

ECOLOGICAL AWARENESS OF STUDENTS IN THE LIGHT OF SURVEYS

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Abstract: The paper is an attempt to determine the condition of ecological awareness – pro-environmental attitudes of students from Poland and Slovakia, as well as correlation between the pro-environmental attitude declared by the youth and their place of residence. Apart from willingness to get to know beliefs, opinions and the condition of knowledge in many particular issues related to the subject, the paper has the following purposes: to learn dependence between personal features of people and the condition of their ecological awareness, to determine the degree of consistency of beliefs in different matters relating to the examined problems, to compare the force of interaction of particular sources of information on particular population categories.

Keywords: ecological awareness, survey research

INTRODUCTION

Intensifying ecological hazard stimulates growth in interest in the issues of environmental protection. In the professional literature and in the mass media discussions are held on the causes of ecological hazards as well as on the ways of overcoming them. More and more publications are issued about improvement in ecosystems, making them resistant to different forms of anthropogenic load. Technique and technology are improved from the point of view of their environmental impact. Research on biotechnologies develops dynamically. A man intensively watches nature and learns solutions more perfect than so far available.

Environmental protection becomes a problem that affects every individual to a smaller or greater extent.

The condition of the society's ecological awareness, their knowledge, attitudes, opinions, habits and resulting behaviours are not neutral to the protection of natural environment. A man's daily life is in the direct proximity of nature and his actions often directly affect it.

Ecological awareness has many meanings and definitions, depending on field of science. The notion was used in the Polish literature for the first time by Z. Hull, according to whom it is "a unique, shaping form of social awareness, which is present both in thinking and experiences of people and valuation and functioning of biosphere"¹. Another definition presents ecological awareness as "a set of information and convictions about the natural environment and perception of the relations between the condition and the character of the natural environment and the conditions and quality of human life"². According to another definition, it is "the understanding of nature in our life and the understanding of the place and role of a man in nature. It results in learning his needs whose satisfying is necessary for life, effects of activities of a man who uses nature resources and reasons for disturbing the balance of ecosystems"³.

In order to characterize the condition of ecological awareness, reference can be made to two categories introduced by T. Burger, namely: pro-environmental attitude and ecological indifference. The pro-ecological attitude is represented by individuals who opt for environmental protection in a determined way, while among people showing the attitude of ecological indifference he distinguished several groups:

- a group favourable for environmental protection, however, not demonstrating a clearly pro-environmental attitude,
- a group of neutral people who are not interested in this field and do not regard addressing environmental protection as necessary;
- group of people who notice problems of ecology but, at the same time, manifest a belief that time to solve them has not come yet;
- a group of conscious opponents of environmental protection⁴.

¹ Kowalska M. [2011] Socjologiczne aspekty badania świadomości ekologicznej. *Krakowskie Studia Małopolskie*, 15, 383-396, Toruń.

² Burger T. [2000] Ecological awareness of the Polish society on the eve of the 21st century. Institute for Sustainable Development, Warsaw, Report 1.

³ Wolański N. [2008] *Ekologia człowieka. Ewolucja i dostosowanie biokulturowe*, vol. 2. PWN, Warsaw.

⁴ Kowalska M. [2012] Postawy proekologiczne i ekologicznej obojętności mieszkańców małopolskiej wsi. *Krakowskie Studia Małopolskie*, XVII (17), 51-64.

PURPOSE OF THE PAPER

Apart from willingness to get to know beliefs, opinions and the condition of knowledge in many particular issues related to the subject, the paper has the following purposes:

- To learn dependence between personal features of people and the condition of their ecological awareness,
- To determine the degree of consistency of beliefs in different matters relating to the examined problems,
- To compare the force of interaction of particular sources of information on particular population categories.

MATERIAL AND METHOD

The paper is an attempt to determine the condition of ecological awareness – pro-environmental attitudes of students from Poland and Slovakia, as well as correlation between the pro-environmental attitude declared by the youth and their place of residence.

The surveys were carried out in 2013. They covered a group of randomly selected 126 students of the University of Agriculture in Krakow (Lesser Poland) and the Slovak University of Agriculture in Nitra (Nitra land). The applied scheme of sampling and a sufficiently big test size of the sample provide its representative character, and consequently – conclusions drawn on its basis can be referred to the whole analysed population.

A research tool was a questionnaire prepared by the author in accordance with valid requirements for building forms for surveys⁵.

The questionnaire consisted of 20 questions. These were mostly "closed-end" questions, often called categorized questions, questions with a choice or cafeteria, requiring the respondent to select answers from a ready set. Some questions were giving the respondent total freedom of statement, i.e. The possibility of adding own answer to the asked question.

The form consisted of two parts. The first included characteristics of the respondent (age, sex, education, evaluation of financial situation by the respondent). The second part contained questions that define views of the surveyed in environmental issues. These were questions addressed to the respondent with regard to:

- Development of civilization and hazards involved,
- Condition of the natural environment,

⁵ See S. Mynarski [1986] *Metody badań marketingowych*, AE Krakow; Frankfort-Nachmias Ch., Nachmias D. [2001] *Metody badawcze w naukach społecznych*", Zysk i Ska, Poznań; Zajac K. [1971] *Zarys metod statystycznych*, PWE, Warsaw.

- Interest in environmental problems,
- Environmental values and attitude to nature.

After collecting filled in questionnaires, the empirical material was subjected to computer processing, as a result the following was obtained:

- Percentage distributions of answers,
- Statistical dependences between some variables, using the χ^2 independence test⁶.

The statistical analysis was conducted by means of spreadsheet Microsoft Excel 2007, among others, with the use of pivot table report.

When examining dependences that may occur between the studied features in the general population the χ^2 independence test was used.

RESULTS

The surveys were conducted among the students of the University of Agriculture in Krakow and the Slovak University of Agriculture in Nitra. The survey involved participation of 126 students including 96 women and 30 men who were 76.19 and 23.81% of the examined sample, respectively. The respondents were aged between 21 and 30. The respondents were students of the following majors: Economics and Management of the University of Agriculture in Krakow (62 individuals - 49.2%), as well as of the Slovak University of Agriculture in Nitra (64 individuals - 50.8%).

In the analysed group, 43 students (36.5%) assessed their financial situation as sufficient. This assessment was most common among the surveyed. 36 students (28.6%) assessed their financial situation as good and 39 as sufficient. Extreme assessments, i.e. Very good and bad appeared at 6.4% of the surveyed (3 and 5 individuals, respectively).

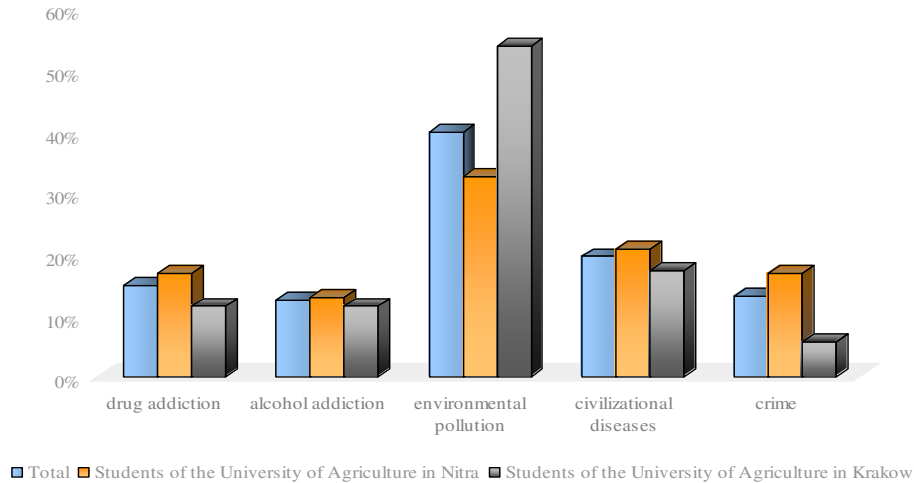
The natural environment of a man is "a value recognized" and declared, widely common in the Polish and Slovak society. This declared positive attitude to nature is not however fully reflected in specific choices of environmental values and behaviours proving relationships with nature. In the event of selection, when it is truly necessary to give up basic goods of civilization to protect nature or only contact with it the ecological values often lose. Some goods of civilization as e.g. A car are so attractive that they win over nature even at the level of verbal declarations.

Firstly, the opinions of respondents about the current condition of environment will presented; are we optimists or pessimists. In the opinion of the surveyed poisoning of the environment is one of the major civilization-related hazards (Figure 1). Almost 40% of the surveyed list this negative phenomenon as the first and only 9.1% puts it on the last place. The respondents believe that the development of civilization contributes to adverse changes in nature.

⁶ see J. Greń, „Statystyka matematyczna. Modele i zadania”, PWN, Warsaw, 1976.

68% of students from Krakow and 89% students from Nitra are of this opinion. Positive impact is noticed only by 4.7% and 1.5 % of students of the surveyed universities. Other individuals do not have an opinion on this subject.

Figure 1. Most important civilization-related hazards according to the surveyed



Source: prepared by the authors on the basis of survey data

It turns out that the respondents' opinions on the condition of the environment do not depend on sex ($\chi^2 \approx 5.155 < \chi^2_{\alpha=0.05} = 5.991$), nor on the place of studying ($\chi^2 \approx 4.063 < \chi^2_{\alpha=0.05} = 5.991$).

Table 1. Respondents by expressed opinions on the condition of the environment in the country in the past five years and place of studying (in %)

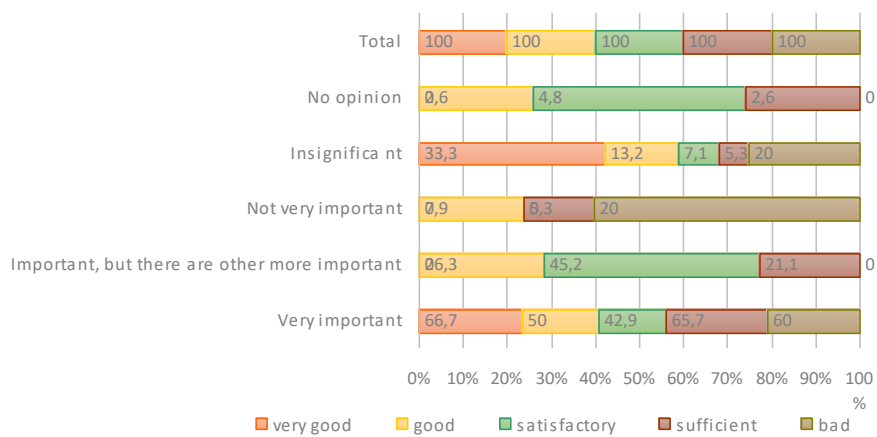
Condition of the environment	Place of studying		Total
	Slovak University of Agriculture in Nitra	University of Agriculture in Krakow	
improved definitely	0.0	9.7	4.8
improved a bit	1.6	32.3	16.7
is the same	37.5	16.1	27.0
is a bit worse	42.2	38.7	40.5
is definitely worse	18.7	3.2	11.0
Total	100.0	100.0	100.0

Source: prepared by the authors

Opinions expressed do not depend on the degree of wealth of the surveyed people ($\chi^2 \approx 2.352 < \chi^2_{\alpha=0.05} = 5.991$). Distribution of interest in the condition of the environment is presented in Table 2. The most numerous group – 106

respondents are individuals for whom the condition of the natural environment is important. Students who define their financial situation as fair and bad are not less interested in the condition of the environment than more wealth students.

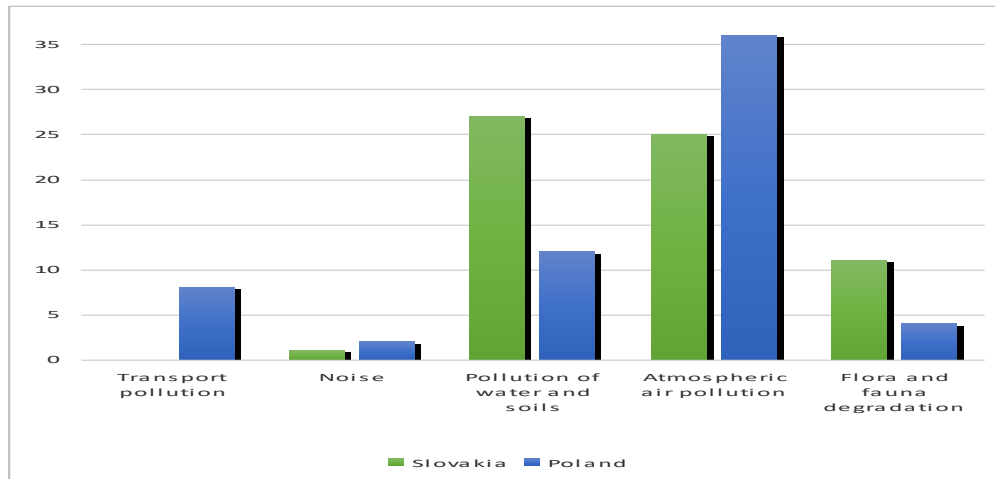
Figure 2. Respondents by interest in the condition of the environment and evaluation of financial situation (in %)



Source: prepared by the authors

As the most significant problems associated with the natural environment, the respondents listed in the first place atmospheric air pollution (58.1% of students of the University of Agriculture in Krakow and 39.1% of students of the Slovak University of Agriculture in Nitra) and pollution of water and soils (19.6% and 42.2%, respectively).other students pointed out to the degradation of the world of plants and animals, transport pollution and noise (Figure 2).

Figure 3. The most important problems associated with the environment according to the surveyed

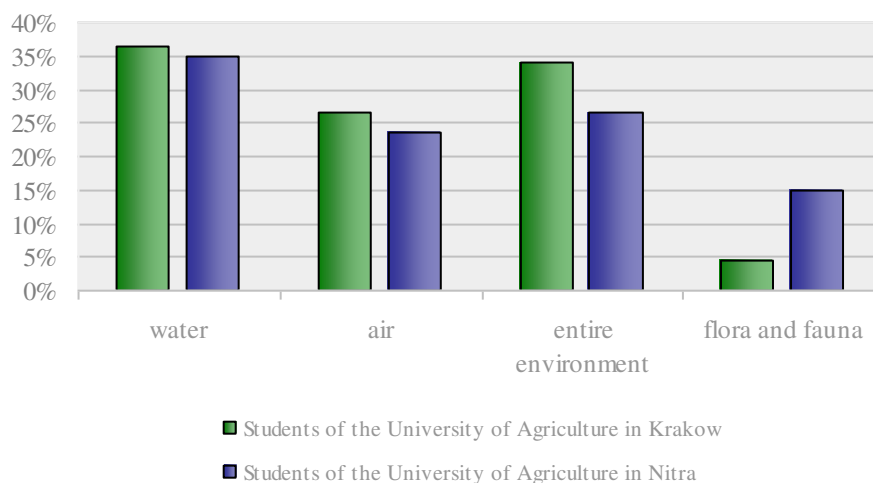


Source: prepared by the authors on the basis of survey data

Trends related to the anxiety about the condition of the natural environment are more visible when we compare the answers to the question: "would you grant voluntary funds for environmental protection?" the answer does not depend on sex ($\chi^2 \approx 0.013 < \chi^2_{\alpha=0.05} = 3.841$), place of origin ($\chi^2 \approx 1.370 < \chi^2_{\alpha=0.05} = 3.841$) and wealth of the surveyed ($\chi^2 \approx 5.926 < \chi^2_{\alpha=0.05} = 5.991$) people, regardless of the above listed features, are ready to grant voluntary funds for environmental protection.

On the other hand, in the answer to the question: "what would you grant money for environmental protection for?" all the respondents emphasized water quality (36.7% students of the University of Agriculture in Krakow, 35.2% of students of the Slovak University of Agriculture in Nitra), on the second place the entirety of environmental issues was mentioned (26.7% and 23%, respectively) (Figure 4).

Figure 4. Which elements of the environment would you grant money for?



Source: prepared by the authors on the basis of survey data

ATTEMPT TO ASSESS ECOLOGICAL AWARENESS OF THE SURVEYED

With the wish to get to know ecological awareness of the society, we can assume that we will encounter internally consistent set of beliefs and attitudes. We have to be aware of the difference between statements and actual behaviours⁷. We are dealing with two forms of awareness: declared and executed. Although, the first one predisposes an individual to certain behaviours, but is not determinant for them. Galiński explains these differences as follows: "dissonance between verbal and actual behaviours in the ecological sphere and preferences for instrumental environmental values are a sign of careless attitude of the Polish society to the surroundings at all – not only to the natural environment"⁸. And in fact it is difficult to call a person whose behaviour comes down only to verbal declarations as ecologically conscious. After all, ecological awareness comprises, according to sychut and chmielewski: an emotional-evaluating component (the adopted system of values), a behavioural component (needs, postulates in connection with the use of

⁷ Mydlak M., Szafranek R. C., Trebnió D. (1994) Społeczno-kulturowe uwarunkowania świadomości ekologicznej rolników [in:] Doradztwo w ekorozwoju obszarów wiejskich, AR in Szczecin, ATR in Olsztyn, Szczecin.

⁸ Dobrzańska B., Dobrzański G., Kielczowski D. (2008) Ochrona środowiska przyrodniczego. Wydawnictwo Naukowe PWN. Warsaw.

environmental resources , as well as various forms of activity for natural protection), and a cognitive component (having a vision and deepening of knowledge)⁹.

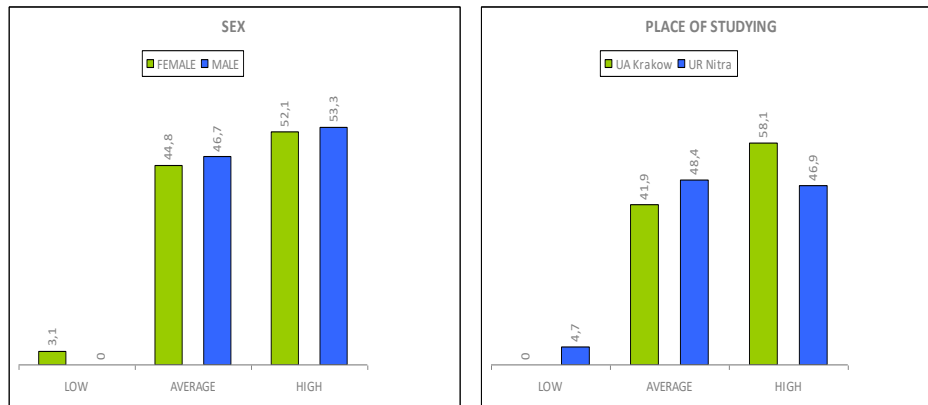
Compliance between the declared and performed contents depends largely on the importance attained to a given issue by the social environment of the individual¹⁰. It affects depth of interiorization of a respective norm and force of social pressure, forcing its observance.

Actual behaviors, due to their direct results, are of greater importance, however, research on them involves many difficulties. Since they are largely dependent on the attitude declared, the research is based on this attitude.

When characterizing the condition of ecological awareness of a given respondent their various statements were brought to one, general assessment, which allowed placing a given individual as compared to other respondents. For this purpose, from among 20 questions from the questionnaire questions were selected that determine in some way views of the respondent on environmental issues and which each (regardless of age or education) should be able to answer. The respondent giving "the right" answer to the selected question receives one point. Total points, after converted into a one-hundred-point scale are a "pro-environmental attitude index". The respondents were grouped by growing value of the index and divided into three groups with low, average and high index.

The applied index allows comparing with each other groups of respondents separated by various criteria. The average "pro-environmental attitude index" for the total surveyed was 68.3%, 73.3% for students of UA Krakow and 64.5% for students of UA Nitra.

Figure 5. "pro-environmental attitude index" in groups by sex and places of studying (%)



Source: prepared by the authors.

⁹ Kowalska M. (2011) Socjologiczne aspekty badania świadomości ekologicznej. *Krakowskie Studia Małopolskie*, 15, 383 – 396, Toruń.

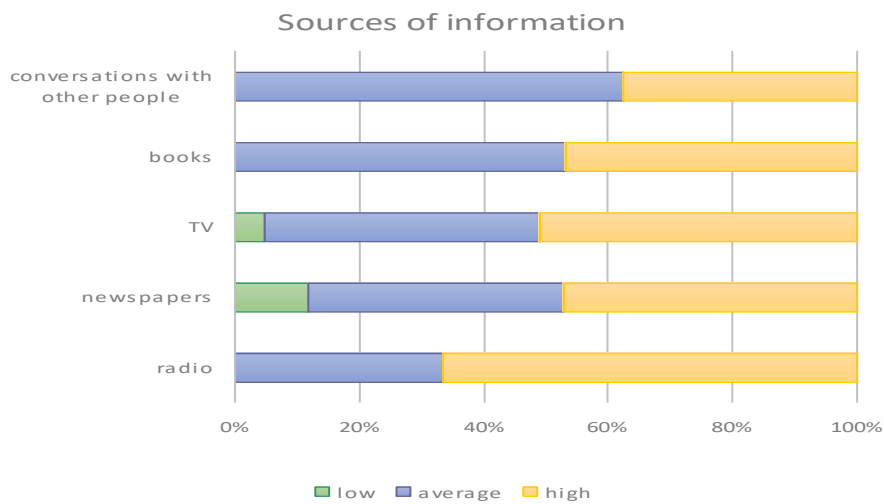
¹⁰ Moskal S. (1995) Świadomość ekologiczna mieszkańców wsi, *Więś i Rolnictwo*, 4.

Analysing the distribution of the level of "pro-environmental attitude index" by sex and places of studying of the respondents (Table 3), as well as verifying independence of these features by a test χ^2 , it can be concluded that the index level does not depend on the listed features ($\chi^2 \approx 0.014 < \chi_{\alpha=0.05}^2 = 3.841$), ($\chi^2 \approx 0.935 < \chi_{\alpha=0.05}^2 = 3.841$).

Awareness of hazards expressed in the surveys is very high: the respondents declare interest in environmental issues and feel responsible for the condition of the natural environment. This is, however, partially declared interest. The findings of our surveys indicate that only 7.9% of the respondents claim that they do not do anything detrimental to the environment, however 38.1% did not select waste.

The condition of ecological awareness includes both knowledge and beliefs. Sources of information which reaches the respondents with "pro-environmental attitude index" were compared. It turns out that that tv prevails over any other sources of information. Among the surveyed 48.4% pointed to television as the main source of information. In the group of low value of "pro-environmental attitude index" the share of particular information carriers is scant. Analysing this phenomenon, it is possible to indicate a medium which should be used for ecological education of the society.

Figure 6. Sources of information in groups of respondents by "pro-environmental attitude index" (%)



Source: prepared by the authors

CONCLUSIONS

From the analysis of surveys conducted among students of the Agricultural Universities in Kraków and Nitra it seems that:

1. most often the respondents believe that development of civilization contributes to adverse changes in nature,
2. 68% of students of the University of Agriculture in Krakow and 89% of students of the Slovak University of Agriculture in Nitra were of the opinion that development of civilization has a negative impact on the natural environment condition,
3. among the most endangered elements the respondents mentioned in the first place water, and only on the second place the entirety of environmental issues,
4. almost 21.5% of the surveyed were of the opinion that within five years the condition of the natural environment in the country improved,
5. high value of "pro-environmental attitudes index" enables indicating vast number of pro-environmental attitudes, at least declared.

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