

EVALUATION OF ECOSYSTEM SERVICES AS PREREQUISITE FOR SUSTAINABLE DEVELOPMENT »THE CASES OF LOVRENŠKO BARJE MERES AND ŠKOCJAN CAVES«

VREDNOTENJE EKOSISTEMSKIH STORITEV KOT POGOJ ZA TRAJNOSTNI RAZVOJ »PRIMERA LOVRENŠKO BARJE IN ŠKOCJANSKE JAME«

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Strokovni članek

Prejeto/Received: 25. 2. 2013

Sprejeto/Accepted: 9. 9. 2014

Key words: ecosystem services, sustainable development, Lovrenško Barje Meres, Škocjan Caves Regional Park, Slovenia

Ključne besede: ekosistemske storitve, trajnostni razvoj, Lovrenško barje, Park Škocjanske jame, Slovenija

ABSTRACT

In the light of global development, Slovenia is facing the same challenges as all other countries, the greatest being how to increase human wellbeing and at the same time preserve its origin. This is essentially the question of sustainable development. And yet Slovenia, at the cross-roads of Europe's East and West, richly covered with forests and boasting plenitude of water supply, diverse and fertile landscapes, mild climate and diverse natural assets, is struggling to identify and implement its custom development policy. Learning from good practices abroad and following the local and international expert recommendations in the field of Ecosystem Evaluation, we focused on the two concrete cases: the Forest Reserve of Lovrenško Barje Meres and the Škocjan Caves Regional Park. The article will show that both cases can be described as good practices, mainly because the process of evaluation did not rely only on »ex-cathedra« approach, but had a strong emphasis on stakeholder participation throughout the whole process. The article will also show possibilities of how the Ecosystem Evaluation and further on implementation into regional and national strategies can represent a major contribution to Slovenian sustainable development policies and to the realisation of the EU 2020 strategy. Facing these challenges and acknowledging the potential of natural assets in Slovenia, this article will present two cases of ecosystem evaluation in two separate parts of Slovenia, with diverse possibilities for development. Its purpose is to support the thesis that professional implementation of Ecosystem Services Evaluation can become an important part of the regional and national Sustainable Development Policies.

IZVLEČEK

V luči globalnega razvoja se Slovenija sooča z enakimi izzivi kot druge države, med katerimi je zagotovo največji, kako povečati blaginjo ljudi in hkrati ohraniti njihov »izvor«. To pa je pravzaprav vprašanje trajnostnega razvoja. Slovenija leži na križišču med vzhodno in zahodno Evropo; ponaša se z izjemnim bogastvom gozdov, voda in drugih naravnih dobrin, rodovitno pokrajino in blago klimo. A kljub temu se še vedno trudi z oblikovanjem in izvajanjem dane razvojne politike. Po zgledu dobrih praks iz tujine

* Članek je bil sprejet in predstavljen na TEEB Conference 2012; Mainstreaming the Economics of Nature: Challenges for Science and Implementation.

in upoštevaajoč priporočila lokalnih in mednarodnih strokovnjakov s področja vrednotenja ekosistemov, smo se osredotočili na dva konkretna primera: Gozdni rezervat Lovrenško barje in Regijski park Škocjanske jame. V članku bomo pokazali, da lahko oba primera opredelimo kot dobri praksi, in sicer predvsem zato, ker proces vrednotenja ni potekal le »ex-cathedra«, temveč smo velik poudarek dali sodelovanju z zainteresiranimi deležniki. Poleg tega v članku osvetljujemo možnosti, kako lahko vrednotenje ekosistemov in nadalje vključevanja le-tega v regionalne in nacionalne strategije pomembno prispeva k politikam trajnostnega razvoja v Sloveniji in k uresničevanju strategije EU 2020. Soočeni s temi izzivi in zavedajoč se potenciala naravnih dobrin v Sloveniji v članku predstavljamo dva primera ekonomskega vrednotenja ekosistemskih storitev, z dveh ločenih koncev Slovenije z različnimi možnostmi za razvoj. Namen članka je podpreti tezo, da lahko strokovno izvajanje vrednotenja ekosistemskih storitev postane pomemben del regionalnih in nacionalnih politik trajnostnega razvoja.

1. INTRODUCTION

Perception of nature as a source of material goods requisite for the prosperity and progress of societies has become a matter of course through development of civilisations.

The planning of exploitation of various natural resources, such as minerals, rocks, water, biomass, arable land, fossil fuels etc., if naming just a few, has become a basis of economic progress as well as other comparative advantages among countries and societies. Economic development has demanded increasingly extensive and effective exploitation of natural resources. In turn, however, these encroachments upon nature have begun to cause negative effects as well. Pollution and degradation of nature in the form of threatened access to drinking water, excessively polluted air, depleted soil, loss of pollinators, decreasing biodiversity etc. are no longer just aesthetic anomalies in nature, but are becoming increasingly greater development obstacles.

The question repeatedly raised at the time of searching for development advantages of societies and countries as a central issue of sustainable development is the following: to what extent and in what way can they still burden nature without causing more development obstacles than actually solving them, or is the exploitation of natural assets the only economically reasonable approach.

The economic science known as environmental economics has begun to develop as a support to the understanding interdependency of the natural processes of society's wellbeing and development in the light of sustainable development. It is the science of efficient use of natural resources in order to satisfy human needs. Environmental economics helps to establish a balance between over-exploitation of natural resources and excessive environmental protection in the form of severe regimes that entirely prohibit or greatly limit encroachments upon certain natural environment. As the science seeks to consider the whole picture of the certain ecosystem with all its ecosystem services and all key stakeholders involved, it can help to identify negative/positive effects of exploitation/protection, not only on the ecosystem services that are directly exploited, but also on other ecosystem services that are indirectly involved. It can also help to identify those who are receiving the goods with the exploitation/protection, as

well as those who are mostly receiving the bad. In this way it is easier to determine how much of a burden can one bear and on the other hand, how much to reduce the burden of the others.

Environmental economics explains the correlations between nature as a source of means called ecosystem services (ES) in the widest sense of the term and the benefits enabled by the existence of ES exploitation and experienced by society as market potential or developmental opportunities.

In this sense, a shift from the logic of exploiting natural assets to the logic of their managing in the manner that would preserve their reproductive capacity is needed. The measures taken to protect nature, however, must not present an obstacle to development, as it is often the case, but an additional innovative possibility of adopting new development measures, strategies and policies.

2. BACKGROUND AND HYPOTHESIS

In Slovenia, we started with the methodologies evaluation and development of the first concrete study of ES evaluation of Lovrenško Barje Meres in 2010 within the framework of the SE European transnational project entitled Managing Natural Assets and Protected Areas as Sustainable Regional Development Opportunities (NATREG), led by the Institute of the Republic of Slovenia for Nature Conservation. In 2011, the second study of ES evaluation of Škocjan Caves Regional Park was also prepared within the framework of international project Protected Areas for a Living Planet – Dinaric Arc Eco-region Project, led by World Wide Fund for Nature. The principal of both ES evaluation studies was the firm Actum Ltd.

Both ES evaluation study cases evaluate ES of two protected natural areas in Slovenia. The first is the area of Forest Reserve Lovrenško Barje Meres in NE Slovenia, the second the Škocjan Caves Regional Park in SW Slovenia. For both, legal limitations in encroachments upon the clearly defined areas apply. They boast rich biodiversity and are good cases of protected areas, where limitations to the encroachments upon nature, costs of implementation of protective regimes and potential opportunity costs of exploitation raise questions as to their reasonableness as well as questions whether this kind of areas present an obstacle or opportunity for a local, regional or even national development.

In further text we shall present some of the basic data in the areas that were the subject of ES evaluation.

About the Lovrenško Barje Meres

The area of Lovrenško Barje Meres covers ca. 89 ha in the NE part of Slovenia. This is the largest active raised bog in our country as well as southernmost bog in Europe. The area, which has been proclaimed an ecologically significant area and part of the Natura 2000 network, en-

compasses a forest reserve with several meres. It is not populated and encroachments into this environment are strictly limited, as it is farming, which is allowed to be practiced only on about 10 ha. That is why this area is inhabited by several rare animal species. It is predominantly wooded, overgrown with bog forests and acid-loving spruce forests. The ground is peaty, which makes the area a natural water reservoir. Owing to its position and minor infrastructure in the shape of a viewing tower and walking trails, the area is visited annually by about 70.000 people, who visit it as their primary destination or research it as part of their prolonged stay in one of the tourist centres nearby.

With its biodiversity, natural biomass potential, arable land and environment that offer excellent opportunities for infrastructural interventions for e.g. tourist activities, it is thus an interesting paradox in the classical economic way of thinking. Why couldn't we exploit the potentials of biomass and arable land or transform the area into a recreation centre, considering the fact that the area cannot bring economic benefits if not exploited at all. The only sensible measure would thus be that the area is dealt with as any other area without any protection regime and that the locals are given certain economic opportunities. At the same time, all those financial means that are currently used for the area's protection should be released.

About the Škocjan Caves Regional Park

The area of Škocjan Caves Regional Park covers ca. 415 ha in the SW part of Slovenia. Due to its geographical position in the Karst, its Škocjan Caves (as part of the Park) constitute one of the most significant natural karst phenomena of this kind in the world. Apart from being part of the Natura 2000 network, it has been proclaimed an ecologically significant area and inscribed on UNESCO World Heritage List. The Park spreads over the area of three settlements populated by 70 inhabitants. Owing to the modest agricultural conditions and the fact that more than 70 % of the Park's surface area is covered by forests, the locals have been looking for jobs outside the Park or in tourist industry. A few jobs are also offered by the Park as a corporate body, which is responsible for the management of the Park itself as well as for its promotion and development where, however, it is faced with pressures from its direct environment in the form of investments attempted to be made in this area. But due to the special protection regime, no investments are possible, although they would bring new development possibilities to the area of Škocjan Caves Regional Park. The area because of its dry climate conditions with warm temperatures and little snow during the winter months provide great conditions for tourism throughout the whole year, namely around 100.000 visitors each year.

The question raised here is the same as in the case of Lovrenško Barje Meres i.e. whether the above mentioned limiting regimes in the area are economically justifiable and how we could economically justify this regime with a better identification of developmental opportunities in the spirit of sustainable development.

Hypothesis

Through the presentation of the course of ES evaluation in the above mentioned areas we shall test the hypothesis that **a professionally implemented process of economic evaluation of ES can be a solid tool in the process of planning local, regional as well as national sustainable development policies.**

3. THE PURPOSE AND OBJECTIVES OF THE EVALUATION

In both cases, the purpose of ES evaluation was to point at the fact that the existence of nature, in our case two specified and protected areas, presents an environment that with its existence and functioning enables development of activities and use of natural assets that have, in a society, certain economic value with which income is created and, in turn, profit that exerts influence on the welfare of the area, in which it is situated, and possibly much wider.

This means that it should be quite self-evident for us to invest in the existence and preservation of the assets providing for the welfare, as it is self-evident for us to maintain machines and tools used in production of certain goods with intention to provide for their optimal functioning.

In the case of ES evaluation of both Škocjan Caves Regional Park and Lovrenško Barje Meres we have followed these two goals:

I: to identify ES according to the categories of regulating, supply, cultural and supporting ESs in concrete areas, as well as try to assess, on the basis of market and economic models, the total economic value (TEV) and the net economic value of the area for a long-term period;

II: to prove, on the basis of the identified and calculated values of the nature, that it is economically much more reasonable to actively manage an area than to exploit it.

The attempts to achieve the set goals have opened, however, the possibility of preparing new development scenarios and their modelling on the basis of realistic economic suppositions along with considering nature's limitations and opportunities.

4. ECOSYSTEM SERVICES EVALUATION PROCESS

Evaluation of ES is a process of identification, quantification and monetarisation of relations in an environment – nature, from which individuals, groups or society directly or indirectly create products or services or its existence itself means to them a condition with its certain market price.

The process of identification, quantification and monetarisation must therefore follow not only unbiased professional guidelines given by experts from different spheres, but take into consideration the expectations and understanding of the local environment and its various interest groups, which can experience the same environment in a totally different way, i.e. as an obstacle or as an opportunity. This is why a special attention has been dedicated to the inclusion of stakeholders.

In the economic evaluation process, we thus followed these guidelines:

I: special emphasis on work with stakeholders and their active inclusion in all phases of planning and implementation of the evaluation process, via moderated workshops, focus groups, and cooperation in the ES identification process itself;

II: impartiality of the evaluation process leader;

III: economic calculations and models made on the basis of the identified ESs, where values without any assumptions, approximations or professional guesses could have been established in a direct way;

IV: projections made on the basis of conservative presumptions of the yield that from an economic perspective meet the criteria of conservative investments.

The very integration of stakeholders gave the ES evaluation process the necessary legitimacy, given that the development of an environment depends on (un)preparedness of people to do (not to do) something, where the understanding of effects and consequences of working in a certain environment is of key importance, that the environment accepts and actively actualizes certain encroachments upon space, changes and development strategies, or maybe resists them, perhaps merely due to the lack of understanding.

Implementation of the economic evaluation; advantages and limitations

The evaluation process itself can be implemented in several steps – with 8 detailed steps for the implementation of ES economic evaluation, as carried out in our cases, shown in Fig. 1 below.

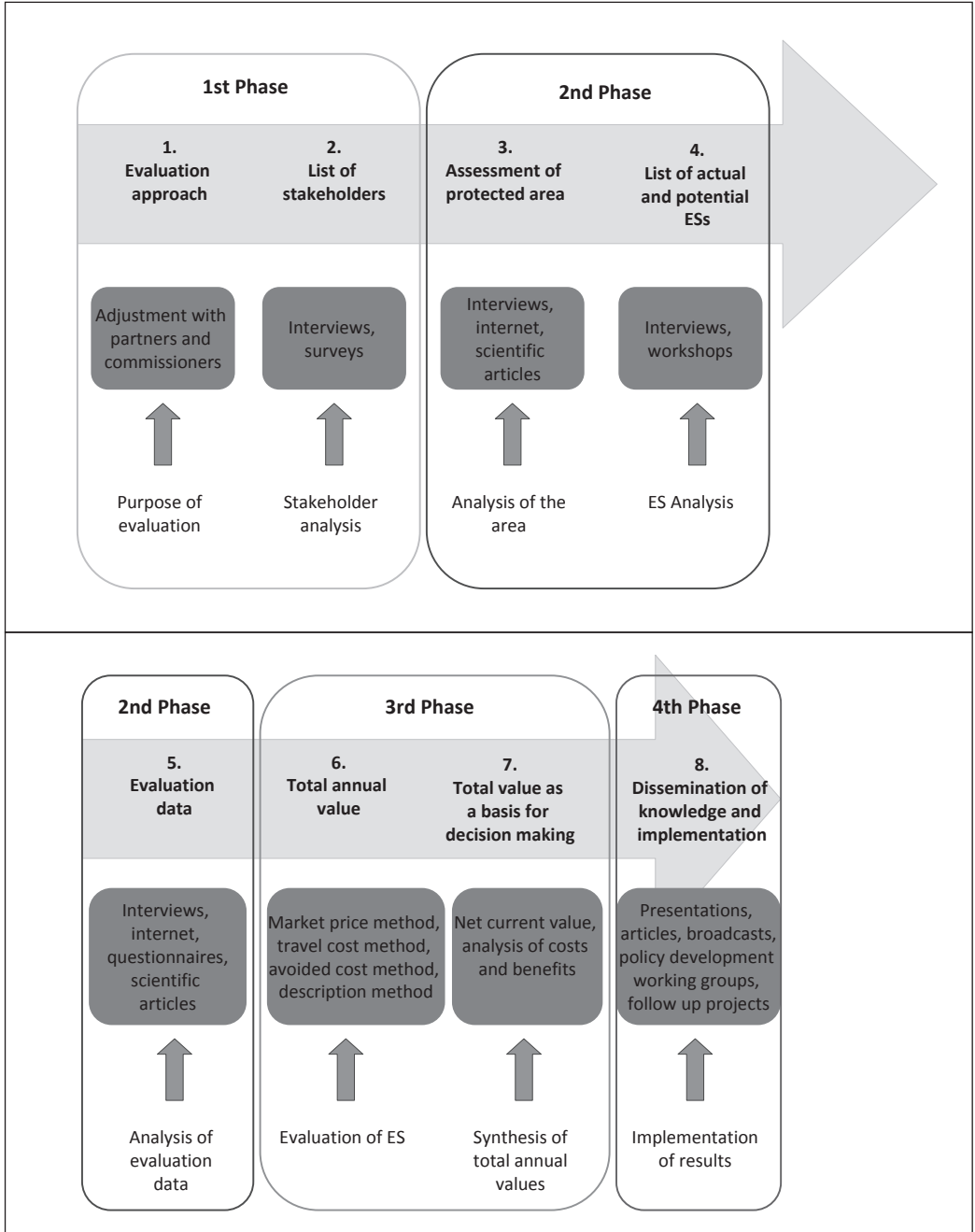


Figure 1: Evaluation process
 Slika 1: Proces ovrednotenja

The most important in each process are clearly defined objectives and purpose of the process/activity. Crucial in both cases was that the goals and expectations were adjusted prior to the beginning of the evaluation implementation. With regard to the implementation steps, on the other hand, four key phases of the economic evaluation process can be identified in the process itself.

I: Understanding the purpose and goals of evaluation is crucial for the formation of the process and implementation methods, given that the ES evaluation implementation is an integral process that includes work with stakeholders in the first ES identification phases, the phase of economic data processing and communication, presentation of results, dissemination and adoption of potential measures, policies etc.

II: Data acquisition encompasses much work with the stakeholders' specialist services, particularly a great deal of specialist knowledge from the complementary spheres of social and natural sciences. The perception of conditions in the field in connection with the specialist sphere thus has a double positive effect: the stakeholders are acquainted with and understand the professional background of the process, while the experts obtain from the field important feedback and initiatives as well as dilemmas and questions, which they find useful at their work.

III: Implementation of the ES value economic calculation. Here it may be somewhat strange that this phase is the simplest of them all, given that it is based on processing of data and information that have already been acquired in this phase and are as such correct or incorrect, or distorted. This is why we can say that the economic evaluation is not ascription of ES price, but evaluation of ES in nature, under the presumption that nature is preserved. Thus we could say that ES value includes its »maintenance and recycling«, if drawing a parallel with, for example, a car – upon the presumption that it is truly recycled, of course ...

IV: Dissemination, promotion of results, follow-up projects. Success of the last phase depends particularly on good work in the first phase. Specifically, if stakeholders decide to actively include themselves in the process itself, they will also be interested in results and will thus be prepared to actively engage themselves in order for the potential goals to be reached. The fact is that the conclusion of ES evaluation process is a true picture of the state of affairs and a basis for activities that will still have to be carried out if the potential objectives calculated in the evaluation process are to be achieved. The projects aimed at realization and actualization of developmental opportunities on the basis of sustainability model thus depend on the stakeholders' understanding and readiness at different levels: local, regional and national.

RESULTS AND ASCERTAINMENTS

ES evaluation results in the case of Lovrenško Barje Meres, where we were trying to find (through a fairly long period) an answer, whether a direct and simultaneous exploitation is

more reasonable than perhaps further protection and development of the area on the basis of biodiversity conservation, in the long run have proved to be very interesting indeed ... The results shown in the table below indicate that the exploitation of natural assets, particularly peat and wood, brings income to the amount of about 3 million EUR in the initial period. The key conclusion, however, is that through exploitation of these natural assets we gradually destroyed nature and with it associated ES, which constitute a basis for the development of tourism that brings incomparably greater economic benefits, which is manifested in a longer period as the income from tourism, water supply etc. subsidies. An interesting conclusion is, therefore, that abolition of the protection regime doesn't pay.

Table 1: Estimate of opportunity damages on the account of simultaneous ES exploitation in the area of Lovrenško Barje Meres in the period of 20 years

Tabela 1: Ocena oportunitetnih izgub na račun hkratnega izkoriščanja ekosistemskih storitev na območju Lovrenških barj za obdobje 20 let

ECOSYSTEM SERVICE TYPE	1st YEAR		21st YEAR	
	GVA WITH RETENTION (in €)	GVA WITHOUT RETENTION (in €)	GVA WITH RETENTION (in €)	GVA WITHOUT RETENTION (in €)
SUPPLY SERVICES	136,358	3,199,965	191,401	0
Food (hunting + agriculture)	5,252	0	5,420	0
Fibres and fuel (wood and peat)	401	3,076,236	581	0
Clean water (buffer capacity)	130,705	123,729	185,400	0
REGULATING SERVICES	4,368	-48,675	6,328	-315,054
Regulation of climate processes	4,368	-48,675	6,328	-315,054
CULTURAL SERVICES	10,245,812	0	10,273,422	0
Tourism and recreation	10,245,812	0	10,273,422	0
	10,386,539	3,151,290	10,471,150	-315,054

ES evaluation results in the case of Škocjan Caves Regional Park, where the actual ES exploitation was compared with the potential exploitation of ES, have again produced some very interesting results. As the purpose of the evaluation was not to make scenarios, which in one case foresee a simultaneous ES exploitation in Škocjan Caves Regional Park, but to show that through an intensive communication with stakeholders we can also identify (by considering the existing state of affairs) new forms of sustainable exploitation of ES, which contribute to the economic justification in Škocjan Caves Regional Park, and through estimates show to

the area's stakeholders the attainable added value with the aid of measures, which they jointly identify and implement on the basis of consensus and clear economics of the projects. Table 2 shows that through simple guided workshop methods, where the concept of economic evaluation as well as its purpose and concrete goals in Škocjan Caves Regional Park was presented, we jointly identified additional sustainable activities in the Park, which also present a good business opportunity and thus an opportunity for additional jobs and earnings in the local environment.

Table 2: ESs already exploited in Škocjan Caves Regional Park, and potential new opportunities of ES sustainable exploitation in the area

Tabela 2: Ekosistemske storitve, ki jih že izkoriščajo v Parku Škocjanske jame in nove priložnosti trajnostnega koriščenja ekosistemskih storitev tega območja.

ECOSYSTEM SERVICE TYPE	ACTUAL USE OF ECOSYSTEM SERVICES	POTENTIAL USE OF ECOSYSTEM SERVICES	ADDED VALUE
SUPPLY SERVICES			
Food	Game, fish, honey, stockbreeding	Game, fish and honey as a brand, stockbreeding	Brand: honey
Fibres and fuel	Wood, water discharge	Wood, water discharge, wool	Wool
Decorative sources	Trophies	Trophies, woollen products as a brand	Brand: woollen products
Clean water	Drinking water, irrigation water, technological water	Drinking water, irrigation water, technological water	/
Genetic sources	/	Old apple- and pear-tree varieties	Old apple- and pear-tree varieties
REGULATING SERVICES			
Air quality	Lower health care costs	Lower health care costs	/
Regulation of climate processes	CO2 sink	CO2 sink	/
CULTURAL SERVICES			
Cultural heritage	Ethnological heritage	Ethnological heritage	/
Tourism and recreation	Cave tourism	Cave tourism, additional tourism supply: visit to Hanker Canal, visit to Divaška, Sokolak and Mejama caves, rent-a-bike, aride with horse carriage	Additional tourism supply: visit to Hanker Canal, visit to Divaška, Sokolak and Mejama caves, rent-a-bike, a ride with horse carriage

Jobs	Directly employed: ca. 25	Directly employed: ca. 27	Directly employed: ca. 2
	Indirectly employed: ca. 13	Indirectly employed: ca. 15	Indirectly employed: ca. 2
Education	Formal education	Formal education and additional supply: tasting of traditional Karst foods	Additional supply: tasting of traditional Karst foods
Social relations	Trekking, social gathering	Trekking, social gathering	/

Here it should be underlined that the above mentioned additionally identified ESs present no less than 14% of the still unexploited potentials already in the 1st year of potential use in a long run, while in a 20-year period the additional sustainable exploitation of only newly identified ESs contributes to no less than 18% of the total ES potential.

Table 3: Economic value of additionally identified ESs in the area of Škocjan Caves Regional Park

Tabela 3: Ekonomska vrednost dodatno ugotovljenih ekosistemskih storitev v Parku Škocjanske jame

ECOSYSTEM SERVICE TYPE	ACTUAL USE OF ECOSYSTEM SERVICES (in €)	POTENTIAL USE OF ECOSYSTEM SERVICES (in €)	ADDED VALUE (in €)
SUPPLY SERVICES	473,860	487,860	13,999
Food	3,381	4,291	909
Fibres and fuel	40,793	40,898	105
Decorative sources	2,610	13,030	10,420
Clean water	427,076	427,076	0
Genetic sources	-	2,565	2,565
REGULATING SERVICES	4,825	4,825	0
Air quality	538	538	0
Regulation of climate processes	4,287	4,287	0
Protective value	-	-	-
Erosion	-	-	-
Regulation of water quality	-	-	-

CULTURAL SERVICES	11,153,496	12,851,726	1,698,230
Cultural heritage	38,696	38,696	0
Tourism and recreation	9,758,281	10,476,848	718,567
Aesthetic value	-	-	-
Jobs	1,039,781	1,113,083	73,302
Professional value	-	-	-
Education	102,263	1,007,707	905,443
Mental and physical health	-	-	-
Social relations	190,315	190,315	0
Feeling for space	-	-	-
TOTAL ANNUAL VALUE – 1st YEAR	11,608,021	13,319,333	1,711,312
TOTAL ANNUAL VALUE – 21st YEAR	16,881,130	20,021,034	3,139,904

5. APPLICABILITY OF THE APPROACH IN THE PLANNING OF COMPLEX DEVELOPMENT PROCESSES

The main characteristics of development processes, which can include preparation of the development strategy, policy and measures in separate spheres, lies primarily in the adjustment of profession and different perceptions as to what is the best choice among the options from the aspect of their feasibility where, however, a significant role is played by stakeholders who will be affected by the implementation process.

The scheme of communication with stakeholders and capacity of mediation during presentation and adjustment of different perceptions or solutions is thus crucial for the success of any strategy in the implementation phase, considering that the absence of consensus at the beginning implicitly leads to troubles in the implementation phase. Evaluation as a process puts an extra great emphasis on the work and adjustment of solutions with stakeholders, where we are therefore faced with the bottom up approach, where we make a picture of the current state of affairs and feel the alert and capacity of the environment for changes, and with the top down approach, where we follow long term development goals, which we then transform (in the process of work with stakeholders) into projects that will assist in the achievement of these goals.

The projects of this kind are therefore an expression of the environment's potential. They are supported by the environment that will assume the key burden of implementation and are, at the same time, adjusted with development policies. The most important, however, is that the argumentations are supported by concrete numbers, while different development scenarios can be simulated in a longer period, where changes caused by these encroachments upon the environment/projects can be observed.

ES evaluation process is thus a useful tool in the phase of preparation of development strategies, as it is a tool for uniform perception of development opportunities. It envisages the making of consensus and offers concrete methods and approaches as to how this should be done, and tends towards the making of solutions that meet the principles of sustainable development and entrepreneurial approach. We dare to say that it is the very communication process with stakeholders on the basis of concrete scenarios with economic effects, which are the result of economic evaluation that can lead to a creative and innovative entrepreneurial and development process at the local, regional and national levels.

6. CONCLUSIONS AND CONFIRMATION OF HYPOTHESES

With a clearly defined economic evaluation process in the two selected areas, the following was confirmed with all certainty:

- I. On the basis of our estimates it can be proved that nature protection can be economically remunerative, too, in the long run.
- II. With clearly communicated purpose of such process, clearly communicated methods used and applicability of the obtained results, the integration of stakeholders is an implicit but in no way time-consuming work. With suitable approach and engagement of stakeholders they in fact carry out a major part of field and academic work, given that they are best acquainted with the environment in which they live.
- III. The results of ES evaluation are not and should not be the last activity in the process. They are just an array of possibilities that are to be additionally implemented through the carried out projects, where the significance of cooperation is demonstrated once more.
- IV. Reciprocal influences of ES existence were clearly shown. In the case of Lovrenško Barje Meres, we could have seen that the exploitation of ES biomass exerts influence upon ES of cultural landscape that attracts visitors. This can be further optimized within the framework of tourism supply.
- V. Understanding of the ES concept and the purpose of evaluation consolidate the awareness of nature protection significance and on the other hand demolish the perception about investing in nature protection or sustainable management as expense that in fact impedes development.
- VI. The concept of economic evaluation process is based on participation of stakeholders and on observance of local endogenous potentials, but at the same time deals with nature as a starting-point for development and as such envisages investing in its protection.

In the case of Lovrenško Barje Meres, the results of ES evaluation were used as an argumentation for providing returnable investments by economic subjects of tourism back in nature protection. In the area of Pohorje, where Lovrenško Barje Meres are situated, a fund for the protection of Pohorje nature has been established that is financed from the marketing of tourist services in the area. This case is a starting-point for further planning in the sphere of responsible tourism development in the Republic of Slovenia, boasting the title »Slovenia Green«.

Owing to the above presented results obtained in practice we believe that we are able to confirm the hypothesis that **professionally implemented process of ES evaluation can be a useful tool in the process of planning regional as well as national sustainable development policies.**

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