Impact factors on protected areas and management policies on a global scale

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Introduction

The issue of sustainability of protected areas has been, up to twenty years ago, on the margins of scientific research due to common perception that the protected natural areas are sustainable by their very existence. Tourism in general, including tourism in protected areas, which often has a prefix eco, inevitably changes and disturbs state of the environment by its existence in a certain area. The main impact of tourism is created by attracting tourists and their concentration on specific particularly attractive area, which brings consequences that signify the usual environmental pressures, such as: waste, wastewater, traffic and others (Growcock, Pickering, 2011). Infrastructure required for tourist activity irreversibly alters the natural, and social environments. Contact with tourism affects the way of life of the local population, socio-cultural identity and brings new structure of the local economy, which substituted the traditional activities. Accordingly, the question arises is tourism in the protected areas possibility or a challenge, at a time when modern trends of world tourism indicate growing interest in protected areas, which not only favours the development of a relatively undeveloped areas, but also generate considerable economic benefits (Dowling et al., 2013). Therefore, this paper examines the issues of sustainable development and management policies on the example of selected natural areas in the world.

Literature review

Sustainability of natural protected areas is largely dependent on the management which can be, if successfully directed and implemented, main method for conservation of the underlying phenomenon (Alexander, 2008). Negative impact factors are specific for each area, and thus a model of sustainable management of natural protected area must be specific for each area (Blackstock et al., 2006, Hobbs et al., 2009). Furthermore, management must be based on geographic particularities of space which is managed and associated with regional planning. Sustainability as a complex issue cannot be easily solved by focusing only on one of its dimensions (Dudley et al., 1999). Only integrative approach can solve the issues derived out of different impact factors. Therefore it is essential to recognize impact factors and prevent them if possible to minimize their effects (Hobbs et al., 2009).

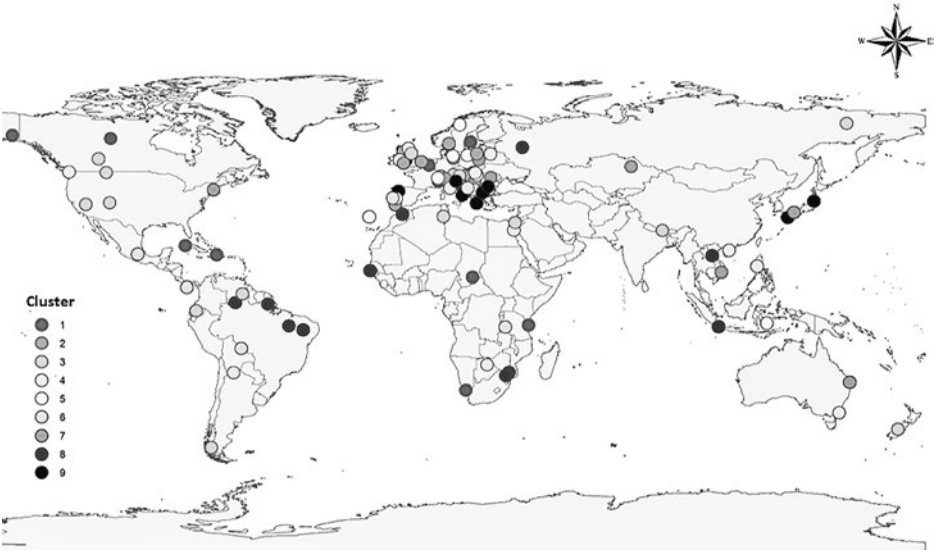
Impact factor determination

Within this framework of this research 114 protected natural areas were explored, out of which five strict nature reserves, four wilderness areas, 71 national parks, one natural monument, five habitat/species management areas, 19 protected land-

scapes, six areas with sustainable use of resources and six protected areas without the IUCN categorization. The focus of the research in selected areas were the factors (global, regional and local) effecting the sustainability, their geographic distribution, management models of protected areas and their effectiveness. Each of the analysed protected areas filled in the questionnaire in which they needed to evaluate 23 elements of endangerment and their impacts on the area at thelikert scale of 7 points. By using multivariate factor analysis five fundamental factors threatening the protected natural areas were extracted: 1. the impact on natural resources and water by anthropogenic pressures; 2. the impact on space and environmental by urban development and agriculture; 3. the impact on space and environmental by tourism development; 4. exposure to natural risks and demographic and socio-cultural changes; and 5.Exposure to extractive activities and risks due to hydro-technical interventions and consequences of war.

These factors were also analysed considering the links between certain factors and the frequency of their combination, which can be inferred from the differences that exist between clusters and the specifics of each cluster. Nine different clusters were determinated, while their distribution on a worldwide basis and names are visible in the picture 1.

In particular were considered the most common types of management in the world (according the IUCN): management by government, partnership management,



Picture 1. *Protected areas with regard to the clusters of impact, 1 - areas without major external influence, 2 - areas with expressed hydrological changes and resource exploitation, 3 - areas pronounced impact of the population, climate change and tourism, 4 - areas affected by population, climate change, urbanization and reduction of biodiversity, 5 - areas affected by tourism, waste and poor management of resources, 6 - areas of poor management of natural resources and waste management, 7 - areas with pronounced impact of tourism and urbanization, 8 - areas affected by urbanization, population, climatic and geological changes, 9 - areas without pronounced negative impact of all factors.*

private management, management by the local community and regional management.Analysis showed that an important role in the current modes of management has tradition of management. Newer models of governance, such as a partnership or private management for now are largely linked to the management of the lower category of protection (IUCN III, IV, V category) or for projects of association of existing protected areas. Through the analysis the most successful management (or rather the greatest success in the prevention of negative impacts) was demonstrated in areas managed by the local communities and private companies (although this does not apply for all analysed areas). The least efficient and insufficiently specific form of management proved to be regional management, which primarily lacks clear jurisdiction and control systems.

Conclusion

In conclusion, the two basic assumptions were verified: first, that the protected natural areas in the contemporary period are increasingly faced with the problem of anthropogenic impacts and consequent problems of sustainable development, and that the expansive development of tourism and related activities, above the carrying capacity is one the basic element of jeopardizing protected areas. There are different contemporary models worldwide for managing protected natural objects which are to a large degree based on specificities of these areas.Without specific use of tools of sustainable development, such as impact factors and indicators, fundamental problem issues of protected areas cannot be recognized, and therefore neither they can be quality and sustainably managed. Initiatives to establish indicators on global, national and local levels indicate that it is a necessary precondition for sustainable development, to materialize, measure and evaluate components of the environment as a concept of sustainable development does not remain just a general guideline.

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