for specific PAs, species or projects. Sponsorships by concerned individuals or groups on specific causes (e.g. wildlife). May require accurate surveys on biological resources stored in the PA and marketing studies to identify customer bases. Can help enhance the PA by promoting a greater visibility of it regionally and globally. Awareness raising programs may be run at the regional level and funded in the frame of business CSR programs or partnerships involving businesses, NGOs, communities and governments.</p>
<ul style="list-style-type: none"> • Fees charged to private vendors inside the PA (private food stands, restaurants, lodges, tourist operators) 	<p>Fees charged on business operators inside the PA can take different shapes. A profit sharing agreement is theoretically suitable but would require information difficult to collect. Those agreements should rather be based on licenses to operate or concessions, with specific obligations on sustainable management of resources attached. Another option is for the PA to act as a dealer with commercial operators and businesses. These</p>

	agreements are suitable for the buffer zones, where highly valued services are available (e.g. organic farming, scenery, etc.)
<ul style="list-style-type: none"> • Fees or taxes charged to tourist-related activities outside (but in the proximity) of protected areas (e.g. charges on nearby hotels and tourist related businesses, cruises, land transport etc.) 	Suitable for buffer zones with important tourist vocation. Suitable for less strict agreements, where payments can be provided "in kind". Beneficiaries of direct or indirect payments may be local communities.
<ul style="list-style-type: none"> • Fees or charges on foreign tourists (used in countries where nature based tourism is the major attraction for foreign tourists) 	Suitable for PA where visitors largely come from abroad. Fees may consider the relative purchasing power of foreign currency and the significant willingness to pay of visitors for ecotourism (e.g. in the Carpathians). Significantly depends on the natural attractions provided by PAs, such as the habitats with wild plants and animals, exotic foods, fresh water and air, views capes, and cultural services.
<ul style="list-style-type: none"> • Community based conservancies that use part of the tourism and visit revenues for biodiversity conservation 	Require important wildlife resources, appropriate customer bases, and clear legal provisions. Suitable for visitors with specific aims (e.g. hunting, shooting). Create strong incentives to nature conservation in local communities based on natural capital, but requires information on local carrying capacity. Classical source of finance/revenues in developing countries (e.g. safaris, trophy hunting).
<ul style="list-style-type: none"> • Public-private partnerships to invest in environmentally friendly tourism developments with part of the benefits earmarked for biodiversity conservation • Idem for Public-communities and public-NGOs partnerships • Idem for Private-community and private-NGOs partnerships • Idem for communities-NGOs partnerships 	This mechanism can be a solution to lack of skills, incentives and access to capital to effectively manage PA environmental resources. "Commercialisation as a conservation strategy": concession of exclusive rights on park facilities (lodges, shops, camp sites, etc.) and use of surrounding parkland. The fee due by the concessionary can be calculated as a % of the turnover bid during the tender process. In most advanced cases, concessions can include also the duty to perform conservation activities by professional institutions (e.g. NGOs, foundations, associations) that mobilise investment for conservation as well as for tourist and other commercial development. Requires financial assistance to PAs, clear regulations. Can help PA suffering from bad management practices and with serious lacks of staff and expertise and insufficient investment.
<ul style="list-style-type: none"> • Regulations, incentives or partnerships with the tourist development industry to reduce their ecological impact in areas of biodiversity value (e.g. through EIA, environmental friendly building and operation standards, biodiversity offsets, etc.) 	These mechanisms need to be based on mutual benefit from both the sides of the partnership. Suitable for companies and actors engaged in CSR or green certification or labelling schemes. May require investment in "green marketing" in order to deliver some competitive advantage for tourist operators. Requires quite an advanced tourist regional market. Can require government cooperation or be voluntary-based. Suitable for PA in countries subject to rapid economic development and change, as many of the Carpathian states.
<ul style="list-style-type: none"> • Regulations, incentives or partnerships with the nature based and eco-tourism industry to reduce their ecological impact and increase their biodiversity pay off (e.g. through 	Benefits for tourism industry have to be clear since investment is required. The practice can be coupled with long term concessions on the use of a PA facilities and parkland. Agreements and regulations are expected to last enough to ensure a payback to the bidders. Particularly suitable in PAs and buffer zones with significant potential for tourist development, low investment costs and insufficient facilities. Can be supported by side-investment (e.g. in accessibility) by local or national governments that

development of eco-tourism circuits, environmental friendly building and operation standards best practices standards, etc.)

Table contents mainly based on Gutman and Davidson, 2007; Saporiti, 2006; Popa and Bann, 2012

More in detail, the following goods and services being locally generated by the Carpathian PA system have been identified in the Carpathians and suggested for introduction in a few Carpathian PAs (Popa and Bann, 2012; UNDP-GEF Programme documents, 2009-2011). A full exploitation of them would require to carefully assess a set of potential financial mechanisms that require very different time-scales, institutional changes and feasibility analyses to be introduced. Nevertheless they do represent a promising list for future research in the region and deserve to be recalled here.

PA ecosystem services and potential beneficiaries (economic sectors) for the Carpathian region

ES type	Service description	Supported sectors (potential payers)
Provisioning	Food / agriculture products	Households Fishery, Tourism, Agriculture
	Wood & NTFPs	Households, Industry
	Water supply (reduced treatment costs associated with regulating services of soil erosion and water flow regulation)	Agriculture, Industry, Tourism
	Natural medicines	Household
	Biochemicals	Agriculture
	Ornamental resources	Industry
	Source of energy (fuel, etc.)	Energy
Regulating	Regulation of GHGs	Potentially all
	Micro-climate stabilization	Potentially all
	Soil erosion and water regulation (storage and retention)	Tourism, Industry, Households, agriculture
	Waste processing	Tourism, Industry, Households, agriculture
	Nutrient retention	Fisheries, Agriculture

Cultural	Spiritual, religious, cultural heritage	Tourism, Households
	Educational	Households
	Recreation and ecotourism	Tourism
	Landscape and amenity	Tourism, Households
	Biodiversity non-use	Potentially all

9.4. Some promising innovative financial mechanisms for the Carpathians

Recently, initiatives have been launched aiming at channeling private funds to biodiversity conservation to complement the shrinking traditional sources. Here, some are recalled from international practice and research that may deserve some consideration by the institutions and PAs in the Carpathians.

- 1) "*Privately owned PAs*" are gaining increasing importance to ensure proper conservation in lack of adequate public funding. Not reported in official PA statistics, neither for their surface nor formally recognized as conservation sites (Mitchell, 2007), they are difficult to assess as a regional or global phenomenon, but they are known to play an increasingly significant role to achieve conservation targets. According to the World Park Congress (2003) there are 4 sub-categories of private PAs: individual, cooperative, NGO, corporate. Privately owned PAs can be found both in developed and developing countries. A study reveals they work better when focusing on the quality of protection rather than on the extension of protected land, as business organisations they aim at making profit, their owners often show an intrinsic motivation to set up a PA and recognise an important bequest value to them (Langholz et al., 2000). These PAs can make use of a mix of financial mechanisms to secure their sustainability and set up compensation policies, as it happens with NGOs managing more PAs (Mitchell, 2007). Recent experiences with private conservation demonstrate that even though a full substitution is hardly attained, private approaches to conservation can participate in supporting country-wide or regional conservation targets and increase the production and provision of a public good. Different support schemes and assistance can be supplied by governments at different levels to the private sector members (businesses, organisations, etc.) which are willing to commit to management practices ensuring nature protection and the production of environmental quality and services. A very interesting case has been experimented by the local government in South Australia (SA). A telling example of a project to set up a privately managed PA (which may become a national park) led by a NGO is represented by the Fagara Mountains, located in the Southern Romanian Carpathians (*CARPATHIA project*)(see box 10).

Box 10**Fundatia Conservation Carpathia's action in the Fagara Mountains Natura 2000 site in Romania: toward a private national park?**

The Fagaras Mountains contain some of Romania's highest peaks and are surrounded by some of Europe's ecologically most valuable, unfragmented woodlands. The mountains are also the source of the Dambovita River. The upper Dambovita valley is the south-eastern part of the Natura 2000 network site "Muntii Fagaras" (ROSCI0122). The integrity of this ecosystem is threatened by logging, principally occurring after the restitution since 2004 of formerly nationalised forests to their private owners. Also aquatic and riparian ecosystems in the area have been affected by the building of a hydro-power plant and some river-control structures in the 1980s.

The Fundatia Conservation Carpathia (FCC) is a private foundation aiming at preserving and extending the wilderness areas in the Carpathians through an interesting financial operation consisting in the direct purchase of forests with the intention either to save them as virgin forests or to convert them back to wilderness (according to an approach used also by other organisations, e.g. The Nature Conservancy in the US). FCC now owns a relatively large part of the upper Dambovita valley.

The Foundation was set up by a group of biologists, conservationists and philanthropist with a long-standing conservation experience worldwide that aims at creating the Europe's largest forest wilderness area in the Carpathians, as a private national park to be financed through an innovative partnership involving both private and public financial sources. FCC is expected to acquire, protect and manage forests and grassland in the whole region.

A first network of donors, supporters and sponsors that has been set up allowed FCC to raise some 14.2 million Euros in the first two years since its birth. The total estimated cost for the whole operation of conservation would be of 130 million euros.

In particular, FCC in the framework of the LIFE project focused on the above mentioned "Muntii Fagaras" site will purchase forested lands in three main sub-areas with the following features:

- 200 ha of natural forests in the upper Dambovita Valley of the Natura 2000 site Muntii Fagaras that have never been cut and where the natural tree composition and age structure is still intact, with the scope of complete protection.
- 400 ha of clear-felled areas in the central Dambovita Valley, scarcely regenerated by foresters and mostly with non-native species of some commercial relevance. The purchase is expected to close the forest gaps and to accelerate restoration of the habitat.
- 1,000 ha of managed and planted forests with the goal to restore the natural ecosystem and in particular to rewild the entire upper Dambovita Valley and to gradually shift to a non-managed natural habitat with a diversified species composition.

Appropriate communication tools (including guides and stakeholder workshops) will be used to disseminate the concept of restoring and rewilding the upper Dimbovita Valley to visitors, locals, and school classes. Also, a topographic map will be developed, including the marked trails in the area and the tourist facilities bordering the more strictly protected Natura 2000 site.

Source: www.conservationcarpathia.org

- 2) “Public Private Partnerships” (PPP) for nature conservation are especially diffused in the regions where legal regulations supporting independent management of PAs coexist with structurally limited government funds for conservation. PPPs can take different forms: e.g. autonomous park agencies, tourism partnerships, biodiversity management practices (Saporiti, 2006). Their main advantages are the mutual benefits of the parties involved in the transactions. Sound management is required in order not to sacrifice the sustainability of conservation for the provision of goods and services to users being

Box 11

Public-Private Agreements for private conservation in South Australia

In South Australia (SA), private protected areas can be held by private landholders and NGOs with an interest in conservation. As a consequence of the patent public interest in such an activity (consisting in the private provision of a public good), governments tend to provide technical assistance, tailored agreements and financial assistance to NGOs committed to purchase land where setting up private PAs and its management. Also situations of community managed PAs have been regulated by legal provisions since the 2000s.

SA government aimed to make easier for private landholders and NGOs to achieve their own conservation targets and simultaneously contributing to formal protection of the country biodiversity, that is a state duty. The four formal mechanisms that were put under enquiry since 2011 in SA are:

1. Sanctuaries: voluntary obligation-free mechanism established under non-binding agreements recognising the intent of the landowner to manage the land for conservation outcomes. It is considered as the entry-level point into conservation on private land, that often evolves into a Heritage agreement.
2. Heritage Agreements (HA): mechanism enabling private landowners to enter into a special agreement with the government to conserve and restore native vegetation on their (leasehold or freehold) land. Formally registered on the land title and transferred with ownership, HA assure the long-term protection of native vegetation on private land.
3. Updated Heritage Agreements (UHA): mechanism similar to HA but widening the focus to include broader conservation of natural and cultural values. Land under UHA would be counted as part of the National Reserve System (NRS). Entering a UHA would set up the duty on the landowner to manage the land and report on performance according to NRS standards.
4. Private Reserves (PR): can be established through agreements between landowner (or landholder in the case of leased land) and the Minister, classified as National or Conservation Park and reported on the land title or recognised through a special conservation lease over the land. Management plans for PR would be issued by the landholder and approved by the Minister. Visitor access and recreation opportunities represented major concerns, being left ideally to the will of the landholder. Access for mineral and oil exploration seems to be perceived as a problem and a means should be found to ensure the sustainability of any type of such an activity.

It is essential to notice that:

1. SA already has an extensive public PA system and the measures recalled here refer to the establishment of PAs beyond it (complementarity)
2. the state government supports private landholders to purchase land for private PAs and manage it
3. the process described above is aimed both at improving conservation outcomes on the state level and maximising the many other benefits brought in by PAs to the landscape.

Source: Leaman G. Nicolson C. (2012), Innovative measures for establishing protected areas on private lands in South Australia, Adelaide, South Australia

external to the PA.

They play an important role in securing funds for investment and need a clear set of rules as well as some control of their actual enforcement that can be defined by private contract and are better guaranteed by some government or institutional support. *Traditional partnerships* are quite common in the field of tourism where a private partner uses the government's natural assets to provide services and generate income, such as by operating shops, lodges and restaurants. *Biodiversity management partnerships* require the private partner to deliver a public function on behalf of the government, such as the conservation of public natural assets in PAs. The management structure that can be used to govern those partnerships (in particular when biodiversity and nature management functions are expected to be performed) can take the shape of an autonomous park agency relying on a diversified set of financial sources, many of which alternative to transfers from the central government. (Boxes 11 and 12)

Box 12

Partnerships for Natural Resources Management in the Apuseni Nature Park (Romania)

The Apuseni Nature Park administration set up two types of partnerships through specific contracts with stakeholders, based on the assessment of its own natural capital (unique, site-specific resources): a traditional tourist partnership for caves being the main tourist attraction of the park; a partnership on the use of herbs as raw materials for cosmetics and other products whose origin is certified by the Park.

Caves

Four caves have been contracted in partnership with local stakeholders: a private tour operator, a local administration and some guides from the local community, according to the different vocation of each destination. The results of the contracts are visible in the table below.

Herbs

A pre-determined level of harvesting (weight of dried herbs) is established on a yearly basis as shown in the table below and subject to some restrictions on the use of workers from the local community for harvesting.

The value of the contract is based on a negotiated fee per dried herbs that is expected to be fixed between 0,50 and 1 €/kg. At the moment three companies have shown an interest to sign such a contract.

Earmarking of revenues

The generated and locally retained income is used to finance programmes aimed to assure the sustainability of the provision of the resources that produced the income. Enforcement of the contracts is monitored by increased ranger activities on the field. Moreover, some investment is foreseen to enhance public awareness and environmental education.

3) "*Corporate Ecosystem Valuation*" (CEV) is quite a novel approach that is promising for PAs. The assumption at the basis of CEV is that often business production processes, especially for some industries, strongly rely on long-term flows of goods and services supplied by ecosystems. Some of these goods and services are inputs of the production function of the industry (e.g. green markets), while others affect the risk management system of the firm (e.g.

regulating services). Thus, it makes economic sense in investing in biodiversity conservation for companies whose production, resource security, and risk safety depend on the availability and quality of services provided by ecosystems (WBCSD, 2007). A partial extension of the concept allows to include in the beneficiaries of the mentioned services also the settlement areas, cities and local utilities – all these subjects can be ideally involved in a benefit and cost-sharing agreement for specific services. It is worth mentioning that only ecosystem services providing benefits of some market relevance can enter this scheme. CEV and the related policies have to be accompanied by other policies and measures, often with a role for local governments (acting as dealers or customers on behalf of their citizens).

4) *“Pay-per-nature-view” or “use” mechanisms* have been developed especially in those sites that are particularly suitable to attract visitors (Font et al., 2004). They can either be mechanized or directly administered by PA staff, with varying incidence of marginal revenues on the marginal cost of managing the access. Usually these mechanisms depend on local natural and landscape resources. Among the existing funding methods some have been considered and applied also in the Carpathians: entrance fees, user fees, concessions and leases, direct operation of commercial activities (an example of fee for sustainable use of resources is the “mushrooms collection permit” in Italy).

5) *“Payments for Ecosystem Services” (PES) schemes* is a name under which a wide domain of different mechanisms coexist. A PES aims at defining mutually beneficial exchanges between suppliers and users of ecosystem services, trying to realize net money transfers to the suppliers. Suppliers are landowners (private or public) for whom sustainable management of their land (resulting in the provision of ecosystem services) is an option with an opportunity-cost that is the minimum amount of money they will accept to leave aside the alternative use of their land, and provide the services. The recipients are the beneficiaries of the services supplied, e.g. businesses in the case of CEV, that was mentioned above. Often the latter tend to be identified with private citizens, represented by public institutions acting on their behalf and reducing the resulting (otherwise heavy) transaction costs. In this case, the difference between a PES scheme and a public subsidy fades (Vatn et al., 2011). Interestingly, PES schemes can be applied aiming at establishing actual markets where a sufficient amount of information and knowledge is available (e.g. pharmaceuticals).

A large group of financial mechanisms have been developed to collect financial resources to be spent on nature conservation, aiming at increasing the financial independence of PAs and promoting their financial sustainability. Another essential target of the development and adoption of these mechanisms is the diversification of the sources of income for PAs, especially aiming at lowering the historical dependence of parks and natural sites from government funds.

The most promising mechanisms appear to be the ones that can be directly managed at the site-level, by the PA manager. Under the managerial point of view it is worth noticing that contracting out some services, for which parks do not have any specific expertise, can bring about substantial cost savings on salaries and introduce novel forms of partnerships with both businesses and NGOs in the Carpathians (Birda, 2011).

The rules of the game as well as the institutional arrangements available for each country are a basic condition to be met in order to introduce a greater diversification of financial sources in PA management. A greater financial autonomy of park agencies in the Carpathians require a reduction of the influence of central government on management and operational choices, programs and categories of expenditure at the single site level. Clear legal rules are also needed in order to launch calls for tenders and auctions to assign licenses or grant long-term concessions to third parties.

The surveys conducted in a few Carpathian PAs, mainly in Romania, show that there is some potential to be exploited for several of the goods and services supplied by PAs. Still unclear is the most suitable type of mechanism for reaping the benefits that different customer bases recognise in those services and show a willingness to pay for.

The findings and recommendations gathered in the lists presented above in this chapter provide some basic guidance on possible fields for further research, but also give PA managers some basic hints on the mechanisms that can be experimented at the site-level and shared with other PAs in the region.

10. Institutional advice for future development of the Carpathian PAs

10.1. The decentralisation argument

The philosophy of decentralisation fundamentally holds that decisions made by individuals are better than those made through a centralized political process. Accordingly, subjects with a greater knowledge of those problems having mainly a localised nature should be in charge of determining the solutions and employing resources, taking the responsibility for their actions.

Economically, decentralisation is expected to bring about a better allocation of resources, since decisions about the use of funds taken dispersedly should be more reliable in representing the needs, priorities and willingness to pay of local users or beneficiaries. Thus, decision making concerning the delivery of goods and services, included the ones of public interest, “should be rendered to the lowest unit capable of capturing the associated costs and benefits” (World Bank, 1997). As a result, service delivery, cost recovery and resource mobilisation should improve.

It is also important to mention, to our specific ends, that decentralisation should allow a variety of experiments and initiatives at the local level without dismissing the notion that single trials are part to a wider system. Thus, through comparison of and learning from the results, it is possible to improve the overall performance of the system. By contrast, centralised systems tend to work by standard and are more likely to suffer from an “institutional paralysis” that tend to replicate traditional behavior instead of looking for innovation and may create an abdication of individual responsibility.

In order to benefit from the capacity for innovation which is distinctive to decentralisation, experimentation, innovation and competition need to be possible within the system, and mechanisms for mutual learning, transfer and sharing of experiences have to be set up²⁰. To his end, the potential of informal networks will be described.

To our purpose, decentralisation can be seen as a consistent policy to address the pressing financial needs of PAs in the Carpathian region. Along the different sections of the study, figures and information have been provided in order to understand the prevailing situation within most of Carpathian PAs, with particular regard to the efficiency and effectiveness of nature conservation policies and measures.

Some of the results of the survey are not satisfactory: the study contributed to highlight that often PAs in the region lack funds to deliver basic conservation targets; rely on centralised and public funding sources that are often inadequate and increasingly contended; fiscal reform and changes in government-managed tools are unlikely to take place over the short term; alternative financial mechanisms are scarcely applied at the local level and the share of revenues they collect is negligible across all the surveyed countries. Sometimes mixed approaches can be found, as it is the case in Hungary where a centralised system allows some freedom to national parks (Box 13)

²⁰ The web platform named “Carpathian Integrated Biodiversity Information System” (www.ccibis.org), developed in the framework of BIOREGIO collects some basic information concerning Carpathian PAs that ease the sharing of knowledge and is potentially suitable to host further data, at the moment not available.

Box 13

Financial management of National Parks Directorates (Hungary)

The institutional framework of National Parks Directorates (NPD) in Hungary is characterised by a relative independence of the NPDs and a significant amount of tasks up to them, including the management of all the national parks and Natura2000 sites across the country.

Being owners of certain lands, NPDs can raise funds by using their own infrastructure, land and human resources.

Property management is a source of income, relying on native livestock and farming on self-managed land, forestry, hunting, fishing, etc. Livestock and meat sales, agricultural subsidies, mid-term land use contracts, forestry, hunting and fishing are the main mechanisms used to raise money- even though there is some room for improving the performance of the single sources (e.g. hunting and fishing licenses).

Tourist oriented property management benefits mainly from entrance fees, accomodation and programme fees - thus depends quite directly on the number of visitors.

Minor income may derive from property management consultancy activities performed by NPD professionals to private land owners.

Increasing volunteer work has been detected that has not been estimated in monetary terms but is rather intended as a positive social externality in terms of environmental education and awareness. A major source of income is represented by projects financed under different programmes or initiatives (see table below)

An example of the financial management of the Duna-Ipoly NPD shows a prevailing share of funds from the state and projects and a directly collected income that is highly dependent on environmental education and leases (64% to 74% of own income in 2012).

On the other hand it is hardly questionable – on the basis of the lists reported above and the amount of information required for a safe implementation of innovative measures – that the financial mechanisms that can be implemented at the site level are very likely to depend on a decentralised knowledge of the territory that is more easily available at the site level and should be held by park managers. Even though, currently the available and reliable knowledge on the efficiency and effectiveness of financial mechanisms for nature conservation is limited and only a step forward to a test phase may deliver more information on the actual efficacy of novel tools on the field.

Thus, PA financing qualifies as an ideal field where mobilising dispersed knowledge in order to find and gather financial resources for conservation seems to be a promising policy option.

Such a target defines a *portfolio (or investment) problem*. More decentralised sources of finance can contribute to build a diverse, stable and secure funding portfolio for a single site committed to implement conservation policies and deliver actual results. A set of diversified enough sources of money flows may support PA financial sustainability also in the presence of volatility and fluctuations of the amount and availability of financial support (e.g. from government funds).

In line with the *decentralisation argument*, PA financial sustainability is expected to promote cost efficiency and management effectiveness, allow for long term planning and security and provide incentives and opportunities for PA managers to generate and retain funds on site (Emerton et al., 2006). On the contrary, also in more consolidated business models for PAs management, as it is the case with the U.S. National Park Service, the fees collected at parks have been historically returned to the national Treasury. Only then parks start lobbying for the re-appropriation of national funds that are often spent on centrally determined projects, rather independent from the contents of local demands and park users' preferences, or managers' territorial knowledge. This management model risks to dramatically reduce the incentive for individual PAs to invest time and money in fee collection, which may be a threat to innovation in the field and consequently to the effectiveness of conservation policies.

Thus, governmental structures caring for the financial health of PAs could support the development of diverse sources of funds, and encourage the spreading of information about the mechanisms introduced and tested, by setting up appropriate incentives or removing adverse frameworks. An undersupply of financial sources is likely to create pressure on the traditional mechanisms and a dramatic loss in the effectiveness of biodiversity conservation policies.

The insufficient figures available in the Carpathian region concerning the effectiveness of novel financial mechanisms suggest that there is room enough for experimentation of novel solution and their transfer in the case of satisfactory outcomes.

10.2. Private or public conservation?

The Convention on Biological Diversity (CBD) requires to increase the global surface being subject to some form of protection worldwide and as we recalled above, a growing tendency to delimit new PAs in several world regions (including transition countries) over the last 20 years has been registered, that is expected to go on in the years to come. The trend observed in the Carpathians is perfectly consistent with such a phenomenon (VASICA 2009). Enlarging the areas being subject to some type of management aimed at the protection and enhancement of their environmental resources and ecological systems also means addressing the resulting demand for resources needed to achieve the goals characterising a PA.

As it was observed in another field characterized by significant decentralisation in production (Cowen, 2006 describes a market for creativity, with dispersed arts creators), decentralising does not imply any strict preference for private over other forms of management of dispersed organisations. The issue that has to be addressed mostly deals with independent site management, local resources retention and managerial responsibility on the performance of the organisation under exam (here, the PA).

All these problems may be to some extent influenced by the existing institutional arrangements that play a central role in suggesting actual solutions and policy mixes suitable for the region under enquiry.

In the case of securing funds to PAs, site level mechanisms – as largely observed in the previous sections – qualify public and private users of the PA or the goods and services it delivers as “protected area customers”, i.e. recipients of the benefits flowing from a PA, who are to be selected aiming at assuring a sustainable income flow for the PA, compatible with its goals and political, institutional and geographic context (IUCN, 2000). Nevertheless, private-oriented solutions, that have been quite scarcely explored, present the advantage to trigger innovative mechanisms and mobilise funds over which the level of competition is far lower than it is the case with public funds.

Certainly, under certain conditions, the participation of private actors such as NGOs and foundations can help achieve the regional conservation objectives by increasing the amount of environmental protection that is provided in the area. Private foundations, charities and other associations are known to exist worldwide that manage properties, cultural heritage and natural sites, or offer management services under concession on government areas: in UK The National Trust, in the US The Nature Conservancy, in Italy FAI Fondo Ambiente Italiano (structured on the National Trust model), in South Africa (SA) African Parks (a foundation involving a group of former employees of SANParks, the parastatal entity managing natural assets throughout the country), WWF in several countries where direct management and ownership of nature reserves is performed (e.g. management of sites “Oasi” in Italy).

11. Can PA networks support decentralised finance for conservation?

PAs are diverse and decentralised by nature. Diversity is not only required in PA management, but also in finance, especially due to the different opportunities that different locations may offer, based on IUCN management category, local availability of natural resources, economic values and customer bases (IUCN, 1998).

The economic rationale for the existence of a PA network relies on the quality and value of the services and benefits it can deliver to its members. No particular institutional arrangement, or political nature of such a network is required to attain the distinctive goals of a network.

Rather, the payment of a “network entrance-fee” and other funds assigned to such an organisation have to be justified, especially if financial innovation is achieved in a decentralised and independent manner and single PAs are held responsible for their own financial decisions.

In this line, a network should supply those services that were mentioned above and play a fundamental role to support decentralisation. Moreover, it can provide the lacking incentives to dispersed creation, application and testing of novel financial mechanisms. Without the proper incentives, these mechanisms are unlikely to be developed and tested, failures in trials are not offset and are likely to result in a too low level of investment in innovation. A network approach can deliver – among other services – an indirect insurance contract – by working as a safety net, or in extreme situations and if enough funds are available, as a lender of last resort – that can reduce the level of risk to be taken on by a PA wishing to engage in innovation. In line of providing

As a governance model alternative to central planning – where power, discretion and financial resources are concentrated in political institutions – networks are expected to collect and share experience, and promote consultations rather than issuing directives and assigning funds, leaving more autonomy to their members.

They can be qualified as structures supporting higher flexibility than classical mechanisms of “command and control”.

If an institutional metaphor is to be used, it would be advisable to treat a network as an independent authority. Since it does not hold any strict legal power, it is likely to adopt economic and other instruments (often voluntary) rather than “command and control” legislation – the enforcement of which would be difficult to ensure. Far from any mechanism of strict institutional dependence, the actions it performs ultimately depend on the willingness of its members to support them: single PAs freely decide whether to join the network. At best, a network can determine voluntary rules for its members, through consultations, but also involving governments and other public authorities as qualified stakeholders – if and when appropriate.

The decentralisation argument is rooted in the conviction that greater freedom in action and independent choice are especially desirable in a situation characterized by uncertainty (Knight, 1921). If little information is available on the effectiveness of financial tools, diversity and innovation represent highly positive outcomes.

If we assume that investing in the quality of PAs and their financial autonomy and sustainability is a part of a sustainable growth process. Certainly such an investment is expected to support and increase the quantity and quality of natural capital available within a region, as well as open up opportunities for “green markets” within PAs (e.g. renewable energy, harvesting of biological resources at a sustainable rate, etc.) In the field of green growth, it has been remarked how sustainable long run growth can be achieved using temporary policy intervention (e.g. research subsidies for green technology) and that temporary subsidies should be paid since the early stages in order to minimise the transition phase to sustained growth (Acemoglu et al. 2012).

It has been said that “nature” requires less creativity than other fields (e.g. innovation, arts creation), since the ends to be achieved are clear enough (Cowen, 2006). The clarity of the ends and targets to be achieved does not cancel the structural problem of a declining availability of funds for conservation and the inefficiency of the most used options. Instead a precise knowledge of the management objectives allows for better estimates of costs and highlight budget limitations. To be met, the challenge of matching funding sources and budget needs requires a diverse, wide and dispersed portfolio as well as a rationalization in spending. Decentralisation can help.

PA networks can participate in levelling the plain field for innovation by providing those incentives to dispersed creation of funding sources, that are needed to increase innovation and production of trials: trainings on financial management that help create a financial background on which newer mechanisms can be built (seeding phase), support to spreading of knowledge, testing and falsification of the new financial mechanisms at the site level (*start up* and testing phases), insurance or compensatory service to cover the costs of conservation impossible to finance with autonomously collected funds and deemed important to implement from a regional or national point of view.

Those mechanisms could hardly be activated alone, at least in a first stage. Prevailing economic theory suggests that, left alone, markets will not generate enough innovation. Thus government subsidies to research and higher education during a period of cost-cutting and spending caps, though unpopular could be desirable (Acemoglu, 2011).

The Carpathian National Association of Protected Area is a recently developed NGO and a result of the GEF-UNDP project “Romania: Improving the Financial Sustainability of the Carpathian System of Protected Areas”. Being less limited by Romanian national law and characterised by quite a flexible structure it qualifies as a potentially influential actor in delivering more advanced management solutions as well as financial mechanisms and participate in assuring those mechanisms for mutual learning, transfer and sharing of experiences that are vital to implement a sound decentralisation.

A “venture capital metaphor” can be used to describe the case for PA networks. Venture capital is a suitable instrument to address uncertain situations, where the actual degree of success for initiatives is unknown. A venture capital investment foresees, after an assessment of a business plan for a novel undertaking, the destination of finance to support the start-up phase and eventually reap the resulting benefits. The likely failure of the project and the resulting loss of money are factored in the investment calculation. From the investor’s standpoint, diversification of investment over more initiatives mitigates the risk and works as a bet on better ideas, so that the peaks can often compensate the losses suffered on less effective projects. Positive spillovers of venture capital include support to innovation, opportunity to undertake activities that – without venture capital services – wouldn’t have been started, and exploitation of decentralised knowledge that brings diversity in the outcomes. Once again, a bet seems to be a suitable option and investment could be concentrated on innovation, in the startup phase – as we suggested above.

12. A few practice-oriented conclusions

The situation of PAs in the Carpathians, notwithstanding a still important lack of detailed information and figures, appears quite clear from the study. There is a structural lack of funds to ensure even basic nature conservation functions, the need to widen the surface of land subject to some conservation policies, and to avoid that an unsustainable economic growth takes place in an area characterised by important natural and environmental resources.

Under the policy point of view, no long-term solution can be envisaged that is heavily relying on public funding, in a time of shrinking public resources spent on biodiversity conservation.

Also, the outstanding diversity of the single PAs across the Carpathian region does not allow for the identification and implementation of any “*one-size-fits-all*” strategy.

Moreover, the centralised funding mechanisms that were distinctive of most transition countries and in particular of some Carpathian states (e.g. Romania, the country for which more data were available; but a similar model can be found elsewhere in the region e.g. in Ukraine and Hungary), failed to assure a decent level of conservation, therefore it cannot be considered a suitable mechanism for the next years (Box 14).

Box 14**A centralised model: state-funding of the PA system in Ukraine**

Known as the “protected nature fund of Ukraine” the PA system covers some 4% of the whole country. The Carpathian Biosphere Reserve (CBR) is to be considered as a typical PA, established in 1968 and covering some 58.000 ha. It is owned and managed by the Ministry of Ecology and Nature Resource.

Financing is managed entirely by the state (100%) through a general fund assigned by the central government (covering some 90% of the needs) and a special fund, to be raised by the CBR (covering between 8 and 10%, identified on a yearly basis).

Financial mechanisms can thus be activated to fill the special fund, that typically include:

- entrance fees and other tourist services
- small-scale logging for provisioning local community with fuelwood
- facility rentals
- other services

The main categories of expenditure are the staff costs (65% of the endowment is spent to pay the salaries to 300 employees in CBR) and the management and maintenance activities in the park (25,7%).

Also in such a centralised, state-managed system, it is possible for the PAs to raise some additional funds by applying to or taking part in special projects. At any rate, the currently prevailing economic conditions make state funding and its amount quite uncertain, thus cuts have been made also to the PA system endowment originated from centralised sources.

Alternative sources of funding in Ukraine are also principally relying on public resources (and can suffer from similar limitations due to tight budget constraints), according to the existing legislation, and may include regional and centralised special “ecological funds”

Literature as well as international management practice show a remarkable development of innovative financial tools that can complement with more traditional funding sources aiming at paying for the significant expenditures that PAs face. Interestingly, it seems that the absence or inability of governments to assure an ongoing provision of funds to dispersed park agencies and PAs has been historically stimulating creativity in delivering novel policies and measures. Alternative approaches, financial mechanisms and decentralised management practices were mainly tested and then applied in developing countries, where often governments issued legislation favorable to a more independent management of parks and natural sites, often able to capture local demands of users, visitors and local communities and deliver impressive outcomes.

The PAs of the Carpathian region could benefit from a more open approach, without necessarily shifting to a complete different model of management, but taking note of some shortcomings of a too centralised approach to biodiversity conservation policies that brought to inefficiencies also in highly ranked countries and enhancing the potential of a network approach that could provide those common services otherwise not present in the regional PA system.

To this end, it seems advisable to conclude by listing a few remarks, that might be taken into account for future policy developments and for achieving a more effective and efficient conservation in the Carpathians (Box 15).

Box 15

Concluding policy remarks on finance for PAs in the Carpathians

- Local PA managers tend to know better than a centralised governmental authority how to address site specific maintenance and operational needs
- Requiring financial flows of locally collected funds from PAs to centralised institutions (including the proportional reductions in PA budgets) reduces the incentives to park managers to introduce innovative financial mechanisms to capture the demands of the parks users and customers and raise funds at the local level
- Recreation fees represent an actual, easy to implement and quite effective local instrument to raise funds from direct users and visitors at the site level (even if not sufficiently applied in the region). These fees tend to be efficient since they capture the consumer surplus at a reasonable cost of collection. The revenues from local fees should be retained on-site and reinvested in infrastructure or operations locally, according to the specific needs identified and ranked by local park managers.
- Governments should collect information on the most suitable financial management techniques for PAs from local experiences. Financial mechanisms, innovative management strategies and local assets-based approaches such as public-private partnerships can help meet the PA's financial needs, improve the effectiveness of operations within parks and reduce the need for government transfers for each site, by diversifying the financial portfolio of each PA.
- Some coordination mechanisms being inspired to a need for flexibility such as networks can help provide a safety net and some insurance-like support to PAs in the region and share good practices, also by financing training and other education initiatives for park managers. More safety should provide more incentives to innovation for PAs that could opt for experimenting novel mechanisms also in an uncertain context.
- Securing funds for nature conservation participate in increasing the quantity of public goods provided to the public and support the quantity and quality of natural capital stored in the PAs. All the operations connected to this end (including the consolidation of PA networks and their services) as well as the research of novel solutions to collect funds for PAs at the site-level could be suitable for temporary government intervention especially in times of financial

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Integrated management of biological and landscape

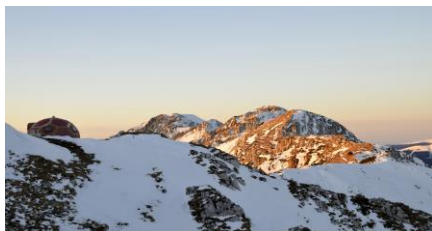


diversity for sustainable regional development and ecological connectivity in the Carpathians

WP4

ANNEX

Financial Mechanisms and Instruments Implemented in Piatra Craiului National Park in BioREGIO Carpathians Project



Produced by: *Piatra Craiului National Park Administration*

Author: *Bogdan Popa*

Images: *Images were provided by the partners of the BioREGIO Carpathians project.*

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Acronyms and abbreviations

CS – Consumer Surplus

ES – Ecosystem Service

GEF – Global Environment Facility

INCDT – National Institute for Tourism Development Research

NGO – Non-Governmental Organization

NFA – National Forest Administration - Romsilva

PA – Protected Area

PCNP – Piatra Craiului National Park

PCNPA – Piatra Craiului National Park Administration

PES – Payments for Ecosystem Services

ToR – Terms of Reference

UNDP – United Nations Development Project

WP – Working Package

WTP – Willingness to Pay

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1 Introduction

1.1 Study context

This study is a component of the South East Europe Transnational Cooperation Programme - Bioregio Carpathians project – *Integrated Management of Biological and Landscape Diversity for Sustainable Regional Development and Ecological Connectivity in the Carpathians*. The project aims to improve the integrated management of the natural resources and Carpathian Protected Areas (PAs) in a vast transnational context looking for increasing the attractiveness of the region. The project is promoting the harmonization between the managerial measures applied to natural resources and PAs (including Natura 200 sites) in the Carpathians, based on the already existing regulation frame and the cooperation established under the Carpathian Convention and not only.

The objective of the second action in the 4th WP of the project is to develop a study regarding the financial mechanisms and instruments used for a better financial sustainability of the PAs and natural resources of the Carpathians. The present report aims to be a part of this study that contains the project consequence results in implementing financial mechanisms (especially entry fee for Park visitation).

The report was elaborated by Bogdan Popa, natural resources finance specialist, under the institutional umbrella of Green Business Solutions Ltd.

1.2 Activities in the contract

According to the ToR of the contract the following activities were undertaken:

- Assessment of the data collected at PCNP level based on the draft content of the study regarding the Carpathians PAs financing established by the Austrian project partner;
- Collect supplementary information, interpret the data provided by the PCNPA regarding the implementation of an entry fee mechanism and assess ways to improve long term financial management of the PA;
- Compile and describe in detail sources and financial instruments for activities undergoing in the PA and being in tight connection with the natural resources of the PA;

- Assess the good practice examples that can be replicated in other Carpathian PAs;
- Closely collaborate with the implementation team of Bioregio Carpathians project aiming the elaboration of the study in the line of the application of the project and the service providing contract

1.3 Piatra Craiului National Park

This section is based on the PCNP management plan.

The entire Piatra Craiului National Park, with a total surface of 14,773 ha, is located in the Meridional Carpathians, Central Romania, and it also includes parts of the neighboring mountain passes Rucar-Bran and Rucar-Zarnesti. The Piatra Craiului National Park stretches over the counties of Brasov and Arges, including areas belonging to the towns of Zarnesti, Moeciu (Magura and Pestera villages), Bran, Rucar and Dambovicioara.

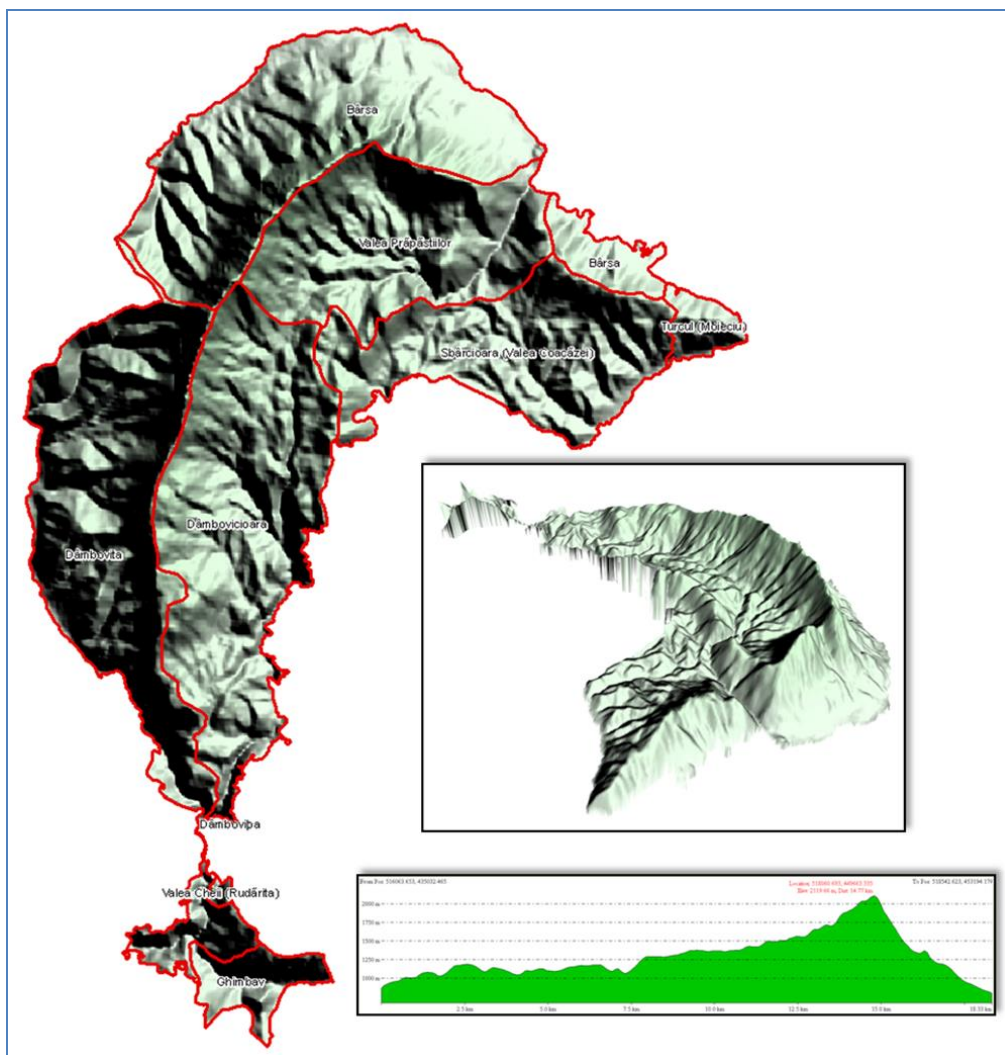


Figure 1: PCNP watershed and elevation map (UNDP, 2012a)

The richness of the species inside the Piatra Craiului National Park is the result of the extremely diverse conditions the territory provides for the development of the vegetation. The altitude exceeding 2,200 m provides the appropriate development conditions for almost all of the Carpathian Chain alpine and mountain species. Fungi, moss, lichens and flower plants species thrive in the area. A total number of 1170 plant species and subspecies have been identified throughout the national park's territory. 181 species have been included into the "Red List of superior plants in Romania" as endemic, rare or vulnerable species, proving the importance of the Piatra Craiului National Park from the point of view of flora species conservation. Important species include *garofita pietrei craiului* (*Dianthus callizonus*) the symbol of the Piatra Craiului massif, this mountain being the only place in the world to house this species, *Taxus baccata*, *Angelica arhangelica*, *Nigritella nigra* and *N. rubra*, *Papaver alpinum* ssp. *corona-sancti-stefani*; *Linaria alpine*, *Leontopodium alpinum*, *Trolius europaeus*, *Rhododendron mytifolium*, *Gladiolus imbricatus*, *Gentiana lutea*, *Daphne blagayana*, *Daphne cneorum*, etc. These species benefit

from a strict conservation regime and attract nature lovers to Piatra Craiului during the summer. The Piatra Craiului National Park houses an impressive number of mountain orchids, 48 species out of the 53 species found in Romania. Due to the high declivity of the mountain slopes, the vegetation layers formed according to the altitude are best noticeable here, the massif being surrounded, from the bottom towards the ridge, by hay fields, forests, bare rocks and alpine meadows.

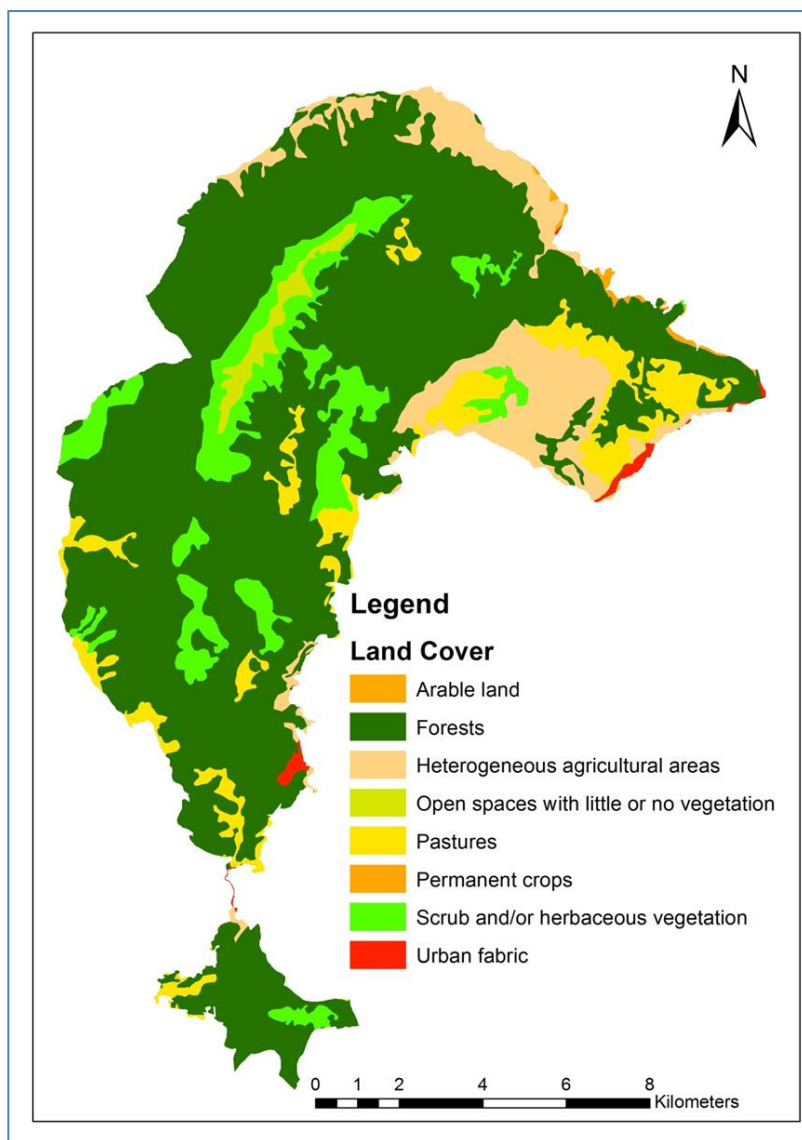


Figure 2; Vegetation cover for PCNP (Corinne Land Cover)

Invertebrate are particularly rich numbering 35 endemic species (e.g *Nesticus constantinescui* (Arahnida) and *Rhagidia carpatica* (Arahnida, Acari)) and 91 species identified as new to science.. There is also a large number of butterfly species, to date 216 species have been identified as either rare or endemic: *Psodos coracinus dioszeghy,sub*; *Apamea zeta sandorokovacsi*; *Erebia pronoe* found in the Carpathians only in Piatra Craiului and Bucegi; *Pieris bryoniae* mentioned in the red list of European day butterflies, etc. The fish, amphibians and reptiles fauna is slightly poorer, if compared to the other vertebrates group. The Piatra Craiului National Park also holds a rich bird fauna, including the 111 species identified so far, on the territory, rendering the area an ideal destination for bird watching. The climate and geology conditions, the

geomorphology, the structure of the flora and vegetation, have created the proper conditions for the development of a particularly diverse mammal group. Over 40% of the 100 mammal species found in Romania live here. To date 21 species of bats have been identified in caves or old tree

hollows throughout the national park. Many of these species are included in the strictly protected species category, according to the Bern Convention, 6 of them are listed in the European Council Directive 92/43 EEC (*Rhinolophus ferrumequinum*, *R. euriatale*, *Myotis bechsteinii*, *M. blythii*, *M. myotis*, *Barbastellabarbastellus*) and one species - *Vespertilio murinus* - is included in the Bonn Convention. The Piatra Craiului National Park also holds a large population of large carnivores: bears - *Ursus arctos*; wolves - *Canis lupus*; lynx - *Lynx lynx*.

The main landscape feature is the 25 km long limestone ridge, oriented from NE to SW – the longest and tallest limestone ridge in the country. Piatra Craiului National Park shelters several habitats types and species of European interest. For example: bushes with *Pinus mugo* and *Rhododendron myrtifolium*, alpine and subalpine calcareous grasslands, calcareous and calchist screes of the mountain to alpine levels, mountain hay meadows, Luzulo-Fagetum beech forests, acidophilous *Picea* forests of the mountain to alpine levels etc. Beside the impressive natural landscape of Piatra Craiului, the local communities and villages create a very attractive landscape with households scattered on the top of the hills, where the locals have preserved century's old traditions, in harmony with nature

The main reasons for establishing Piatra Craiului as a National Park were: to maintain the biodiversity, landscape and species conservation, to promote and encourage tourist activities and public awareness and education of nature conservation values. There is one town and 8 villages in the area of the park with a total estimated population of around 37,000 inhabitants. Zarnesti town was the most important industrial area in the past (Celohart – pulp and paper, UM Tohan – mechanic factory, forest harvesting enterprises, wood processing enterprises). Nowadays, industry is in a precarious situation due to the market economy transition and recession. Bran, Moeciu, Dambovicioara and Rucar villages have a strong history in traditional breeding, forest harvesting and wood processing. Land cultivation is a low intensity activity. In the last decade there was a significant development of agro-tourism in the east and south parts of the park. Tourism is spectacular in Bran and Moeciu (attraction: Dracula Castle) and moderate in Fundata, Dambovicioara and Rucar. There is considered to be a very high untapped touristic potential.

2 Rationale for PAS mechanisms in PCNP

Based on studies done both in Bioregio Carpathians project (Popa, 2013) as well as in other projects (UNDP, 2012), PCNP ecosystem services has an important economic impact on different activity sectors. All the studies show that value of ES for Tourism is most probably the biggest.

Tourism is an important sector for the Piatra Craiului region and an important economic development priority (INCDT, 2009). In 2009, around 100,000 visitors were recorded (INCDT, 2009). Visitor expenditure on entrance fees, travel, accommodation and souvenirs, etc. can make an important economic impact. Still, in 2010 only few PAs in Romania generated revenues from park entry fees, PCNP not being among them (Birda, 2011), but PCNP visitors spent money on accommodation and meals. The only available study on tourism expenditure was the one done for Maramures Mountains National Park (Ceroni, 2007). This study calculates average visitor expenditure per visit on food and accommodation at RON 483.5 in 2007. Considering an average duration of visit of 5 days the total daily expenditure per visitor can reach €27.1 (Ceroni, 2007). Similar studies in the region prove that this estimate is rather conservative. For example in Slovensky Raj National Park total visitor expenditure averages €54 per person day (Getzner, 2009). Based on the data from INCDT study (INCDT, 2009) referring to the proportion of visitors camping vs. number of visitors using hotels, in PCNP, the majority of tourists (60%) use tents while trekking around the high altitude areas. Based on the number of visitors multiplied by the percentage of tourists with longer stays multiplied by the total expenditure per visit, direct spending on hotels was accounted.

The total economic value of PAs tourism is greater than the amount of money people actually spend because some tourists would be willing to pay more than they do to enjoy the tourism experience of a PA. This “consumer surplus” is measured by a visitor’s maximum willingness to pay for the PA tourism experience less their actual expenditure (UNDP, 2012a). The results of a study done in 2005 (Dumitras, 2008; Dumitras *at al.* 2011) to determine the economic value of recreation in several parks in Romania, using the contingent valuation and travel cost method to calculate the consumer surplus, shows consumer surplus is €44.3 for PCNP, and consequently, the total consumer surplus equals €4.9 mill in 2012 prices.

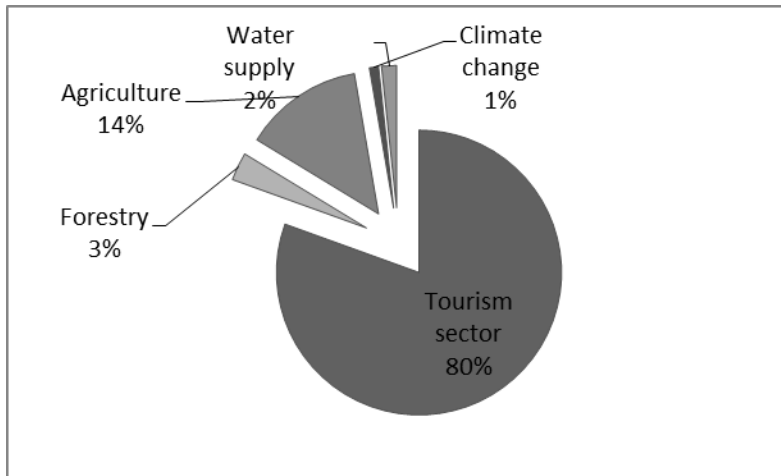


Figure 3: Contribution of different sectors and activities to PCNP value

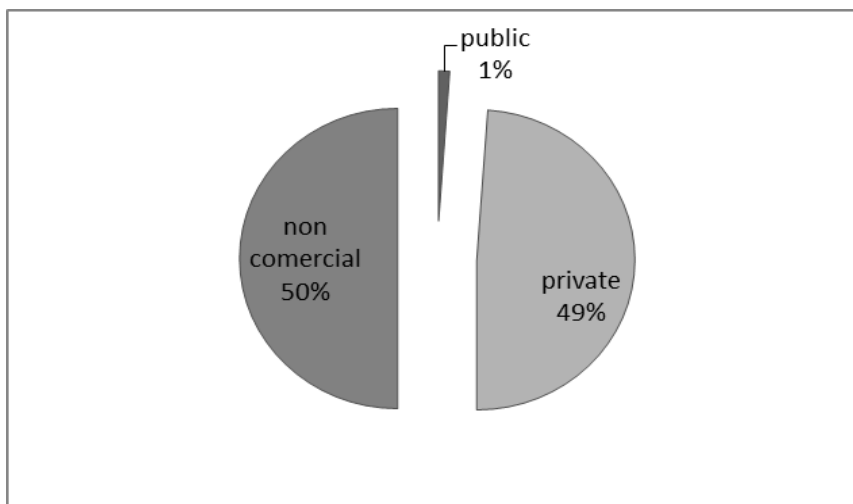


Figure 4: Distribution of PCNP value across beneficiary groups

Tourism revenues are undoubtedly a key value generated or possible to be generated by PCNP, and their importance should be underlined. At the same time, it is tourism activities for which we benefited from the most accurate and the biggest amount of data available – and thus the valuation is fairly comprehensive as compared to other sectors (such as soil erosion regulation services for which it has been impossible to fully value the wide range of economic impacts).

In the same time, the estimated ES values create benefits for a wide range of stakeholders groups. We can observe that half of the value accrues to noncommercial beneficiaries: mainly local communities and visitors. A big share of this value represents consumer surplus that should and can be captured by the tourism sector, meaning a high potential of economic benefit for local communities. Carbon trading is an opportunity that should be explored and can bring some benefits to private forest owners, especially in medium term. The private sector, mainly

small-scale entrepreneurs in tourism, non-state forest owners and administrators is also a significant beneficiary of PCN goods and services. The small share of the public beneficiaries can be explained by the fact that taxes and other governmental contribution associated to other beneficiaries were not accounted as public revenues.

In the light of the above mentioned figures, provided by sound studies, the report on the regional development opportunities elaborated in the same Bioregio Carpathians Project identifies the following opportunities for a better financial coverage for PAs in general and PCNP in particular (Popa, 2013) makes the following recommendations:

- **Park entry fees.** The opportunity for PAs administration to collect and trap the WTP of the visitors. This opportunity might become reality if the PAs administration adapt the collection of the entry fee at the visitor's profile and the particularities of the PAs. Solutions like SMS or Internet payments for the tickets can be considered.
- **Partnership for collecting PAs fees – national level.** A partnership with business enterprises (outdoor gear companies that distribute major international brands; outdoor gear in Romania and tour operators in the area) (UNDP, 2012). It can be expected that the business partners will make volume purchases (or bulk sales from the PA stand point) of single entry passes to be given to their clients and customers free of charge, as part of their business strategy. Free PA passes will provide an incentive to customers to keep buying services and products from the partners and generate a revenue stream to the parks. As indicated above, a client buys outdoor gear at partners stores will receive a gift consisting of a one year valid entry pass to a park in the area, and a tailored pocket guide to field activities and other strategic information to support the parks. The mechanism „connects“ outdoor enthusiasts with national parks and outdoor gear distributors and nature-based tours operators. Business partners could also pay additional fees for the right to use the logos of the parks. In addition there is an important opportunity at this moment considering that Romanian Government has just redefined the national tourism brand: Slogan “Explore the Carpathian Garden” <http://www.romaniatourism.com/the-carpathian-mountains.html> . At the beginning of 2011 the Tourism Marketing Operational Plan 2011-2015 was adopted. The plan states a series of concrete actions on the communication campaign and on the campaign to promote Romania as a tourist destination. The Minister of Tourism stressed the idea that it is important for the local authorities, tour operators and all other stakeholders, together with the minister, to assume the task of developing and promoting the Romanian tourism products in accordance with the lines identified in the brand research. It was established that one of Romania's main competitive advantages are untouched nature and landscapes (the Carpathian chain, the Danube Delta). Accordingly Romania has focused the national brand on Carpathians nature; the PA's administrations are the guarantee to

maintain the “untouched nature and landscape”. Financial mechanism could be in the form of PA passes distributed in the campaign to the tour operators in contact with the minister in the programme (with commensurately very low administrative cost). For the government this could be seen as an important communication strategy stating its commitment towards nature conservation (UNDP, 2012).

- **Partnership for collecting PAs entry fee – local level.** Under this scenario it is proposed that in addition to charging directly at certain points of entry or Visitor Centre that entry tickets be sold through partnership arrangements which could include cable car operators, third part web sites, post offices, accommodation venues and pensions, ticket dispensing machines and tour operators. Advance purchases by commercial organizations could attract a 10% discount to cover costs of ticket handling. Alternatively for those companies of good standing, arrangements could be made for an account to be established and monthly invoices issued for tickets actually sold to visitors (UNDP 2012).
- **Developing private business in the area of Eco-tourism.** This opportunity is based on the fact that the CS and WTP of the tourists may not be tapped only by the actions implemented by the PAs. Private sector offering services that are specific to eco-tourists (guided tour in partnership with PAs administration, camping sites, pensions, souvenirs manufacturing, etc.) can be a way to success for members of the local community and local authorities.
- **Cycling and Recreational events.** PAs are used extensively for recreational purposes such as skiing, hiking, horse riding and cycling. The concept underlying this opportunity scenario is that such activities are currently very popular and lend themselves to becoming major events with sufficient promotion. This in turn could lead to enhanced revenue for the PAs (either in the form of entry fees or sponsorship) and enhanced revenues for the tourist related business owned by local people. Sponsor companies can also improve their public image as nature protection companies. Taking cycling for example there are currently a number of competitive events organized each year in Bucegi Natural Park involving downhill mountain bikes. These events currently take place with no financial benefit to the nature park despite riders being charged by the promoters in the range of Eu10-50 to take part. While an entry fee to the park, if in place, would earn valuable revenue this could be enhanced if events were organized in such a way as to link with a well-known national charity and larger numbers of entrants were attracted to compete (UNDP, 2012).
- **Pensions and PAs web site links.** The concept follows the suggestion from a number of pension operators in the vicinity of the parks that they would like to have their web sites linked to the parks. This would be of interest to potential park visitors who would have their attention drawn to the availability of accommodation and other tourist services available. Pension operators would pay an annual fee for being linked to the park. The

same arrangement could be applied to camping grounds and other recreational facilities in or near the PAs. The opportunity scenario is essentially a fee for service and has advantages to both parties in a commercial sense. However there is also the less obvious advantage since potential park visitors are more likely to convert their expression of interest into an actual visit if they know that accommodation and other recreational facilities are available. This also translates to tourists staying in pension accommodation extending their stay beyond a single night if they find the park visit of interest and wish to devote a full day to their activities in the park. This is of benefit when park entry fees are charged. Potentially the PAs could be held responsible for pensions that underperform and provide visitors with less than satisfactory service levels. A disclaimer would be an essential notice on the web site.

3 Planning for PCNP entry fee implementation

First description for PCNP entry fee implementation was developed by the PCNPA in early spring 2013, aiming to start the implementation at the beginning of the summer. In the table below there is the initial description of the entry fee mechanism designed.

Table 1: Description of the entry fee mechanism in PCNP

Estimated annual number of visitors	100,000 visitors.
Visitors profile	<ul style="list-style-type: none"> - 90% of the visitors are staying less than a week/visit - Less than 3% of the visitors are coming alone - More than 60% are using accommodation facilities in and around the park - Around 25% of the visitors are foreigners - More than 93% of the visitors are between 18 and 49 years old. - 50% of the visitors are university graduates or students - 90% of the visitors accessing the park area by automobile
Payment level	Differentiated: <ul style="list-style-type: none"> - one week/person – 5 RON - one week /2 persons – 7 RON (this is to discourage tourists hiking alone) - all season/person – 20 RON - the fee will be collected from the 1st of May until the 30th of October

	<ul style="list-style-type: none"> - the entrance in the inhabited areas of the park will not be charged
Estimated level of collection in 2013	<p>Cca. 15% of all the visitors</p> <p>100,000 lei</p>
Evaluated costs for implementation	<p>35,000 lei / year</p> <p>Costs:</p> <ul style="list-style-type: none"> - Awareness - Printing services - Collection services (SMS, internet fees, fees for cash collection) - Cashing machines (including costs for transportation, space rent, installation, utilities, consumables, maintenance, cash collection) - Renting spaces for cashing machines - Bank charges - Costs for monitoring the implementation - Salaries
Collection	<p>SMS at the entrance in the Park (boards with special announcement – certain text to be sent to certain number)</p> <p>Internet – for foreign visitors. The internet secured platform also giving the possibility to donate for certain actions of the PCNP administration areas, and facilitate the trade of other materials (maps, books, posters etc.)</p> <p>Cashing machines – installed in Zarnesti, near the main parking</p> <p>Collecting services – economic operators in tourism (hotels, selling tickets for PCNP access against a certain fee at hostels, pensions, restaurants, etc.</p> <p>Cashing point at PCNP visitor center</p>
Implementation monitoring	<ul style="list-style-type: none"> - Permanent control of visitors; - Periodic visits and reporting from economic operators collecting cash entry fee - Reports from online/sms collection services providers - Reports of cashing machines

	<ul style="list-style-type: none"> - Periodic surveys on client satisfaction
Fund utilization	<ul style="list-style-type: none"> - maintenance of the tourist facilities - maintenance of the fee collection mechanism - awareness and education activities and materials - VERY IMPORTANT – the use of the funds must be totally transparent on the park website

In the same time, the team of PCNPA and the consultants elaborated a detailed action plan that can be seen in the table below.

Table 2: Initial action plan for entry fee implementation in PCNP

Action	Implements	Participates	Outcome	Weeks (starting with 1st of April)								
				1	2	3	4	5	6	7	8	
I. Preparation												
Elaboration and approval by the competent bodies of the detailed action plan and documentation for entry fee introduction	PNPC administration, UNDP consultants	Scientific Council, Ministry of Environment	Approved documentation									
Announcement of the intention of introducing the entry fee	PCNP administration	NGO, public authorities, volunteers	Public awareness regarding the introduction of the entry fee									
Elaboration of the draft contracts for entry fee cash collection by tourism operators	PNPC administration, UNDP consultants	Tourism operators	Draft contract for cashing the entry fee									
Training of the personnel	UNDP consultants	PCNP administration	Trained and responsible personnel									

Action	Implements	Participates	Outcome	Weeks (starting with 1st of April)						
Printing of the tickets or stickers	PCNP administration	Printing services company	Printed stickers and/or tickets							
Buying the cashing machines	PCNP administration		Cashing machines stored							
II. Implementation										
Contracting the space rental for installing the cashing machines	PCNP administration	Public authorities, and/or landlords	Contracts for space renting							
Installing and testing the cashing machines	PCNP administration	Public authorities, and/or landlords	Functioning cashing machines							
Contracting the management and maintenance of the cashing machines	PCNP administration	Specialized company	Contracted signed							
Contracting the cashing service with tourism operators within the area of the Park	PCNP administration	Tourism operators providing cashing services	Contracts signed							
Handing over the tickets or/and stickers to the cashing services providers	PCNP administration		Cashing services providers ready to service							

Action	Implements	Participates	Outcome	Weeks (starting with 1st of April)								
Planning a system for funds transfer from the tourism operators that are cashing the entry fee;	PCNP administration	Tourism operators providing cashing services	Agreement for funds transfer									
Contracting the online/SMS services	PCNP administration, UNDP consultants UNDP	On line/SMS payment services providers	Contracts signed									
Adapt the site www://pcrai.ro to the designed system for online payments or donations	PCNP administration, on line payments service providers		Park site ready to receive payments									
Planning the controlling activities within the PCNP for verifying and promoting the payment of the entry fee by visitors	PCNP administration	SalvaMont, local police, volunteers	Action plan and actions for checking the entry fee payment among visitors									
III. Monitoring												
Permanent controlling actions within the area of the PCNP for promoting and verifying the	PCNP administration	SalvaMont, local police	Control actions									

Action	Implements	Participates	Outcome	Weeks (starting with 1st of April)								
payment of the entry fee												
Permanent visits to the touristic operators to check the system of cashing the entry fee	PCNP administration		Visits to the cashing operators									
Permanent reporting and accounting the quality and quantity of entry fee	PCNP administration	Payments and cashing services providers	Periodic reports regarding the quantity and quality of the entry fee collection									
Periodic surveys among visitors for getting their feed-back in the matter of entry fee system	PCNP administration	SalvaMont, NGO's, volunteers	Reports containing recommendations for improving the entry fees PES Mechanism									

4 Entry fee implementation in PCNP. Recommendations for further actions and replication

4.1 Preparation

- a. **Elaboration and approval by the competent bodies of the detailed action plan and documentation for entry fee introduction.**

The documentation was elaborated in close collaboration with PCNP personnel. The management of the PCNPA presented the documentation to the Scientific Council on 29th of March, 2013. After the approval of the Scientific Council, the documentation was sent to the central authority in charge with environment protection and the park administration received the necessary approvals by end June 2013.

This step of the process was implemented successfully even if the delay of the ministerial approval (that was not anticipated initially) created a general delay in the implementation of the whole mechanism.

Further actions: no further actions are required.

Recommendations for possible replication:

- Consulting the scientific and consultative councils of the PA is a very important step that gives the members of those councils the opportunity to gain the paternity of the process and the PA administration the opportunity to better design and refine the whole process. This process is mandatory in case that the entry fee mechanism is to be implemented to other PAs;
- The process of obtaining the necessary approvals from the central authority in charge with environment protection, under the present legislation, is a rather long process. Therefore, the planning for replication of entry fee PES mechanism have to take this into consideration and allocate enough time for this step not to influence the implementation of the PES mechanisms. In PCNP this created serious delays that are at the root of not being able to fully implement the PES mechanisms during the summer season in 2013.

b. **Announcement of the intention of introducing the entry fee.**

Announcement for the general public was done on the PCNP site. Some other informal channels were used to disseminate the information regarding the soon to come process of entry fee PES implementation.

Unfortunately, the information channels used by the PCNP administration did not succeeded in informing the general public about the introduction of the entry fee. Therefore, through all the process there was very limited support from the general public while a certain resistance manifested from the part of the visitors.

In October and September, the PCNPA succeeded in a better awareness gaining for the entry fee: several boards were installed at the main entry ways in the Park, complete information (also

regarding the areas in the Park that are not subject to entry fee collection from visitors), was posted on the site and flyers for informing the tourists are to be printed soon.



Figure 5: Areas subject to entry fee collection in PCNP (red line – Park limit, yellow line – areas subject to fee collection)

Further actions:

- The park administration has to consider the winter time (with a low number of visitors) **as a good period to better disseminate the necessity and the opportunity of the entry fee mechanism**; the campaign should also position the initiative as an opportunity of all PCNP visitors to bring their small contribution to the sustainability of the beloved landscape. The campaign should not focus only the potential visitors (addressed by channels nationwide and impersonal communication) but also local public administration and tourism business entrepreneurs in the area and vicinity of the PCNP (using personal contacts and personified message) in order to get as much from their support.

Recommendations for possible replication:

- Visiting nature and mountain landscape without pecuniary obligations is a heritage of the communist period. The general public still has the tendency to believe that they do not have but very small obligations vis-a-vis conserving the biodiversity and the landscape. Due to those reasons the resistance for paying the entry fee is anticipated as very big. Therefore, the implementation of the mechanisms has to be widely disseminated using all possible communication channels. Announcement has to be accompanied with a strong campaign mobilizing the possible visitors in helping park administration in their effort for preserving valuable biodiversity and landscape.

c. Elaboration of the draft contracts for entry fee cash collection by tourism operators.

The draft contract were elaborated by and then revised by NFA – Romsilva. Many of the tourism operators did not accept the format of the contract and asked for personalized forms of the contract. This fact triggered the conclusion that the draft contracts should have been developed in collaboration with representatives of the tourism entrepreneurship.

Further actions:

- Refine the draft contracts and partnership mechanisms for cashing the entry fee through tourism economic entrepreneurs;
- Present the contracts and mechanisms to as many as possible representatives of tourism operators and collect their opinions, suggestions and recommendations;
- Incorporate the feed beck into the design of contracts and mechanism and refine it.

Recommendation for replication:

- The mechanism for cashing the entry fee through tourism operators has to have their support. Therefore their involvement in the design of the mechanism can better address the issue of mutual advantage and partnership feeling. To collect their feedback after helping them getting familiarized with the mechanism priori their direct involvement is a gain in a successful implementation of the PES entry fee. This can be done by organizing meetings with representatives of them and presenting concrete proposals and then pushing for consistent feedback.

d. Training of the personnel

The action was not formally finished as long as the draft contracts and the mechanism for cashing the entry fee from economic operators are not yet finished.

Further actions:

- Once the entry fee cashing through tourism operators is finished (including incorporation of their representatives feedback) personnel that are involved in the contracting process is to be trained, especially in how to present the operators the advantages of their partnership with the park; training should include also instructions on how to monitor the contracts.

e. Printing the tickets and/or stickers

This step was not accomplished.

Further actions:

- Design and print the stickers (tickets) in a number to cover the anticipated needs for a 6 month period;
- Consult economic tourism operators to see if other materials are needed for convincing the visitors to pay the entry fee through restaurants and accommodation facilities;
- Design and print other materials that may be needed for a good dissemination of information or for supporting the tourism operators in cashing the entry fee.

f. Buying the cashing machines.

This action is already fulfilled. No further actions required or special recommendations to be made.

4.2 Implementation

a. Contracting the space rental for installing the cashing machines.

The contract with “Posta Romana in Zarnesti ” and the company administrating Plaiul Fcii Cabin are signed. The fee is symbolic but the contract assures the legal coverage. At this moment, there are 3 cashing machines functioning: one in the courtyard of Posta Romana in Zarnesti, the second one in front of the building of the PCNPA and the third, near the Plaiul Fcii Cabin.

Further actions:

- The contract has to be renewed to assure its continuous implementation.

Recommendations: No recommendations are to be made at this stage.

b. Installing and testing the cashing machines

The cashing machines were installed and are fully operational at this stage. The revenues are still limited due to shortages in financing a proper advertising campaign for entry fee implementation. Still, about 200 fees were collected only during one week-end in October 2013.

Further actions: No further actions are required for the implementation.

Recommendations: No recommendations are to be made at this stage.

c. Contract the management and maintenance of the cashing machines.

Even if initially it was envisaged that a specialized company services will be needed to manage and maintain the machines fully operational, during the implementation of this stage it was obvious that the park administration personnel is fully capable to do the management and maintenance.

Further actions: No further actions are required for this step.

Recommendations for replication: it is recommended that no specialized company should be involved in the process as long as the personnel are perfectly capable to fulfill the task.

d. Contracting the cashing service with tourism operators within the area of the Park and handing them the tickets (stickers) to be distributed against the entry fee.

This action is now in implementation, only 4 contracts were signed by now with following accommodation facilities: Plaiul Foii Cabin, Taverna Pietrei Craiului, Hora cu Brazi, Popasul Craiului.. Besides the fact that the tourism operators will cash the fee against a commission, the tourism operators are promoted on the site of the PCNP. There are two main reasons that created this delay, both of them being addressed with special recommendations in the text above:

- Delay in obtaining the necessary approvals from the central authority in charge with environment protection;
- Resistance from tourism operators within the park area to the contract type and mechanism as it was designed without their consultation and involvement; the operators believe that the tourist will perceive paying the entrance fee as a rise in the tourism

services price, thus the partnership is not seen as a gain from them but a loss in terms of competitive advantage.

Further actions:

- Consult first the operators regarding the contract and the mechanism;
- Refine the contract and the mechanism, by letting the operators know that their suggestions were taken into consideration;
- Reply the process of contracting the services with a deep involvement of all park personnel;
- Make the necessary timing between the announcement (and recommended publicity campaign) regarding the implementation of the entry fee and the process of contracting the services for cashing the entry fee by tourism operators.

e. Planning a system for funds transfer from the tourism operators that are cashing the entry fee.

This action is necessary for permanent contact with the contractors and also for a better monitoring of the implementation process. The plan is not drafted yet.

Further actions:

- The system for funds transfer has to be planned starting with the moment of first signed contract for cashing the entry fee through tourism operators;

Recommendations for replication: - No additional recommendations can be made at this stage.

f. Contracting the online/SMS services

Based on the recommendations of UNDP consultants, the park administration selected the main providers of those services, and contracted the services for SMS payments with Rentabiliweb Ltd.

Further actions:

- The success of this action must be sustained with proper advertising boards with explanations regarding the SMS payments must be placed at the main entrances in the park by 1st of May 2014.

Recommendation for replication:

- The system, contract, market research, procurement procedure, etc. that was done by PCNP are a valuable gain that can be used (of course with adaptation) by all the PAs willing to replicate.

g. Adapt the site [www://pcrai.ro](http://pcrai.ro) to the designed system for online payments or donations.

This action was not undertaken due to the late implementation also a consequence of the above mentioned reasons.

Further actions: implement the action the way it was initially planned.

Recommendation for replication: No recommendation at this stage.

h. Planning the controlling activities within the PCNP for verifying and promoting the payment of the entry fee by visitors.

Again this action was not implemented and the winter period with a very low number of visitors might constitute a welcomed period for doing the planning in accordance with the refined mechanisms for cashing the entry fee.

Further actions: implement the action adapting the way it was initially planned to the new changes in the plan.

Recommendation for replication: No recommendation at this stage.

4.3 Monitoring

a. Permanent controlling actions within the area of the PCNP for promoting and verifying the payment of the entry fee;

Due to the delay in implementation, even if the cashing machines, the direct cashing mechanism and the SMS payments are operational, the flux of visitors is significantly decreased at this time and the controlling actions do not have object at this time of the year.

Further actions:

- Plan the controlling actions for the beginning of the next summer season;

- Train the personnel of the PCNP administration, establishing precise assignments for every person.
- Implement the controlling actions starting with 1st of May 2014.

Recommendations for replication:

- Permanent controlling actions, implemented by the personnel of the PAs administration is a must; without it the whole process can be compromised;
- The controlling actions have to be implemented together and balanced with the awareness campaign for explaining the visitors the necessity and opportunity of the entry fee.

b. Permanent visits to the touristic operators to check the system of cashing the entry fee.

As long as the contracting activity is not finished, this activity has no object yet.

Further actions:

- Plan the controlling actions for the beginning of the next summer season;
- Train the personnel of the PCNP administration, establishing precise assignments for every person.
- Implement the visits to the touristic operators after 1st of May 2014 and after signing the contracts for entry fee cashing services.

Recommendations for replication:

- Permanent controlling actions, implemented by the personnel of the PAs administration is a must; without it the whole process can be compromised;
- The controlling actions have to be implemented together and balanced with the awareness campaign for explaining the visitors the necessity and opportunity of the entry fee.

c. Permanent reporting and accounting the quality and quantity of entry fee.

The payments system (cash, cashing machines, SMS) already have the capacity to periodically report the entry fee collected. Based on those data, periodic reports can be elaborated for assessing the efficiency and effectiveness of the PES mechanism. Already PCNP can report on the level of revenues from entry fee: in two months (out of the regular visiting season, September and October) following revenues were accounted:

- 44 EUR by SMS, meaning 34 visitors paying by SMS for a week visit;
- 3320 RON (750EUR), meaning 644 visitors direct payments of using the cashing machines.

Further actions:

- The reports are to be done in a monthly way starting with 1st of May.

Recommendation for replication: No recommendation at this stage.

d. **Periodic surveys among visitors for getting their feed-back in the matter of entry fee system.**

Based on the previous surveys, new questionnaires can be drafted by the PCNP administration. The surveys are without subject at this time of the year, due to reduced number of visitors.

Further actions:

- The surveys are to be done once a season starting with 1st of May.

Recommendation for replication: No recommendation at this stage.

5 Conclusions

This study has attempted an assessment of the main lesson learned from the process of the implementation of the entry fee mechanism in PCNP. Every implementation step envisaged by the PCNPA was analysed and described and further actions and recommendations were formulated. The partial results accounted till now show that this mechanism has a significant potential to generate additional funds for PCNPA.

The main actions to be implemented till the next season is the awareness regarding the entry fee introduction, training of the rangers, refine and consult tourism operator's contracts in order to get a better collaboration and involvement of them. A very important issue is the transparency regarding the revenues from entry fee as well as how the revenues are used by the PCNPA, The Park administration is already preparing a special section of the park site for this.

The way entry fee mechanism was implemented in Piatra Craiului can be a very good study case that can be used by other PAs in the Carpathian region (and not only in the Carpathian region) lesson learned being useful for a better planning and implementation in the future.

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