

Comprehensive ecological education as a determinant factor of regional competitiveness

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ABSTRACT: Everyone agrees that environment protection has become the key human survival issue. One cannot thus underestimate the role of education on ecology. The pro-ecology attitude should be promoted both among children and youth, as well as among adults in case of whom the process may be considerably more difficult. Considering the development of certain Polish local councils (*gminas*) one may state that they implement environment protection systems efficiently and thus increase their regional competitiveness. Regional environment protection management is definitely simpler than the global one. If well organised, *gmina* authorities may develop a truly successful policy on the problem. One of the determinant factors for success in this area is education on ecology for *gmina* inhabitants, without which even the best project would fail if not supported by the citizens concerned. In the present paper, the authors present the role of ecological education in the development of particular *gminas* that are members of the Długoszyn *Gmina* Association-12.

INTRODUCTION

The natural environment, economy and society form a mutual relation of sustainable development aimed at maintaining balance between these elements (see Figure 1).

It is mostly national governments that are responsible for creating conditions that engender sustainable development, as they (together with society or non-governmental organisations) form sustainable development strategies, plans and programmes. Also, universities, primary and secondary schools, as well as non-governmental organisations, the media and local authorities play an important role in this endeavour.

Research indicates that local authorities have the greatest executive power as far as education on ecology is concerned

[1]. Society usually burdens local councils (*gminas*) with the responsibility for improving natural environmental conditions (see Figure 2) and highly values the efficiency of action (see Figure 3).

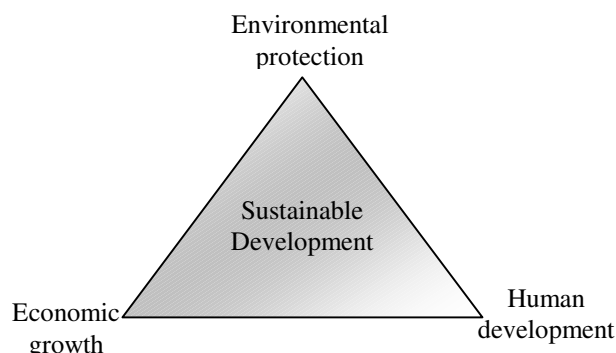


Figure 1: The concept of sustainable development – mutual relations and dependencies.

The increase in the importance of local and individual actions is accompanied by lesser expectations towards the national authorities. It should be stressed that decisions undertaken by local governments directly influence human places of habitation and are thus greatly supported by local citizens.

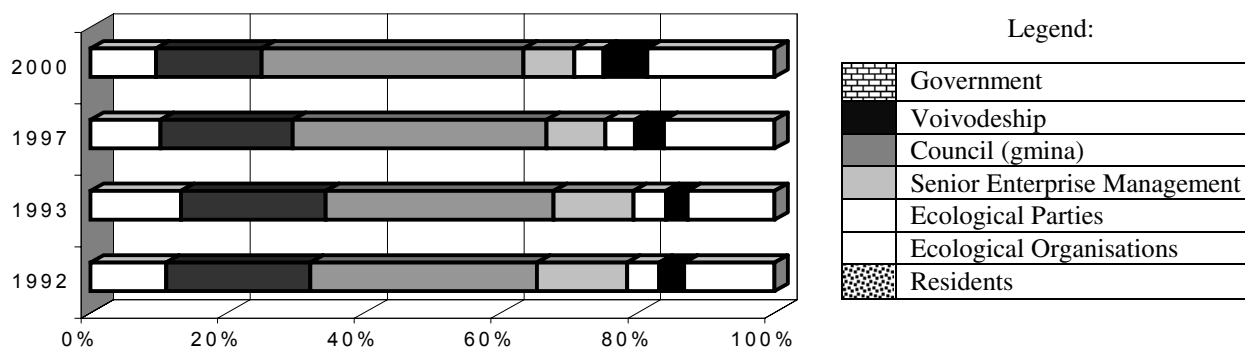


Figure 2: Responsibility for actions aimed at environmental protection in the years 1992, 1993, 1997 and 2000 (n=190) [1].

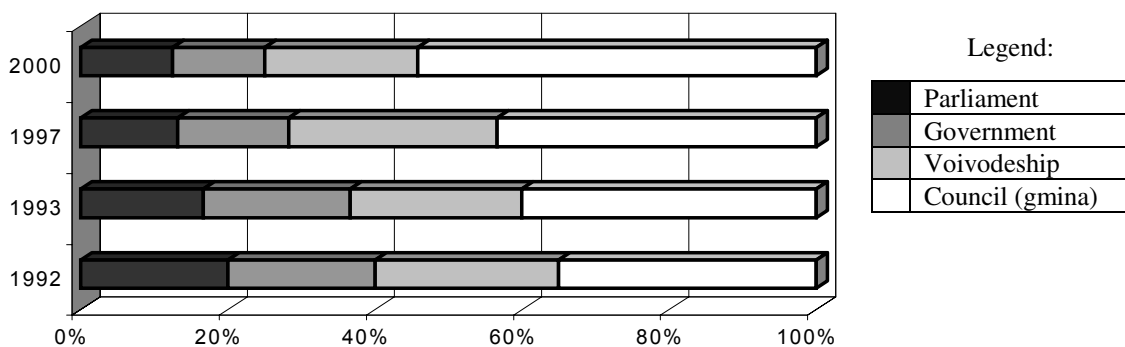


Figure 3: Responsibility for environmental protection actions in 1992, 1993, 1997 and 2000 – major authorities (n=190) [1].

Territorial governments are responsible for environmental protection and ecological education. They have to define the priorities and forms of education that take into account the special characteristics of a particular region, local identity and culture [3].

Poland is becoming a country that respects the need to manage natural resources; this relates to limiting the use of non-renewable resources or prohibiting actions that result in any damage to the environment [3]. National development must include actions that are aimed at protecting the natural environment so that future generations inherit it in a condition that is no worse than it is today. As such, one should search for methods of coexistence with nature, keeping in mind human responsibility for all forms of life on Earth.

COMPREHENSIVE EDUCATION IN ECOLOGY

Comprehensive education in ecology is one possible solution to the problems that are related to urbanisation, motorisation, industrialisation, informatisation and ecosystem exploitation. Educational needs concern equally children, youth and adults.

National authorities should include education concerning ecology into citizenship education, aiming at the development of a society that can achieve the following:

- Accepts the principles of sustainable development;
- Is able to evaluate ecological safety;
- Participates in decision processes [3].

Ecological education should slowly enter the curricula of staff who manage the environment. It becomes not only an inseparable element of the whole education process, but also a constituent of informational policies, economic strategies or health care systems. Gradually, it enters all areas of social life. Reforming the education system cannot change all of society, as it concerns young people only, yet it is the adults who decide on the environment.

Formal Ecological Education

Formal ecological education is a part of school and university curricula. Thus, it is offered within an organised educational system. However, education should begin already in kindergartens that support parents in shaping children’s personalities. In order to achieve this aim, the curricula for kindergartens should be modified to include these topics, and teachers should know and understand pro-ecology teaching tools and methods.

Reform of the Polish education system has enabled teachers from primary and secondary schools to put the necessary emphasis on environmental protection issues. However, the question arises as to whether they have taken advantage of this possibility? Ecological topics and issues are discussed in the curricula of numerous subjects. Thus, it is not only teachers, but also pupils and parents, who participate in the acquisition of this knowledge.

In the case of universities, the number of studies offering comprehensive knowledge on environment protection (natural conditions, social contexts, environment protection technologies, etc) is scarce. As a result, some graduates know a lot about nature, but do not understand the technical, social and economic conditions that are related to the subject [3]. On the other hand, those who possess the knowledge on environmental technologies know little regarding natural and social factors.

Comprehensive studies are thus necessary for all, beginning from kindergarten teachers up to academic staff. Moreover, such studies may be recommended for raising the level of general knowledge. Teachers should develop their interest in ecological education and gradually introduce new teaching methods to students.

The last element of the system is education for adults, which seeks to engage the greatest possible number of people in decision-making processes. Society should be informed that, according to binding law, they have the right to co-decide on the state of the environment. Outside the formal education system (comprising universities, postgraduate studies, courses, trainings, etc), it is the local governments that play the major role in spreading ecological education. It is here that the role of the informal education system begins.

Informal Ecological Education

Informal ecological education has been offered for years by, for example, non-governmental organisations, the media, churches, social organisations, etc, and has resulted in people acquiring greater knowledge of society and environmental conditions, and on actions that may be undertaken by individuals. Increasingly more citizens feel responsible for the state of the local environment.

At the beginning of the transformation period in Poland, society could be characterised by the following aspects:

- Lack of any knowledge on ecology: no system of ecological education at schools;

- Strong fear resulting from (among others) the Chernobyl syndrome;
- The helplessness of an individual in the face of huge national industry plants [1].

As already mentioned, the situation has greatly improved. Polish society now pays greater attention to environmental protection issues. As a result, it has developed ecological awareness, meaning that it has attained some knowledge that economic development processes should not disturb the natural balance and that the environment should be protected from further degradation.

PARTICIPATION BY LOCAL COUNCILS (*GMINAS*)

The growth of social awareness of the environment has been accompanied by an increased scope of responsibility on the side of local authorities. In many cases, local councils (*gminas*) have met the needs of citizens and implemented comprehensive environmental protection programmes.

The CZG-12 Gmina Association

A good example to follow is the CZG-12 Gmina Association (see Figure 4), which was established in 1997 and targets environmental protection. The CZG-12 Gmina Association comprises the following *gminas* (Lubuskie Voivodeship): Cybinka, Dębno, Górzycyca, Kostrzyń n/Odrą, Krzeszyce, Lubniewice, Międzyrzecz, Ośno Lubuskie, Rzepin, Sulęcín, Słońsk, Torzym and Witnica. Their major aim is to carry out a comprehensive regional waste management programme.

Ecology and environmental protection issues and concerns are the basis for cooperation among *gminas*. After the administrative reform of 1990, most of them have been faced with serious problems that are related to, for example:

- Water supply: a great part of rural areas had no access to drinking water;

- Water protection: sewage ran directly into rivers or soil;
- Waste management: municipal waste was mostly stored in temporary dumps for years.

In this case, 13 *gminas* united their resources in order to implement the Complex Regional Waste Management Programme. Although the plan has been already accomplished, the *gminas* continue to cooperate. Presently, the tasks of the CZG-12 include the following:

- Education of society;
- Waste management;
- Training,
- Waste segregation and recycling;
- The recultivation of old dumps.

In 2002, the Municipal Waste Utilisation Plant, which serves all the *gminas*, began its operation.

Another challenge faced by the CZG-12 is water and waste management, as well as the introduction of cycling paths.

Presently, most *gminas* associated in the CZG-12 manage their own sewage treatment plants, recultivate old dumps and modernise boiler rooms. Also the water supply problem has been solved – inhabitants may now use common waterworks.

Achieving all of the above-mentioned objectives necessitated great discipline and organisational skills, both on the part of the local authorities and on the part of local society. All the mayors agree that they would not have succeeded without the support and understanding of the citizens involved.

Already at the beginning of the process, the authorities assumed education to be the foundation of eco-development. Only the common actions of all people concerned, undertaken on a daily basis, may stop environmental degradation, improve the quality of life and ensure better perspectives for future generations.



Figure 4: The location of the CZG-12 on the map of Poland.

The pro-ecology actions of the CZG-12 include the following:

- Education, training and seminars;
- Business activities;
- *Clean the World* actions;
- Campaigns;
- Conferences and press conferences;
- The coordination of contests, camps, trips, etc.;
- The organisation of exhibitions;
- Cooperation and information exchange;
- Waste collection.

The priority is education for children and youths. However, there are also educational programmes for older citizens. Schools organise numerous ecological contests, while pupils participate in *Clean the World* activities, take care of municipal parks and gather re-usable materials. The Ecological Contest organised in Sulęcín is a very popular competition in which children and youths present their knowledge on ecology and waste segregation, eco-fashion and environmental protection themes and slogans. As far as adults are concerned, gminas organise contests for the nicest town, household or Christmas decoration.

The segregation of waste is also promoted among the inhabitants of the area. Education is thus combined with practice. The success of waste segregation depends upon the attitude of society. As such, any educational programme must be multidimensional and apply several different methods. Ecological education in this sphere comprises the development of educational materials for children and youths, leaflets for adults and training for teachers and municipal officers. Also, the media are encouraged to promote such activities to local society, including through educational leaflets (see Figure 5).



Figure 5: A leaflet promoting waste segregation.

Permanent ecological education has been offered since 1998. Education here is understood as a dialogue with citizens (conducted via all the media) concerning environmental protection actions. This education is ensured on all levels and applies all the means and resources possible. It should be aimed at all social groups, and at both children and adults. A responsible attitude towards the environment, as well as the success of the CZG-12's actions, depends on it. While planning educational and promotional actions, the Association has, so far, applied Ekolog Systems solutions.

Ecological Education Concept

On the basis of the experience gained, the Association has also developed its own Ecological Education Concept. Strong emphasis has been placed on providing education to advance recycling. One cannot implement a Complex Regional Waste Management Programme, including waste segregation, without ecological education. The Association suggests certain

solutions and actions for gminas and local societies. Examples here may include a division of local society into different target groups of education or pro-ecology teaching tools that enable teachers to reach everybody.

Different Forms of Education

Reaching the greatest possible number of citizens necessitates various forms of education, as well as correct techniques and tools. The methods applied have to motivate people to be active and creative [4]. The Association applies different forms of action aimed at children and adults (leaflets, books, trainings, picnics, fair, exhibitions, contests, *green schools*, *green kindergartens*, *eco-lessons*, etc). Local society, as well as local and regional non-governmental organisations, participate in these forms of educational programmes.

It should not be forgotten that one key success factor was the competence of local authorities. Gmina representatives are effective in achieving common objectives and possess the ability to secure the funding required for pro-ecology purposes.

The effects of the eco-development programme and the ecological education are very positive. Due to their location (close to the German border), the gminas offer special conditions for agriculture, food processing, trade or tourism. Enterprises that have already been established are being modernised and new possibilities are offered. In practice, these actions are related to the following: a reduction of the present and elimination of the future pollution of water, soil and air.

The region also offers a wide variety of plots of land for development. For instance, the gmina of Sulęcín is one of the 40 most attractive towns for investors in Poland. Small and medium-sized, as well as large, enterprises will find something special there [2]. New investors also mean increased employment opportunities. The region discussed is also attractive for tourists, having beautiful scenery, clean lakes, agribusiness centres and clean air attract tourists searching for rest and relaxation.

SUMMARY

In summing up, it should be stressed that promoting the ecological awareness of citizens is a determinant factor for success in the case of actions that are aimed at environment protection and the elimination of damage to the natural environment (certain products or services). Due to the above, shaping the values, beliefs and attitudes of both the young and the old towards environmental protection plays a key role in comprehensive ecological education.

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