

# Geographical Identification of Development Potential for the Sustainable Development of Protected Areas in Slovenia

**Barbara Lampič, Irena Mrak, Dušan Plut**

The principles of sustainable development for protected areas give priority to environmental objectives, but the economic and social objectives, have an important development role as well. A version of regional development of protected areas in various landscape types and settlement areas, which has a strong conservation component, is attainable only through a sustainable and responsible, multilevel activation of endogenous development potential. Only in this way it is possible to implement the challenging and necessary transition from passive to active biodiversity and geodiversity conservation.

**Key words:** protected areas, sustainable development, Slovenia

## **Geografska identifikacija razvojnih potencijala za održivi razvoj zaštićenih područja Slovenije**

Principi održivog razvoja zaštićenih područja daju prednost ciljevima usmjerenima na zaštitu okoliša, no ekonomski i društveni ciljevi također igraju važnu ulogu u razvoju. Regionalni razvoj zaštićenih područja u različitim tipovima krajolika i oblika naseljenosti sa snažnom konzervacijskom komponentom moguće je postići samo kroz održivo i odgovorno aktiviranje unutarnjih razvojnih potencijala. Samo se tako može implementirati izazovnu i nužnu tranziciju iz pasivne u aktivnu zaštitu bioraznolikosti i georaznolikosti.

**Ključne riječi:** zaštićena područja, održivi razvoj, Slovenija

## **INTRODUCTION**

As people become increasingly aware of the importance of conserving nature, protecting the environment and natural and cultural heritage, the areas of lands under various protective management regimes have expanded. Since a number of protected areas also have, in addition to a nature protection function, a developmental role, there is a need for a geographical inventory and evaluation of the specific development potential

of such areas, and for spatial and regional development that is adapted to it. In the past, numerous areas were protected at the declarative level under various protection regimes, in which the primary purpose of regulations was to protect natural components of the environment and the cultural heritage while restricting spatial interventions and regulating the development of economic activities. However, there was (and to some extent still is) insufficient consideration given to the consequences of protection regimes for the wider regional development, and the field of sustainable planning of development of protected areas is weak. Besides the poorly designed protection-development visions of protected areas in management plans, the role of those responsible for managing development is also rather unclear.

An assessment of development potential and a management regime for areas under protection (protected areas, ecologically significant areas, and special ecological areas of the EU in the Natura 2000 network) that simultaneously promotes conservation and development is of great strategic importance in Slovenia. Such areas make up more than half of the national territory and their regional development should be adapted to the different types of areas under protection and the protection regime. Sustainable management must ensure the conservation of nature and the environment while enabling the preservation of the cultural landscape and settlement, and of a particular kind of settlement pattern. Slovenia is highly forested (forests cover over 60% of the national territory), and depopulation as well as the overgrowing of an area means a reduction of landscape, ecosystem, habitat, and species diversity.

The fundamental purpose of protected areas is thus the conservation of nature by taking steps to preserve biodiversity and the system of all other natural values. They should be treated as priority preservation areas, but at the same time also as specific development areas (Plut et al, 2008). Guidelines for the sustainable development of protected areas emphasize the priority of environmental objectives (environmental protection and nature conservation), but not exclusively: economic and social goals also have an important role. In addition, the United Nations Environmental Programme recognizes ecosystem management as one of the key priorities with supporting balanced responses "to natural resource management to meet future ecological and human needs" (UNEP, 2009). At the same time, awareness is growing of the importance of protected areas and the preservation of biodiversity in adapting to climate change (Progress towards the European 2010 biodiversity target, 2009).

### **A typology of development capital**

The classical valuation of the development capital of an area emphasizes only its significance for economic development. Typology arising from this view is based on an anthropocentric view and narrowly focused on an economic approach (Tab. 1). The significance of development potential is based on the market value of particular components; it is presented in terms of different forms of capital conceptualized from a narrow, market-oriented point of view of development. From the standpoint of this anthropocentric (purely developmental) valuation, various types of potential are treated as the following basic types of development capital (Freedman, 1995): produced, human and natural capital (Tab. 1).

## Geographical Identification of Development Potential for the Sustainable Development of Protected Areas in Slovenia

Tab. 1 The traditional anthropocentric (technicist) typology of development capital  
 Tab. 1 *Tradicionalna antropocentrična (tehnicistična) tipologija razvojnoga kapitala*

Type of capital	Examples of this type of capital
Produced capital	companies, mines, buildings, tools, physical infrastructure
Human capital	knowledge, skills, labour force with certain capabilities
Natural capital	reserves, quantities, flows of natural resources

Source: Freedman, 1995

For a proper understanding of areas under protection, and their development, it is crucially important to have an understanding of the natural and other values that significantly determine the development possibilities and development capital of such areas. Natural values are defined in very different ways by different authors with respect to the points of departure and topics of research. According to Kirn (1994) and Curry (2006) only people can assign a certain value to natural features. Environmental awareness and an established system of values—i.e. which values in the environment we perceive and identify—have an influence on how we treat the environment, nature, and natural resources. The influence of environmental awareness and the system of values is present everywhere, and is indirectly reflected in a wide variety of forms of human activities in the environment (Kirn, 2004). O’Neil et al., (2008) believe that the ethical foundation for an environmental ethics influenced by the recognition of the intrinsic values of nature, which are otherwise very differently valued, is crucial.

A general division into intrinsic and instrumental values is also a useful concept when talking about protected areas. Intrinsic values are based on an ecocentric ethical perspective, which holds that some environmental elements (for example, biodiversity and geodiversity) are values in and of themselves, and not because of something or someone else (Gray, 2004; Kirn, 2004). Intrinsic values are the most difficult to define and describe, since they encompass the ethical and philosophical dimensions of the relationship between nature and society (Erhartič, 2007). Among instrumental values are cultural, aesthetic, functional, research, educational, and economic ones (Gray, 2004).

The established system of values (relating to space and its individual elements) which we encounter in our everyday lives and which becomes part of our identity allows us to evaluate the role of different forms of development capital: environmental, cultural, social and economic. The contemporary global environmental crisis is a powerful signal that the current ethical stance of humanity is inadequate, too narrowly conceived, and indifferent towards the degradation of natural systems (Gardner, 2010). This can also be seen in the fact that types of capital that have direct applied value are in the forefront, while types of capital with an indirect applied value and those with no applied value (for example, ecosystem services) are largely neglected.

In the 1980s and 1990s, our conceptualization and valuation of natural capital began to gradually change, as a result of increasingly urgent environmental problems. The narrow conception of natural capital as consisting of materials and energy as a basis for economic development was gradually expanded to include an emphasis on sustainability and conservation. For this reason, the concept of environmental capital, which also encompasses natural values, biodiversity and ecosystem services, is replacing the narrower concept of

natural capital. From the standpoint of sustainable development, ecosystem services and biodiversity should also be treated as an economic resource with a given market value and price (Leveque and Mounolou, 2003).

In designing the optimal development strategy, the following question (Markandya et al., 2002, 18) is of crucial importance: "If a society is to maximize the welfare of all generations, present and future, how should it allocate resources over time?" According to the definition of strict sustainability, future generations should be left equal or if possible even greater stores of environmental (natural), economic (physical) and human or social capital. This means that the total increase of capital must not take place at the expense of a reduction in environmental capital, which is crucial for the survival of future generations and the functioning of the ecosystem (Plut, 2005). Consideration of the protective and ecosystem aspects of the valuation of development capital, especially in the sustainable valuation of development capital, thus highlights the indispensability of the functioning of ecosystem services, which as a rule are not (yet) assigned a market value. In planning sustainable regional development it is therefore necessary to avoid reducing the extent of all types of capital (Medhurst, 2007), and this must be practised without exception in protected areas.

The gradual recognition of the need to take into account the protective dimensions of the use of development capital requires a more comprehensive typology, which is based on the principles of sustainability. A typology of development capital performed using an ecocentric ethic and a strong sustainability emphasis highlights the need for at least a three-way basic typology: environmental (including ecosystem services and biodiversity), economic, and social development capital (Tab. 2).

Tab. 2 Typology of development capital from the perspective of an ecocentric ethic and strong sustainability emphasis  
Tab. 2. Tipologija razvojnoga kapitala iz perspektive ekocentrične etike i snažnog naglaska na održivost

Basic typology of development capital	Categories of capital
<i>Environmental capital</i> ( <i>"green infrastructure"</i> )	1. Natural resources– non-renewable and renewable 2. Space (land) and landscape 3. Ecosystem services 4. Biodiversity and natural values
<i>Economic capital</i> ( <i>"gray infrastructure"</i> )	1. Economic activities 2. Economic and municipal infrastructure
<i>Social capital</i> ( <i>"blue infrastructure"</i> )	1. Human capital 2. Social (narrowly defined) capital 3. Cultural capital

Source: Hlad and Slabe Erker, 2004; Plut 2005; Lampič and Mrak, 2008

## DEVELOPMENT POTENTIAL OF PRESERVED AND PROTECTED AREAS

Areas under protection include and bring together environmental, cultural, social and human values. As such they offer favourable conditions for managed development based on activities which are in keeping with the goals of conserving the natural and cultural heritage but, on the other hand, they simultaneously offer opportunities for the development

Geographical Identification of Development Potential for the Sustainable Development  
of Protected Areas in Slovenia

of sustainable activities. The groups of values mentioned are called "potential" from the standpoint of development. A basic typology of the development potential of preserved and protected areas ranks the types into four main groups: environmental, cultural, social, and human potential (Tab. 3). Following the Slovene protected areas system, we defined the value for each of the potentials (as well as for their components and sub-components).

Tab. 3 Development potential of preserved and protected areas and their applied value  
*Tab. 3. Razvojni potenciali o uvanih i za ti enih podru ja i njihova primijenjena vrijednost*

POTENTIAL	Components of potential	Sub-components of potential	Value
ENVIRONMENTAL POTENTIAL	natural values	geological geomorphological hydrological botanical zoological	IAV, NAV
	biodiversity	plant and animal species habitat types, ecosystems genetic resources	IAV, NAV
	natural resources	water biomass, wood air soil solar energy geo-thermal energy raw materials	DAV, IAV, NAV DAV IAV IAV DAV, IAV DAV DAV
	ecosystem services	nutrient cycle, oxygen cycle mitigation of climatic changes regulation of the water balance soil production, control and protection against erosion self-cleaning capacities	IAV
	land		DAV, IAV, NAV
CULTURAL POTENTIAL	immovable material cultural heritage	archaeological sites settlement areas old city and village centres cultural landscape buildings, groups of buildings artistic, historical, and technical testimonial value	DAV, IAV, NAV
	movable material cultural heritage	archives and library materials objects with historical, art- historical, archaeological, ethnological or natural sciences significance	DAV, IAV, NAV
	living heritage	customs skills and craftsmanship	DAV, IAV, NAV
	cultural potential of society	language tradition knowledge	IAV, NAV IAV, NAV IAV, NAV

POTENTIAL	Components of potential	Sub-components of potential	Value
<b>SOCIAL POTENTIAL</b>	<b>inclusion of the population in public life of the local community</b>	societies connected with the preservation of the natural and cultural heritage societies which encourage cooperation and strengthen regional development	IAV, NAV
	<b>level of trust and sense of security</b>	trust in co-operation trust in the leadership structure trust in other people sense of security	NAV
	<b>sense of belonging to the local area</b>		NAV
	<b>connections among family, friends, and neighbours</b>		NAV
<b>HUMAN POTENTIAL</b>	<b>natural growth age structure gender structure migrations educational structure employment occupational structure wstructure</b>		IAV

DAV – Direct applied value, IAV – Indirect applied value, NAV – No applied value

*DAV – direktna primijenjena vrijednost, IAV – indirektna primijenjena vrijednost,*

*NAV – nema primijenjene vrijednosti*

Source: Lampič and Mrak, 2008.

The groups of environmental, cultural, social and human types of potential combine different values, which can be defined very precisely at the primary level: for example, the environmental potential of preserved and protected areas comprises natural values such as geological, geomorphological, hydrological, botanical and zoological ones. Natural values are followed by biodiversity (plant and animal species, habitat types, ecosystems, genetic resources), natural resources (water, biomass, timber, air, soil, solar energy, geo-thermal energy, raw materials), ecosystem services (cycling of nutrients and oxygen, mitigation of climate changes, regulation of the water balance, soil production, control and protection against erosion, self-cleaning capabilities) and land. Each component of environmental potential can have a direct applied value from the aspect of development (economic value), an indirect applied value, or no applied value, depending on the type of protected area and consequently on the protection regime. A similar situation holds for the other kinds of potential: cultural, social, and human (Lampič and Mrak, 2008).

All elements of cultural potential are characteristic to preserved and protected areas, but their conservation, preservation and simultaneous activation for development are

dependent on the overall familiarity with the cultural heritage of a region, as well as on the protection regime of the preserved and protected area.

If environmental potential has a crucial role in the identification of potential areas for protection, then social potential has a mainly indirect role in the continued development and activation of protected areas, but it depends on the protection category as well as on the individual characteristics of each protected area. Examples of good practice show that the key to successful conservation along with simultaneous development of protected areas lies in good mutual co-operation among all key stakeholders in the space, as well as in good co-operation with the national government.

### **Social potential: the overlooked trump in the development of protected areas**

The paradigm of sustainability, in the opinion of geographer O'Riordan (2004), has also expanded the list of development potential types and posed strong emphasis to their mutual interaction. Sustainable development has broadened the traditional conceptualization of natural resources, especially through the addition of biodiversity, habitats, clean air and water (Pearce, 1994). Recognition of the protective function of environmental resources and environmental capital is crucial for protected areas. It is now necessary to assign a value in terms of sustainable development to human developmental potential and in particular to the generally overlooked or undervalued social potential. At the general level, the concept of social potential is based on the assumption that social connections, networks and norms, and the co-operation of residents is important for sustainable development (Markandya et al., 2002). Social potential together with human potential is a condition for successful economic development, the introduction of innovations, the strengthening of the identity of a region, and the development of democratic relationships. It contributes to the cohesiveness and effective functioning of a community. In the field of nature conservation, social and human potential enable the inclusion of stakeholders in solving developmental problems, and their co-operation in planning development (Lampič and Mrak, 2008). When people have the opportunity for active participation, they more easily identify with the problem and they are more willing to contribute to constructive solutions. Their confidence increases since they are themselves a functioning link in the process of decision-making and in the creation of their own perspective. If the development of social potential takes place in a well thought out and sustainable way, then awareness of the importance of nature conservation and sustainable economic and spatial development is also boosted. Social potential represents the driving force for the development of civil society as well as a strategic way of realizing steps for the conservation of nature. It provides important support to the local economy and democratic decision-making and is in fact the foundation for the functioning of a local community (O'Riordan, 2004).

It is based on social ties that develop among individuals, organizations, and societies, which form mutual connections due to their own or wider collective interests. The development of social potential in a protected area has its own specific features: it is tied to the conservation of nature, which often causes conflicting economic interests. But since through the development of social potential, people are given opportunities to participate actively in decision-making, they identify more easily with the problem of conflicting interests and they are willing to contribute constructively to resolving them (Fig. 1).

The end goal of the development of social potential is the formation of social networks which will be based not just on formal relationships but will extend to a higher level—to co-operation and inclusion in development and to the formation of development coalitions. For this level to be achieved, the following must first be met: a) satisfaction of basic needs and b) establishment of a suitable environment. Here each social group is specific. Basic needs expressed in societies include the establishment of democratic relations within them and a readiness for voluntary work. The latter is closely related to motivation. A motivated member is one that is willing to perform volunteer work. Basic needs are followed by ensuring relatively predictable financial resources (economic capital) and mastering the knowledge and skills necessary for the successful management of an organization (intellectual capital). Municipalities as a part of the public sector are obligated to create support for the non-profit sector, in a legal, administrative, financial and developmental sense. At the same time, for the development of social potential in a protected area, the local community must also be receptive to the goals of nature conservation and sustainable development, and to their promotion, in this way developing the identity of the protected area (Fig. 2). Businesses and landowners must also be prepared for non-capital types of relations. Successful local companies are expected to express their receptiveness towards the objectives of the protected area through donations to and sponsorship of non-profit organizations. The functioning of

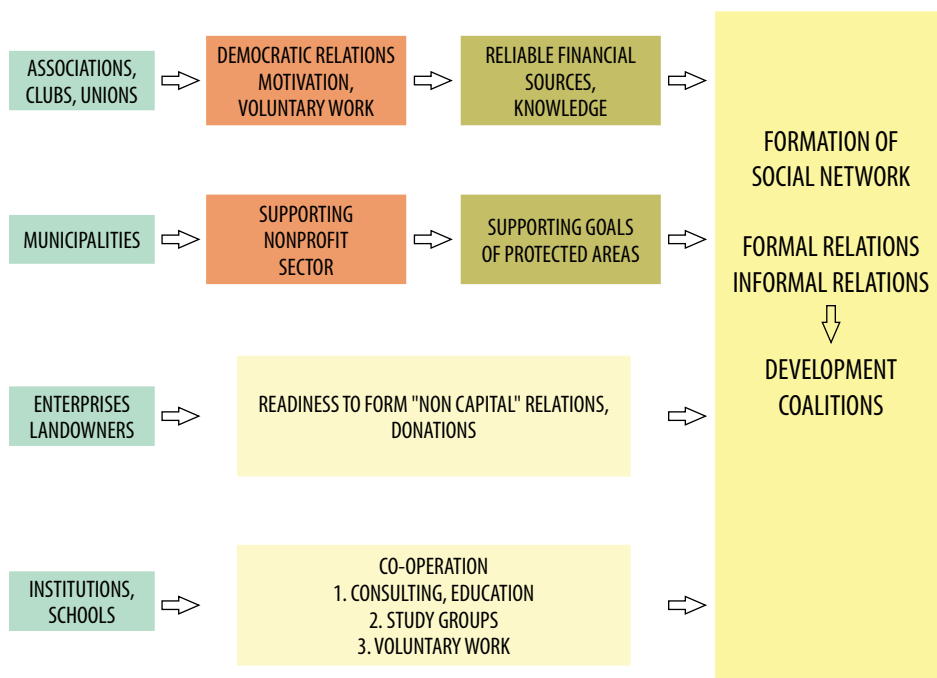


Fig. 1 Diagram for the development of social potential

Sl. 1. Dijagram razvoja socijalnih potencijala

Source: Plut et al., 2008



## Geographical Identification of Development Potential for the Sustainable Development of Protected Areas in Slovenia

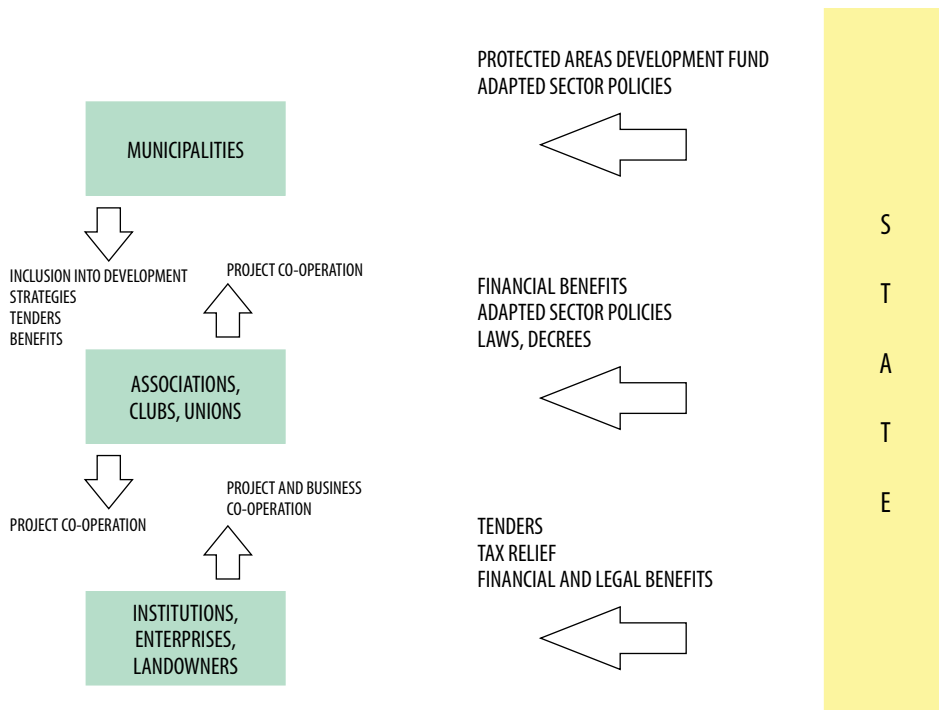


Fig. 2 Model for encouraging the development of social potential by the state  
 SL. 2. Model prema kojemu država potiče razvoj socijalnih potencijala

Source: Plut et al., 2008

schools and agencies must be open to the outside – the training of pupils for voluntary work with active inclusion in their home locality, the organization of student clubs, and consulting and education for not only local beneficiaries but also visitors to the protected area.

The role of the state in encouraging the development of social potential is mainly at the legislative level, which should also include tax deductions, favourable terms for investment and an appropriate employment policy in preserved and protected areas as especially "valuable" parts of the space. The other important field is financial, in which the state through various tenders and funds specifically encourages sustainable activities in these areas.

### DEVELOPMENT ACTIVATION OF PROTECTED AREAS IN SLOVENIA

In 2011, 12.6% of the total area of Slovenia was classified in the category of protected area, and 52% of the land was classified as being of ecological significance. 35.5% of the nation's territory was included in the EU Natura 2000 network, while the average for the EU is 17% (Environment Policy Review, 2008; Vukadin, 2007). Given the rich landscape and biodiversity of areas under protection, making use of these development opportunities is one of the strategic priorities in the development of the country and its local communities

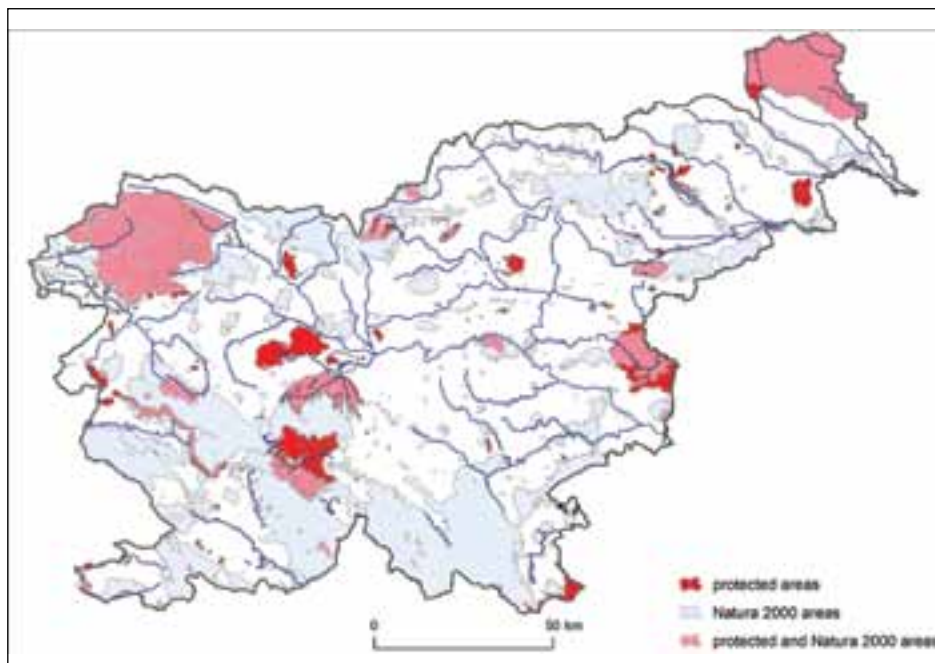


Fig. 3 Protected areas and areas of Natura 2000 in Slovenia

Sl. 3. Zaštićena područja i područja Natura 2000 u Sloveniji

Source: Ministry of the Environment and Spatial Planning of RS, 2011

Izvor: *Ministarstvo okoliša i prostornog planiranja Republike Slovenije, 2011.*

(Lampič and Mrak, 2008). In the management of protected areas in Slovenia, conservation as well as development is of crucial strategic significance. Their sustainable development is a crucial element of sustainable regional development, adapted to the different types of areas under protection and their protective regimes.

Under general development to date, types of potential that had entirely direct applied value, such as raw materials (mining, timber), were in the forefront, while types of potential with indirect applied value and potential with no applied value, which are characteristic of preserved and protected areas, were in large measure overlooked. Environmental potential, which includes natural resources and ecosystem services, which have not been activated in development up until now, belongs in this latter group. The social value of biodiversity as well as of geodiversity as one of the key types of protected areas potential have not yet been given much thought or research attention. Despite the fact that the Strategy for Economic Development of Slovenia (*Strategija gospodarskega razvoja Slovenije, 2001*) emphasized the need to regard the environment as a factor of development, the conceptualization of protected areas as areas for development in Slovenia has usually been characterized in practice by a sharp distinction between conservation/protection and development.

Among existing areas under protection in Slovenia, the following types of environmental, social, and economic potential most often stand out: in the environmental

category, biodiversity, space-landscape, ecosystem services; in the social category, social inclusion, health, education; and in the economic category, employment and income, and opportunities for entrepreneurship. The advantages of particular preserved and protected areas differ among themselves and are dependent primarily on the following: basic resources, the nature of the local/regional economy, leadership structures, and the degree of engagement and inclusion of individuals.

From the development standpoint, recognition of the manifold and heterogeneous values of the areas under protection, which represent the potential of a particular region, is of crucial importance. The extent of this potential, and the manner in which all types of it are used, is of course dependent on different social factors. It is also important that an argument from an economic aspect is made for all types of potential in planning development, in support of the assertion that protection need not to be an obstacle to development (Slabe Erker, 2005).

Protected areas are thus areas of priority for the conservation of nature, but this does not mean they are areas of no economic interest or value. They need to be treated as areas for which conservation and protection is a priority but, at the same time, as areas for development having specific features, in particular as ones that are sensitive from the standpoint of nature conservation and environmental protection, and make up significant ecosystems. According to the proposal advanced by Grošelj (2008), the system of nature conservation in Slovenia should be strengthened through the inclusion of a "moderately anthropocentric" approach in the establishment of nature parks (in the valuation and preservation of natural monuments and cultural landscapes), with a corresponding de-emphasis of a one-sided, ecocentric approach. The Natura 2000 areas cannot replace the integrated preservation of nature, since some impacts are not problematic for biodiversity, but do threaten other natural values and the cultural landscape.

Other protected areas in Europe are characterized by a compromise in balancing development with the objectives of nature conservation, which of course are priorities for every nature park. According to Berginc (2006), economic branches in Slovenia that benefited the most from the creation of a park were agriculture and tourism (ecotourism, small businesses offering tourism services). Destructive forms of tourism and recreation, which damage nature and the environment, do not have a place in protected areas (Plut, 2006). The valuation of a space in terms of nature conservation is crucial, and it is especially important to verify the possibilities for ecotourism and recreation relative to especially valuable parts of nature (Šolar, 2006).

Since protected areas in Slovenia usually came into being due to exceptional natural values and great biodiversity, the most valuable endogenous development resources are natural resources, especially due to the exceptional and irreplaceable ecosystem role. The discovery and valuation of ecosystem functions, their significance for enhancing the welfare of residents and the sustainable functioning of all natural processes and preservation of biological integrity is an important protective and developmental task.

Due to the high share of protected areas and their rich landscape and biodiversity, these development opportunities are one of the priority strategic development tasks of the country of Slovenia and local communities within it. Economic development in protected areas should not be focused exclusively on creating wealth and employment, but at the

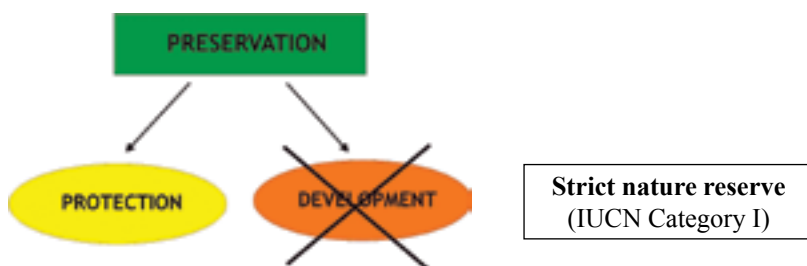
same time these considerations should not be neglected. It is necessary for local residents and agents of nature conservation activities in protected areas to have the same or even better development possibilities as elsewhere, since they are stewards of the most valuable environmental resources of the country. Otherwise, we can expect past negative trends such as lagging behind in development, depopulation, and overgrowth of the cultural landscape to continue.

In the heavily forested country of Slovenia, the continued reduction of agricultural ecosystems means a reduction in the country's ecosystem and landscape diversity. Intensive and non-sustainable use of environmental and other types of capital in protected areas, which might increase income in the short term, would over the medium term deplete and over the long term degrade the protective endogenous environmental developmental potential of these areas.

## DISCUSSION

The developmental activation of preserved and protected areas is dependent on the purposes and objectives of protection. If we want simultaneously to ensure protection and development over the long run, we can in a very simplified way refer to four groups of protected area. The first group consists of areas under a very strict protection regime in which no development activities of any kind are allowed, only research and, to a limited extent, educational activities. The second group consists of areas in which development and conservation goals are balanced, and the third group consists of areas in which conservation has priority over development, which is permitted to only a limited extent. The fourth group consists of areas that are most open to development and for which development is a priority. It is worth underscoring the fact that the contribution of preserved and protected areas to the broader protection of the environment and associated increase in the quality of life of the population is insufficiently emphasized not only in preserved and protected areas but also elsewhere.

### 1. Protected areas in which **protection excludes development.**



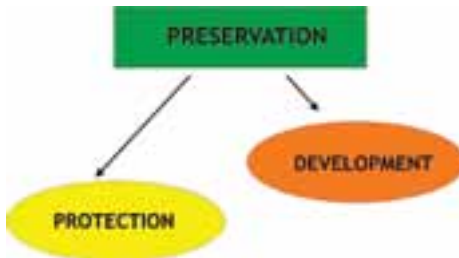
Geographical Identification of Development Potential for the Sustainable Development of Protected Areas in Slovenia

2. **Equilibrium:** protection and development are equally important.



**Regional and landscape parks**  
(IUCN Category V)

3. **Conservation-oriented protected areas:** protection has priority over development.



**National park**  
(IUCN Category II)  
**Natural monument**  
(IUCN Category III)

4. **Development-oriented protected areas:** development has priority, while respecting protection regimes and biodiversity and important habitats.



Areas in **Natura 2000**  
**Ecologically significant areas**

With respect to the main objective of the protection of a particular area, we defined the key opportunities for development according to the categories of preservation and protection (Tab. 4). Among activities, the two that are most frequently mentioned are recreation and tourism, which represent the most appropriate developmental possibility in the majority of protected areas. The exception is strict nature reserves, where preservation as the main objective is extremely important.

Tab. 4 Development potentials of preserved and protected areas of Slovenia

*Tab. 4. Razvojni potenciali očuvanih i zaštićenih područja Slovenije*

Categories of preserved and protected areas	Protection and conservation					Development possibilities						
	biodiversity	natural values	ecosystem services	cultural heritage	cultural landscape	research	education	recreation	tourism	agriculture	forestry	other economic activities
National park (II)	1	1	1	1	1	2	1	1	2	2	3	2
Regional park (V)	2	2	1	1	1	2	1	1	1	1	2	2
Landscape park (V)	2	2	1	1	1	2	1	1	1	1	2	2
Wilderness area (Ib)	1	2	1	-	-	1	1	2	3	3	3	-
Strict nature reserve (Ia)	1	3	1	-	-	1	2	-	-	-	-	-
Areas in Natura 2000	1	3	1	-	2	2	1	1	1	1	2	2
Ecologically significant areas	1	3	1	-	2	2	2	1	1	1	2	2

Objectives of protection: 1 primary, 2 secondary, 3 potential, - inappropriate

Development potential: 1 great, 2 moderate, 3 small, - non-existent

Development potentials of preserved and protected areas are to be found primarily in ecological farming, which enables the preservation of the cultural landscape and represents the highest quality sustainable form of farming, with minimal impact on the environment. In the framework of tourism, it is necessary to encourage environmentally friendly forms such as ecotourism, geotourism, cultural and educational tourism, and forms of recreation that have minimal negative environmental impacts. The research and educational role of preserved and protected areas is also becoming increasingly important.

## CONCLUSION

Sustainably designed planning of regional and spatial development of protected areas arises from the priority activation of development potential, which makes possible the conservation of bio and geodiversity and protection of the environment in the broader sense.

Present experiences in managing of different types of protected areas in Slovenia clearly show the deficiency of the integrated and systematic approach and this is reflected in present unsuitable managing systems and also in development of single protected areas.

## Geographical Identification of Development Potential for the Sustainable Development of Protected Areas in Slovenia

Therefore we focused our work in development of appropriate "tools" which would be helpful in the period of preparation and evaluation of protected areas management plans;

With the definition of values of development potentials and their components, we distinguished three types of values – direct applied value, indirect applied value and no applied value. This systematic approach in evaluation is extremely helpful in the process of sustainably designed planning of regional development in the protected areas as well as in the areas of Natura 2000. Currently, the types of potential with direct applied value are not in the forefront in the preserved and protected areas, but rather types of potential with indirect applied value and with no direct applied value.

Regarding the main objectives of protecting certain areas we not only systematically defined objectives of protection (biodiversity, other natural values, ecosystem services, cultural heritage and cultural landscape), but we also **classified the human activities** with respect to the sustainable development of single categories of protected areas.

Through our research on protected and preserved areas of sustainable development in Slovenia, it turned out that the social potential has an exceptionally important role. Without its activation it is not possible to pursue the very challenging simultaneous objectives of natural and cultural heritage protection on one hand and sustainable development on the other.

### REFERENCES

- Berginc, M., 2006: Vloga države pri spodbujanju in omejevanju turističnega razvoja v zavarovanih območjih, Turizem v zavarovanih območjih, Turistična zveza Slovenije, Ljubljana, p. 5-8.
- Curry, P., 2006: Ecological Ethics: An Introduction. Polity Press.
- Freedman, B., 1995: Environmental Ecology, Academic Press, San Diego.
- Environment Policy Review 2008, 2009: European Communities, Brussels.
- Erhartič, B., 2007: Reliefne oblike kot geodiverziteta (geomorfološka naravna dediščina), Dela 28, Ljubljana, p. 59–74.
- Gardner, G., 2010: Engaging Religions to Shape Worldviews, State of the World 2010, Worldwatch Institute, New York, p. 23-30.
- Gray, M., 2004: Geodiversity – valuing and conserving abiotic nature. Department of Geography, Queen Mary, University of London. London.
- Grošelj, A., 2008: Ocena metodologije ustanavljanja širših zavarovanih območij v Sloveniji (master's thesis), Biotehniška fakulteta, Ljubljana.
- Kirn, A., 1994: Od antropocentrične k ekocentrični etiki, Okolje v Sloveniji, Tehniška založba Slovenije, Ljubljana, p. 27–35.
- Kirn, A., 2004: Narava – družba – ekološka zavest, Fakulteta za družbene vede, Ljubljana.
- Lampič, B., Mrak, I., 2008: Vrednote, vrednosti in razvojni potenciali območij varovanja, Dela 29, Ljubljana, p. 145-159.
- Leveque, C., Mounolou, J., 2003: Biodiversity, Wiley, Chichester.

- Markandya, A., Harou, P., Bellu, L., Cistulli, V., 2002: *Environmental Economics for Sustainable Growth*, Edward Elgar Publishing Limited, Cheltenham.
- Medhurst, J., 2007: *A Thematic Evaluation of the Contribution of Structural Funds to Sustainable Development: Methods and Lessons*, Sustainable Development in Europe, Edward Elgar Publishing Limited, Cheltenham, p. 154-174.
- O'Neil, J., Holland, A., Light, A., 2008: *Environmental Values*, Routledge, London and New York.
- Pearce, D., 1994: *Measuring Sustainable Development*, Earthscan, London.
- Plut, D., 2005: Teoretična in vsebinska zasnova trajnostno sonaravnega napredka, *Dela* 23, Ljubljana, p. 59–114.
- Plut, D., 2006: Zavarovana območja in turistični napredek Slovenije, *Turizem v zavarovanih območjih*, Turistična zveza Slovenije, Ljubljana, p. 9-16.
- Plut, D., Cigale, D., Lampič, B., Mrak, I., Kavaš, D., Slabe Erker, R., Trebše, P., Pleterski, A., Štular, B., Pirnat, J., 2008: *Trajnostni razvoj varovanih območij - celostni pristop in aktivna vloga države: trajnostno gospodarjenje v varovanih območjih z vidika doseganja skladnejšega regionalnega razvoja: končno poročilo*. Ljubljana: Filozofska fakulteta, Oddelek za geografijo.
- Progress towards the European 2010 biodiversity target, 2009: European Environment Agency, Copenhagen.
- O'Riordan, T., 2004: *Beyond Environmentalism: Towards Sustainability, Unifying Geography*, Routledge, London and New York, p. 117-143.
- Slabe Erker, R., 2005: *Ekonomsko vrednotenje varovanja dediščine. Življenje v zavarovanih območjih*. Zbornik, Ljubljana, p. 11 – 19.
- Strategija gospodarskega razvoja Slovenije, 2001: UMAR, Ljubljana.
- Šolar, M., 2006: *Model ekoturizma v Triglavskem narodnem parku, Turizem v zavarovanih območjih*, Turistična zveza Slovenije, Ljubljana, p. 23-29.
- United Nations Environmental Programme (UNEP), 2009: *Ecosystem Management Programme. A new approach to sustainability*. <http://www.unep.org/ecosystemmanagement/LinkClick.aspx?fileticket=gbPVsoUCp-E%3d&tabid=311&mid=670> (4.1.2012)
- Vukadin, B., 2007: *Okolje na dlani*. Ministrstvo za okolje in prostor, ARSO. Ljubljana.

Received (Priljeno): 2010 - 09 - 16

Accepted (Prihvačeno): 2012 - 01 - 20



Geographical Identification of Development Potential for the Sustainable Development  
of Protected Areas in Slovenia

**Dr. Barbara Lampič**  
Department of Geography  
Faculty of Arts  
University of Ljubljana  
SI-1000 Ljubljana, Aškerčeva 2  
barbara.lampic@ff.uni-lj.si

**Dr. Irena Mrak**  
Department of Geography  
Faculty of Arts  
University of Ljubljana  
SI-1000 Ljubljana, Aškerčeva 2  
irena.mrak@siol.net

**Dr. Dušan Plut**  
Department of Geography  
Faculty of Arts  
University of Ljubljana  
SI-1000 Ljubljana, Aškerčeva 2  
dusan\_plut@t-2.net

