

# AWARENESS RESEARCH CONCERNING THE EXISTENCE AND IMPLICATIONS OF THE AVRIG – SCOREI – FĂGĂRAŞ PROTECTED AREA

G. BRĂTUCU<sup>1</sup> M. S. DINCĂ<sup>1</sup> G. DINCĂ<sup>1</sup>

**Abstract:** *This article is based upon a survey conducted in the protected area of Avrig - Scorei - Făgăraş from Romania. The main purpose of the article is to determine the awareness, attitudes and ways in which the inhabitants of a protected area may act towards the conservation of the area and support the community development.*

*The research was based on a direct interview, using a questionnaire comprising 20 direct questions. The sampling method was probabilistic, with a multistage sampling, as it allows the possibility to extrapolate the results obtained for the entire research population. The systematic error is of +/-4%. The results showed a reduced awareness of the residents about the existence, functioning and support of this protected area, as well as a positive approach of the local public institutions involved in the management of the area. The local institutions have started to enforce the rules and regulations concerning the protection of the environment in this area, still with a long way to run, according to the opinions of the locals, until reaching the EU standards in this field.*

**Key words:** *protected areas, awareness, ecology, marketing, survey.*

## 1. Introduction

As defined by the International Union for the Conservation of Nature (IUCN), the protected area is a clearly defined geographical space, recognized, dedicated and managed through legal or other effective means to achieve the long-term conservation of nature with associated ecosystem services and cultural values (Dudley 2008). One basic objective of a system plan for protected areas is to effectively protect, develop and maintain representative samples of the various

biotopes in the areas where they are installed (Abuzinada, 2003). Indeed, the local communities' perceptions of the protected areas influence the kinds of interactions people have with them, and thereby conservation effectiveness (Allendorf et al. 2006; Ormsby and Kaplin 2005; Ramakrishnan 2007). Their perceptions of protected areas management also play an important role in their attitudes towards them (Alexander 2000; Adams and Hulme 2001; Holmes 2003; Picard 2003; McClanahan et al. 2005; Ormsby and Kaplin 2005). Understanding

---

<sup>1</sup> Faculty of Economic Sciences and Business Administration, *Transilvania* University of Braşov.

residents' perceptions about conservation is the key to improve the protected areas–people relationship if protected areas are to achieve their goals (Weladji et al. 2003). The increasing standards of education and enhanced communication and mobility have allowed citizens to have a greater influence upon the decisions affecting their lives, including the designation and management of protected areas (Lockwood and Kothari 2006).

The Carpathians in Eastern Europe are of outstanding importance for nature conservation (Knorn et al., 2012). The region has remained relatively undisturbed compared to Western Europe, is rich in biodiversity and provides a refuge for large mammal populations (Anfodillo et al. 2008). Romania has some of Europe's last remaining and most extensive primary forests (400,000 ha in 1984 diminished to 218,500 ha in 2004) (Veen et al. 2010) and harbours the largest European populations of brown bears (*Ursus arctos*), grey wolves (*Canis lupus*), and lynxes (*Lynx lynx*). Romania has implemented the EU Birds and Habitat Directive, aimed at enlarging and connecting protected area networks (Knorn et al., 2012). About 20% of the Romanian territory and about 10% of the country's forests are under some form of protection, including 13 national parks and 14 nature parks (Ioja et al. 2010).

Public support is vital if conservation efforts are to be successful. However, support for conservation efforts will only be engaged and maintained if the nature and goals of conservation activities are widely known, understood and accepted.

The main objectives of the research are (1) to establish the degree of awareness of the inhabitants concerning their protected area; (2) to determine whether the inhabitants are informed about the ecological activities undergone so far by the authorities and the ones that can be

implemented in the future with a view to protecting and conserving their protected area; (3) to find which are the economic, social, tourist and ecological advantages and disadvantages perceived by the inhabitants of an area declared as protected.

The rest of the paper is structured as follows. In the second section we present the Materials and methods used. The results are presented in Section 3, whilst the Fourth section is dedicated to Discussions. The final part of the paper deals with Conclusions.

## 2. Materials and methods

Our study aims to quantify the awareness of the rural population about the existence of the Avrig - Scorei - Făgăraş Protected Area, as well as their attitudes and opinions about the economical, social and ecological implications of this protected area.

### 2.1. Study Area

The Avrig – Scorei – Făgăraş protected area covers 2788.1 ha, it is declared a Natura 2000 and a bird protection site. 53% of its surface is covered with rivers and lakes, 15% are swamps and bogs, 15% are agriculture lands, 12% are pastures and 5% other arable land. The lands of the site covered by pastures and agricultural area are in private property, whereas the River Olt, the lakes, swamps and bogs are state property.

The site houses important protected bird species and the wetland habitats, consisting of marshes, canals and wet meadows, are ideal perimeters for their preservation. The total bird population of the site exceeds 30,000 – 40,000 individuals each year.

The Natura 2000 site status represents a gain of image, demonstrates European acknowledgement, the creation of a brand

which will lead to a better promotion of the local products and service, as well as the entry in the touristic circuit. The Natura 2000 program supports traditional agricultural practices in favour of biodiversity, which can become economically efficient by attracting European funding.

The inhabitants of the area need to understand the importance of this status, as well as the advantages that declaring the area as a Natura 2000 site can bring for the local community in which they live.

## 2.2. Method

The survey took into account direct interviews with a number of 508 subjects, based on a questionnaire, which contained 20 questions.

The sampling method is probabilistic, with multistage sampling, as it allows the possibility to extrapolate the results obtained for the entire research population. The systematic error is of +/-4%.

The research required six interview operators, who were previously trained in order to ensure the accurateness of the results, while 20% of the interviews were double-checked by phone to identify errors or non-compliance in performing the research.

The sample included residents from the townships and villages (rural population) in the Avrig - Scorei - Făgăraș region, respectively from Beclean township, Voila township + village Dridif + Sâmbăta de Jos, Viștea township + village Rucăr + village Olteț, Ucea township + village Feldioara, Arpașu township + village Nou Roman, Cârța township + village Colun and Porumbacu township + village Scoreiu.

The sample included both individuals from the aforementioned localities, as well as representatives of local institutions such as City/ Village Halls, Schools and Police Stations. The field collection of information was performed using six

interview operators who were trained in advance to collect as many responses as possible and all the information needed for this research.

About 20% of the conducted interviews were double-checked by telephone to identify any errors or circumvention of the rules stipulated in the specific guide that each operator received. Database survey was preserved and archived to ensure total transparency on their activities since the start of the survey until the finalization and attainment of the desired results.

The information gathered from the field were processed and analyzed using the SPSS program, which ensured the accuracy and quality of the survey data. The research took into consideration standard sampling criteria such as: age, sex and area of residence. It is important to note that in the final sample, the number of male respondents was of 50.8%, whereas the number of female respondents was of 49.2 %.

## 3. Results

Out of the 508 respondents, only 42.7% know the concept of protected area. (See Figure 1 below).

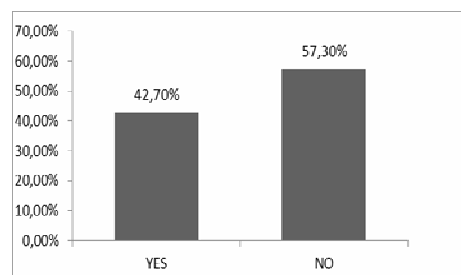


Fig. 1. *The level of knowledge of the concept of protected areas among respondents*

Source: Processing a Multi Consulting Group - Market survey on attitudes and opinions of rural population about the existence and awareness of the implications of the Avrig - Scorei - Făgăraș protected area.

For most of the subjects interviewed, a protected area is a “legally protected area where people are not allowed to destroy nature” (36.8% of all mentions), an “area to be kept clean, unpolluted” (14.1% of all the mentions), a “natural environment preserved, a reservation” (7.7% of all the mentions).

From the respondents’ perspective, the main advantages for the inhabitants of the regions included in a protected area are “cleaner air” (27.3%, 53 nominations), “health, quietness” (18.6%, 36 nominations) “space will be cared for to be cleaner and less polluted” (16.5%, 32 nominations), as seen in Figure 2 below.

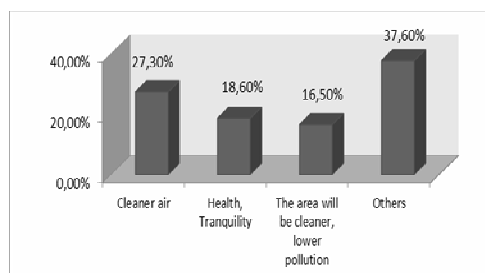


Fig. 2. *The main benefits perceived by the local residents from a protected area*

Source: Processing a Multi Consulting Group - Market survey on attitudes and opinions of rural population about the existence and awareness of the implications of the Avrig - Scorei - Făgăraş protected area.

Using the questionnaire, the interviewers obtained information about the extent to which the rural population has knowledge concerning the protected area and the implications of its existence. Only 28.1% of respondents knew that they were living

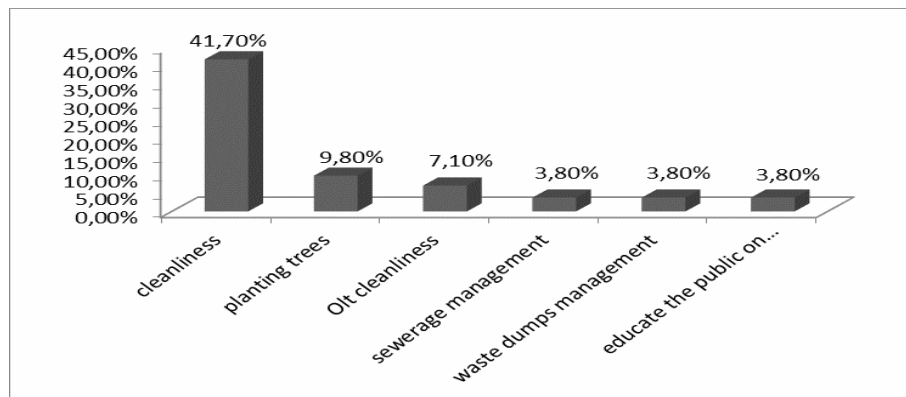
in a zone which is included in a protected area.

In this survey, the subjects interviewed provided answers about their perceived extent of this protected area. Also, the data provided contained information about the extent of the area, related delimitation and localities included in this protected area. 16.2% of respondents stated that the protected area covers an area of 5,000 ha, in their opinion. Only 16.2% of the subjects responded that the protected area has 2,000 ha, while 9.7% said that the area has a surface of 500 ha. Five interviewed subjects noted that the delimitation of the protected area is the “Avrig – Făgăraş area” and an equal number of respondents answered “The area along the river Olt”.

The most frequently mentioned localities as being part of the protected area, according to the respondents, are:

Voila - 9.0% of nominations,  
 Olteţ - 6.2% of nominations,  
 Porumbacu - 6.2% of nominations,  
 Viştea - 5.6% of nominations,  
 Arpaşu - 4.5% of nominations and  
 Scoreiu - 4.5% of the nominations.

Respondents also referred to the measures which could be taken to protect the environment in the area where they live, which are mainly related to “cleanliness” - 41.7%, “planting trees” - 9.8%, “cleanliness on the Olt river”- 7.1%, “sewerage management”- 3.8%, “waste dumps management”- 3.8%, and “education of the public on environmental protection” - 3.8%. (See Figure 3 below).



Source: Processing a Multi Consulting Group - Market survey on attitudes and opinions of rural population about the existence and awareness of the implications of the Avrig - Scorei - Făgăraș protected area.

Fig. 3 Measures that can be implemented to protect the environment

49.7% of respondents consider declaring the Avrig-Scorei-Făgăraș as a protected area “a very good idea”, 44.4% think “it is a good idea”, and 5.1% are of the opinion that it is “neither a good nor bad idea”. The subjects of the interview were informed about the measures that have been implemented to protect the environment. These actions are, in their opinion: “cleanliness” – 44.7%, “planting trees” – 12.0%, “selective garbage collection” – 8.0%, “action of cleaning the river” – 5.8%, “fining people who throw garbage in inappropriate places” – 5.3%, “environmental cleanup activities” – 4.0%, “waste dumps management” – 4.0%. (See Figure 4 below)

Respondents were asked to specify how (in their opinion) the establishment of the protected area will influence the region where they live. Thus, 64.8% of nominations refer to the positive influences

the establishment will have in the future, 6.9% of nominations indicate that more tourists will be attracted and 5.7% refer to a negative influence, but do not offer any more details in this sense.

Other influences of the protected area specified by the respondents are: healthy environment, regional development, cleanliness, air quality improvement, development of the flora and fauna, development of agriculture, increase of investors’ interest, prevention of the abuses to the forest environment, production of healthier products, development of agri-tourism, increase of employment. There were people who mentioned there are still activities contrary to nature protection, such as field burning of vegetation or pollution of rivers and their valleys, although they are told that it is a protected area.

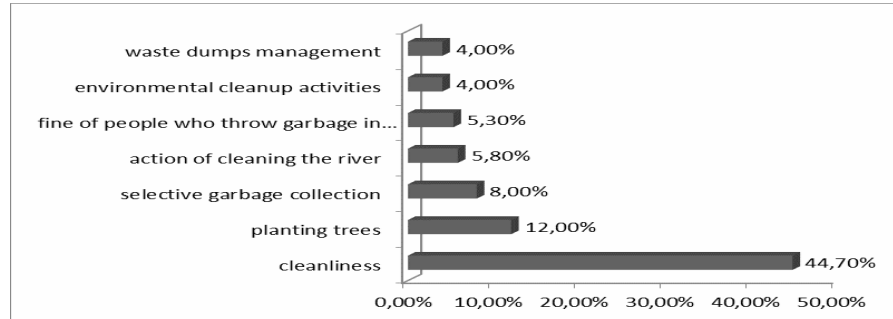


Fig. 4 Measures that have been implemented to protect the environment

Respondents were requested to present their opinion about the advantages for the residents of the protected area. These were identified as cleaner air and healthier living environment, followed by cleanliness, tourism development and even rise in the living standards.

Among the disadvantages, respondents mentioned it would get dirtier and the environment would not be protected, that there would be fishing restrictions and that land owners will be restricted in the use of land (as planting certain crops or using different herbicides in agriculture) or even the lack of investments in the area.

Around 99.2% of respondents said that local government would be involved in supporting measures for protecting natural areas and biodiversity conservation in the Avrig-Scorei-Făgăraş Area.

Most of those interviewed associated the protected area with clean air, healthy lifestyle, cleanliness, as the most common views. As it can be seen from the data presented, there were no people who knew the exact extent of the entire area, or of the bird protection site. Still there were respondents who could specify the boundaries of the site. Interviewers conducted the activity of information regarding the existence of the Avrig - Scorei - Făgăraş Site, its extent and the protected bird species living there or passing through. They also asked the locals

whether they had any knowledge of the activities being undertaken on the protection and conservation of biodiversity and about the inclusion of the natural area in the European Reservation Natura 2000. Since only certain representatives of the local institutions (Cârța Village Hall, Voila Village Hall and Arpaşu Village Hall) knew this fact, the rest of the respondents were made aware of that. The respondents were largely receptive to that information. Also, respondents had a positive attitude to this initiative, although they did not know the implications of establishing a protected area in the region where they lived. They were all hoping for an improvement in their living standards.

### 3. Discussions

In the opinion of the interviewed people, the main advantages for the inhabitants of the protected area would be cleaner air and healthier environment, followed by cleanliness, the development of tourism and increased living standards.

Amongst the disadvantages identified by the respondents, we can mention increased littering, lack of environment protection, prohibition of fishing, restricted use of the lands for agriculture, prohibition of certain crops and use of herbicides, as well as crowding out of local investments.

99.2% of the respondents stated that local administration should get involved in supporting the measures for protecting and conserving the biodiversity of the natural protected area of Avrig-Scorei-Făgăraș.

A large number of the questioned people associate the protected area with clean air, healthy living environment and cleanliness as the most frequent opinions. As we can see from the data presented, there was not a single person to know the exact surface (in ha) of the avifaunistic protected area; however there were individuals who could identify the delimitations of the protected area.

The interview operators also informed the respondents about the existence of the protected site, its extent and the protected bird species which inhabit or transit this area. They also informed the public about the measures undergone at the moment for the protection and conservation of the biodiversity of the natural area, as well as its inclusion in the European reservation of Nature 2000.

The interviewed persons were very receptive to this information and showed a positive attitude towards this initiative, although they did not know the implications of the creation of the protected area.

#### 4. Conclusions

Less than 50% of the respondents know the concept of protected areas, and for most, a protected area is an area protected by law, in which people are not allowed to destroy nature.

The main advantages resulted from the answers obtained were cleaner air, health, or reduced pollution. Most of those interviewed associated the protected area with clean air, healthy lifestyle, cleanliness, as the most common views.

The awareness of being inside a protected area is quite reduced, and an

information campaign is quite necessary to improve public awareness on this issue and to protect the declared areas.

Some of the measures mentioned to be taken to protect the area in question were keeping cleanliness, introduction and management of sewerage and landfills, planting trees and selective waste disposal. Most of the respondents considered that the creation of the protected area was a great idea and almost 50% of the respondents were informed and aware of the protection measures taken at the moment by the authorities.

Most of the interviewed consider that the state of the area and the measures already taken represent an advantage for the region, from the economic and social points of view, but also in terms of tourism, which is a very important aspect in this area.

Regarding the delimitation of opinions and responses of the places that took part in the survey presented, most locals consider that the status of a protected area is a real advantage for competitiveness, especially in terms of protecting the environment, and they consider it important in terms of tourism for the area.

However, an information campaign is necessary, to dramatically increase awareness of the importance of this status among the people living in this area and other interested parties.

#### References

1. Abuzinada, A.H.: *The role of protected areas in conserving biological diversity in the kingdom of Saudi Arabia*. In: *Journal of Arid Environments* 54, 2003, pp. 39–45.
2. Adams, W.M., Hulme, D.: *If community conservation is the answer in Africa, what is the question?* In: *Oryx* 35, 2001, pp. 193–200.

3. Alexander, S.E.: *Resident attitudes toward conservation and black howler monkeys in Belize: the Community Baboon Sanctuary*. In: *Environmental Conservation* 27, 2000, pp. 341–350.
4. Allendorf, T., Swe, K.K., Oo, T., Htut, Y., Aung, M., Aung, M., Allendorf, K., Hayek, L.A., Leimgruber, P., Wemmer, C.: *Community attitudes toward three protected areas in Upper Myanmar (Burma)*. In: *Environmental Conservation* 33 (4), 2006, pp. 344–352.
5. Anfodillo, T., Carrer, M., Valle, E.D., Giacoma, E., Lamedica, S., Pettenella, D.: *Current State of Forest Resources in the Carpathians*. In: *Activity 2.7: Forestry and timber industry*. Università Degli Studi Di Padova, Dipartimento Territorio e Sistemi Agro-Forestali, Legnaro, 2008.
6. Dudley, N.: *Guidelines for Applying Protected Area Management Categories*. IUCN, Gland, Switzerland, 2008, p. 86.
7. Holmes, C.: *The influence of protected area outreach on conservation attitudes and resource use patterns: a case study from Western Tanzania*. *Oryx* 37 (3), 2003, pp. 305–315.
8. Ioja, C.I., Patroescu, M., Rozyłowicz, L., Popescu, V.D., Verghelet, M., Zotta, M.I., Felciuc, M.: *The efficacy of Romania's protected areas network in conserving biodiversity*. In: *Biological Conservation* 143, 2010, pp. 2468–2476.
9. Knorn, J., Kuemmerle, T., Radeloff, V.-C., Szabo, A., Mindrescu, M., Keeton, W.-S., Abrudan, I., Griffiths, P., Gancz, V., Hostert, P.: *Forest restitution and protected area effectiveness in post-socialist Romania*. In: *Biological Conservation*, Volume 146, Issue 1, February 2012, pp. 204–212.
10. Lockwood, M., Kothari, A.: *Social context*. In: *Managing Protected Areas: A Global Guide*, Lockwood, M., Worboys, G.L., Kothari, A. (eds.). Earthscan, London, 2006, pp. 41–72.
11. McClanahan, T., Davies, J., Maina, J.: *Factors influencing resource users and managers' perceptions towards marine protected area management in Kenya*. In: *Environmental Conservation* 32, 2005, pp. 42–49.
12. Ormsby, A., Kaplin, B.A.: *A framework for understanding community resident perceptions of Masoala National Park, Madagascar*. In: *Environmental Conservation* 32 (2), 2005, pp. 156–164.
13. Picard, C.H.: *Post-apartheid perceptions of the Greater St Lucia Wetland Park, South Africa*. In: *Environmental Conservation* 30, 2003, pp. 182–191.
14. Ramakrishnan, P.S., 2007. *Traditional forest knowledge and sustainable forestry: a north-east India perspective*. In: *Forest Ecology and Management* 249, pp. 91–99.
15. Veen, P., Fanta, J., Raev, I., Biris, I.-A., de Smidt, J., Maes, B.: *Virgin forests in Romania and Bulgaria: results of two national inventory projects and their implications for protection*. In: *Biodiversity and Conservation* 19, 2010, pp. 1805–1819.
16. Weladji, R., Moe, S., Vedeld, P.: *Stakeholder attitudes wildlife policy and Bénoué Wildlife Conservation Area, North Cameroon*. In: *Environmental Conservation* 30, 2003, pp. 334–343.