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Environmental awareness among the rural population in Natura 2000 areas, with Bartoszyce and Sorkwity communes as an example

Świadomość ekologiczna mieszkańców obszarów wiejskich na obszarach Natura 2000 na przykładzie gmin Bartoszyce i Sorkwity

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Abstract

The aim of this study was to learn about environmental awareness among the inhabitants of communes in which Natura 2000 areas had been designated. Field study with the use of an interview questionnaire was conducted in 2013 in two communes of Warmińsko-Mazurskie province, namely Bartoszyce and Sorkwity. The study involved a total of 61 inhabitants. The obtained results demonstrated that despite the actual presence of various forms of environmental protection within the areas under study, the depth of knowledge in the subject concerned was relatively low among the local population. Research shows that the respondents perceive the need for pro-environmental measures; however, they rarely take those measures themselves, unless they can see economic profits in it. Even though more than half of the respondents have heard the name Natura 2000, majority of them know nothing thereof.

Streszczenie

Celem badań było poznanie świadomości ekologicznej mieszkańców gmin na terenie których wyznaczono obszary Natura 2000. regionów włączonych do Europejskiej Sieci Ekologicznej NATURA 2000. Badania terenowe z wykorzystaniem kwestionariusza wywiadu zostały przeprowadzone w 2013 r. w dwóch gminach woj. warmińsko-mazurskiego, Bartoszycach i Sorkwity. Łącznie objęto nimi 61 mieszkańców. Otrzymane wyniki pokazały, że pomimo faktu występowania na badanych obszarach wielu różnych form ochrony środowiska, poziom wiedzy mieszkańców na ten temat jest relatywnie niski. Z badań wynika, że respondenci dostrzegają konieczność działań prośrodowiskowych jednak sami rzadko je podejmują, chyba że widzą w tym zysk ekonomiczny. Mimo, że ponad połowa badanych spotkała się z nazwą Natura 2000, to jednak większość z nich nie posiada na ten temat żadnej wiedzy.

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1. INTRODUCTION

Approx. one-third of the area of Poland is covered with a system of protected areas. In 2004, the act on environmental protection, taking into account the requirements of the European Union legislation, introduced a new form of a protected area, namely European Ecological Network Natura 2000. The idea of the network is based on the commonly known ways of environmental protection and the integration of environmental protection toward the social and economic development. Its functioning centres around the preservation of nature elements, which provided the basis for the establishment of the areas concerned in an unchanged condition. Natura 2000 is considered to be the most comprehensive environmental protection programme in Europe. Even though the protection of any given area within Natura 2000 network does not exclude the economic use thereof, the popular opinion among both the inhabitants and entrepreneurs is that Natura 2000 areas hinder the socio-economic development.

The aim of the study is to learn of the level of knowledge and environmental awareness among the inhabitants of Bartoszyce and Sorkwity communes situated in Warmińsko-Mazurskie province, in which Natura 2000 areas were established.

2. RESEARCH MATERIAL AND METHODS

Field study was conducted in 2013 within two communes of Warmińsko-Mazurskie province, namely Bartoszyce and Sorkwity, in which the following Natura 2000 areas: SPA "OstojaWarmińska" and SPA "PuszczaPiska" were established. Sixty-one inhabitants of both communes were included in the study (40 in Bartoszyce commune, and 21 in Sorkwity commune). The basic research method was the questionnaire method supplemented with a direct survey.

3. RESULTS AND DISCUSSION

Inhabitants of Bartoszyce and Sorkwity communes, selected for the study, belonged to various social and professional groups, of which the most numerous were farmers (37.7%) followed by non-specified inhabitants (13.1%) and grey-collar workers (11.5%).

As for the age structure, the largest group of respondents was aged 45–54. The largest group was people with secondary education (44.3%), followed by people with higher education (19.7%). Over 98% respondents from both communes perceived the need for environmental protection. The most significant reasons for

that, as provided by the respondents, were concern for both their own and family members' health, and the generations to come. Only every fifth respondent was of the opinion that nature is a value in itself (Table 1). Such a social attitude is confirmed by Marcysiak [2006] who claims that the quality of life in rural areas is only associated to a small degree with the beauty of the natural landscape; actually, it is associated with existential and social conditions instead. On the other hand, Perepeczko [2011] and Dembek [2012] take into account the need for making greater use of the economic motivation, which may have positive effects due to the society's perception of the relationship between the condition of the environment and the development opportunities of particular villages and regions.

In Poland, as in other European countries, the conviction persisted for decades that agriculture, as a sector of the economy, has either no effect or a very limited effect on the natural environment. Over time, however, people have begun to notice that agricultural production, in particular, the intensive and large-scale production, affects the environment just like the other sectors of the economy. The study results demonstrated that the inhabitants of both communes selected for the study also were of the same opinion. In most cases, the effects in question were evaluated as being "more negative than positive". However, distinct differences were noted between the communes in this regard. In Bartoszyce commune, this opinion was shared by 52.5% respondents, while in Sorkwity commune, only 19% respondents held a similar view.

The most frequently provided example of the negative effects of agriculture on the natural environment was the use of mineral fertilizers and plant protection products (Table 2). Interesting results in this regard were obtained by Marcysiak [2006]. A study conducted within Kujawsko-Pomorskie province revealed that 44% farmers were of the opinion that the majority of representatives of this professional group were not aware of legal provisions concerning environmental protection, and those who knew them, often infringed them intentionally.

Another issue that concerned the respondents' opinion was who should, in the first instance, take measures aimed at the improvement of the condition of the environment in their area of residence. The study showed that the vast majority of respondents were of the opinion that this was primarily the task of local authorities and themselves. The respondents placed considerably less confidence in environmental organisations and local entrepreneurs (Table 3). In a study similar to the one conducted by Perepeczko [2012], the respondents also indicated the members of local inhabitant community, primarily including local entrepreneurs. On the other hand, Kulczyk and Lewandowski [2014] are of a different opinion, and primarily draw attention to non-governmental and voluntary organisations. According to those authors, the structures of the organisations concerned, being less burdened with bureaucracy, are most closely linked to the problems and directly associated with their effects and consequences. This provides a possibility for both more effective educational measures

Table 1. The need for environmental protection in the respondents' opinions

| Specification | Bartoszyce | | Sorkwity | | Total | |
|---|------------|------------|----------|------------|----------|------------|
| | n | % | n | % | n | % |
| Yes, protection is necessary for the following reasons | 39 | 97.5 | 21 | 100.0 | 60 | 98.4 |
| Concern for own and family members' health | 29 | 72.5 | 17 | 81.0 | 46 | 75.4 |
| Concern for the generations to come | 26 | 65 | 16 | 76.2 | 42 | 68.9 |
| Nature is a value in itself | 7 | 17.5 | 6 | 28.6 | 13 | 21.3 |
| Depletion of resources | 9 | 22.5 | 1 | 4.8 | 10 | 16.4 |
| Saving money | 6 | 15 | 2 | 9.5 | 8 | 13.1 |
| No | 1 | 2.5 | 0 | 0.0 | 1 | 1.6 |
| It is difficult to say | 1 | 2.5 | 0 | 0.0 | 1 | 1.6 |

Source: Own research.

Table 2. The effects of agriculture on the condition of the natural environment in the respondents' opinions

| Specification | Bartoszyce | | Sorkwity | | Total | |
|---|------------|-------------|----------|-------------|-----------|-------------|
| | n | % | n | % | n | % |
| Yes, it has an effect | 27 | 67.5 | 9 | 42.9 | 36 | 59.0 |
| Only positive one | 0 | 0 | 2 | 9.5 | 2 | 3.3 |
| More positive than negative | 8 | 20 | 2 | 9.5 | 10 | 16.4 |
| More negative than positive | 21 | 52.5 | 4 | 19.0 | 25 | 41.0 |
| Only negative one | 0 | 0 | 1 | 4.8 | 1 | 1.6 |
| Depends on the chemicals used | 18 | 45 | 5 | 23.8 | 23 | 37.7 |
| Depends on the population of breeding animals | 1 | 2.5 | 0 | 0.0 | 1 | 1.6 |
| Maintains meadows in good condition | 1 | 2.5 | 0 | 0.0 | 1 | 1.6 |
| No, it has no effect | 0 | 0 | 4 | 19.0 | 4 | 6.6 |
| It is difficult to say | 11 | 27.5 | 8 | 38.1 | 19 | 31.1 |

Source: Own research.

Table 3. An opinion on who should primarily take measures aimed at the improvement of the condition of the environment within the respondents' areas of residence

| Specification | Bartoszyce | | Sorkwity | | Total | |
|---|------------|------|----------|------|-------|------|
| | n | % | n | % | n | % |
| Local authorities | 30 | 75 | 18 | 85.7 | 48 | 78.7 |
| Commune inhabitants | 29 | 72.5 | 14 | 66.7 | 43 | 70.5 |
| Environmental organisations | 6 | 15 | 3 | 14.3 | 9 | 14.8 |
| Entrepreneurs from the commune area | 4 | 10 | 2 | 9.5 | 6 | 9.8 |
| "Green" political parties | 2 | 5 | 2 | 9.5 | 4 | 6.6 |
| Central authorities | 2 | 5 | 1 | 4.8 | 3 | 4.9 |
| Provincial authorities | 1 | 2.5 | 2 | 9.5 | 3 | 4.9 |
| Local partnerships, Local Action Groups | 2 | 5 | 1 | 4.8 | 3 | 4.9 |

Source: Own research.

aimed at local communities and strengthening the position for independent checking of the observance of environmental protection rules by the authorities and business entities.

Considering the above context, the issue of pro-environmental measures taken by the respondents themselves was of prime importance. As follows from the data included in Table 4, the most frequently declared ones included: reduction in electricity consumption, waste sorting, and reduction in water consumption. The respondents much less frequently reported the perception of environmental hazards. With regard to the last case, only inhabitants of Sorkwity commune did so constantly. Against this background, results of the study as conducted by Marcysiak are completely different. The author concluded in 2006 that 80% of the people included in the study declared paying attention to the environmental hazards, and only 4% did not respond while claiming that this was not their task.

Nearly 46% respondents were unaware of the presence of protected areas or objects in their place of residence. When considering the issue with regard to the communes under study, a

significant difference was noticed in the level of knowledge on the areas or objects being subject to legal protection. In Bartoszyce commune, only 20% respondents were aware of the subject; however, in most cases, they referred to natural monuments. Similar results were obtained by Graja [2005] who concluded that over 27% respondents could not name any protected area being located within the vicinity of their residence. A completely different situation was observed in Sorkwity commune. The majority of respondents living in that area were aware of the presence of such forms of environmental protection as a landscape park, nature reserve, or nature park in their vicinity (Table 5).

A significant issue as addressed in the study was learning the respondents' awareness of Natura 2000 network. It follows from the data included in Table 6 that 52.5% respondents had heard of such a form of environmental protection. In this regard, distinct differences between both communes were observed. In Sorkwity commune, 85.7% respondents were aware of Natura 2000, while in Bartoszyce commune, only 35% respondents were aware thereof. However, in many cases, it only came down to the knowledge of

Table 4. Measures of the respondents who attempted to implement them over the last year

| Specification | Bartoszyce | | Sorkwity | | Total | |
|--|------------|------|----------|------|-------|------|
| | n | % | n | % | n | % |
| Reduction in electricity consumption | | | | | | |
| Constantly | 25 | 62.5 | 15 | 71.4 | 40 | 65.6 |
| Sometimes | 12 | 30 | 1 | 4.8 | 13 | 21.3 |
| Never | 1 | 2.5 | 5 | 23.8 | 6 | 9.8 |
| Reduction in water consumption | | | | | | |
| Constantly | 25 | 62.5 | 10 | 47.6 | 35 | 57.4 |
| Sometimes | 9 | 22.5 | 3 | 14.3 | 12 | 19.7 |
| Never | 4 | 10 | 8 | 38.1 | 12 | 19.7 |
| Waste sorting | | | | | | |
| Constantly | 25 | 62.5 | 13 | 61.9 | 38 | 62.3 |
| Sometimes | 10 | 25 | 2 | 9.5 | 12 | 19.7 |
| Never | 4 | 10 | 6 | 28.6 | 10 | 16.4 |
| Reporting the perceived environmental hazards | | | | | | |
| Constantly | 0 | 0 | 6 | 28.6 | 6 | 9.8 |
| Sometimes | 7 | 17.5 | 0 | 0.0 | 7 | 11.5 |
| Never | 29 | 72.5 | 15 | 71.4 | 44 | 72.1 |

Source: Own research.

Table 5. The respondents' knowledge of the presence of protected areas in their vicinity

| Specification | Bartoszyce | | Sorkwity | | Total | |
|------------------------------|------------|------|----------|------|-------|------|
| | n | % | n | % | n | % |
| I do not know | 25 | 62.5 | 3 | 14.3 | 28 | 45.9 |
| There are no protected areas | 8 | 20 | 3 | 14.3 | 11 | 18.0 |
| Natural monuments | 6 | 15 | 4 | 19.0 | 10 | 16.4 |
| Water protection area | 0 | 0 | 9 | 42.9 | 9 | 14.8 |
| Landscape park | 0 | 0 | 9 | 42.9 | 9 | 14.8 |
| Nature reserve | 0 | 0 | 7 | 33.3 | 7 | 11.5 |
| Nature park | 0 | 0 | 6 | 28.6 | 6 | 9.8 |
| Natura 2000 | 2 | 5 | 1 | 4.8 | 3 | 4.9 |

Source: Own research.

Table 6. The respondents' level of knowledge on Natura 2000 network

| Specification | Bartoszyce | | Sorkwity | | Total | |
|---|------------|------|----------|------|-------|------|
| | n | % | n | % | n | % |
| Yes, I know that form of protection | 14 | 35 | 18 | 85.7 | 32 | 52.5 |
| No, I do not know that form of protection | 25 | 62.5 | 3 | 14.3 | 28 | 45.9 |
| I have no opinion | 1 | 2.5 | 0 | 0.0 | 1 | 1.6 |

Source: Own research.

Table 7. Respondents' opinions on the restrictions relating to Natura 2000 network

| Specification | Bartoszyce | | Sorkwity | | Total | |
|------------------------|------------|------|----------|------|-------|------|
| | n | % | n | % | n | % |
| Local economy | | | | | | |
| yes: | 5 | 12.5 | 5 | 23.8 | 10 | 16.4 |
| no | 34 | 85 | 16 | 76.2 | 50 | 82.0 |
| Local community | | | | | | |
| yes: | 3 | 7.5 | 6 | 28.6 | 9 | 14.8 |
| no | 36 | 90 | 15 | 71.4 | 51 | 83.6 |
| Respondent | | | | | | |
| yes: | 3 | 7.5 | 3 | 14.3 | 6 | 9.8 |
| no | 36 | 90 | 18 | 85.7 | 54 | 88.5 |

Source: Own research.

the name. The respondents, when asked for clarification, provided either vague answers such as "environmental protection" or "ecology" or answers totally unrelated to Natura 2000.

The last issue was that of restrictions relating to Natura 2000 network. It follows from the study that a vast majority of respondents noticed no problems with that. Occasional indications concerned the restrictions associated with the extension of a farm or business. Such a situation was confirmed in a similar study as conducted within both Podlaskie and Warmińsko-Mazurskie provinces [Gotkiewicz, 2014].

4. SUMMARY

The respondents selected for the study belonged to various social and professional groups, of which the most numerous were farmers. Nearly all inhabitants of both communes perceived the need for the natural environment protection. Admittedly, this primarily resulted from their concern for themselves, with the conservation of unique natural resources being of less significance.

However, the most important fact is that, regardless of the reasons, inhabitants of rural areas have begun to perceive the issues relating to the environment. This is also confirmed by the more and more frequent linking of agricultural activity with negative effects on the environment, which, until quite recently, used to be rare in Poland.

Despite the perceived need for active environmental protection, the respondents rarely took such measures themselves, and even if they did, their motivation was much more of economic than environmental nature.

Even though both communes are characterised by the presence of various forms of environmental protection, the level of most respondents' knowledge on the subject is virtually non-existent. The same situation is observed with regards to Natura 2000 areas. Although more than half of the respondents know the name, they are not able to precisely describe that particular form of environmental protection. Perhaps this is due to their ignorance that most respondents do not see any restrictions relating to social and economic development in the areas located within the network.

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