Chapter 8

Cezary Kowalczyk

Sustainable Development in the Context of Changes in the Ecological and Economic Awareness of Society

1. Introduction

Although the development of space in which people exist is carried out in a planned manner, for spatial planning activities the analysis of economic and ecological effects is often carried out only with a focus on the interest of the planned function, while disregarding neighbouring areas. One of the tasks of spatial planning is to situate the investment project in the "intact" space which has not yet been developed, as well as in space that has already been shaped in a certain way.

The most drastic human impact can be observed in farming areas intended for investments. An investor, when making a decision about implementing a project, carries out an economic analysis to determine potential profits. The analysis is mainly based on examining location factors affecting the success of economic and environmental investments, and the sum of these factors can be referred to as **primary location**. Leśniak (1985) defined the meaning of individual location factors as being:

- dependent on the social and political system, the level of natural resources, the level of workforce, the general level of the economy of a given country and technological advancement,
- different for individual branches and industries,
- variable in time and space.

The meaning of some location factors increases with time, e.g. water, earth, qualified workforce, concentration, while it decreases in the case of other factors, such as transport, unqualified workforce.

The scope of the above presented analyses does not include costs related to interference in nature. Is this caused by the low ecological awareness of society?

Or should it be legally required to take into account the "interests" of nature at the planning stage?

The article presents discussions concerning the idea of sustainable development in the context of ecological and economic values. To compare the essence of the above mentioned values, the notion of the awareness of people who create economic and ecological value is used.

The environment in which we live and from which we derive natural resources for further processing is a renewable, but certainly not unlimited, asset, and the way in which we will use it depends on awareness of space participants and legal regulations resulting from this awareness. This will restrict certain activities, but also demand behaviour facilitating reconstruction of the natural environmental.

2. Evolution of spatial planning

People make decisions based on needs they want to satisfy. The type and the range of needs met by a planned activity are related to general comprehension. In the previous century, the concept of development focusing on economic profits prevailed in human awareness. Spatial planning, as one of the elements of spatial management, was carried out based on the economic theories described in works by Thünen, Weber, Predöhl, Palander and Lösch. Profits should be understood as savings in production costs, which means that the manufacturing of a specific product in a given point or area is related to lower expenditures than in any other point or area. A. Weber regards the following elements as basic factors for production location: transport, workforce and agglomeration, considering the former to be the decisive factor and the latter two as substitutes. T. Palander, B. Ohlin, A. Lösch and other location theoreticians also list land, raw materials and energy, competition and market, e.g. After World War II, P.S. Florence and E.M. Hoover emphasized the role of the production concentration factor. They focused on the location benefits caused by production concentration and considered them to be the most important location factor for modern industry. Location theories are related not only to purely economic considerations, but also to sociological and psychological issues (after Leśniak, 1985).

According to Domański (2002), spatial management emerged as an economic discipline to complete and develop the theory of economics, which previously described phenomena and processes in an aspatial manner. Therefore, it can be understood as the theory of economics enriched with a spatial dimension, which does not permit to identify spatial management only with real property management and results in the natural environment being taken into account to a limited extent (Domański 2002).

In practice, various attempts to apply a new, multi-disciplinary approach to spatial and economic research were carried out, initiated by Walter Isard and known as regional studies. The practical results of those studies include: creation of urban an environment favouring the creativity of people and enterprises, promoting social and economic development of towns and regions, expressing interests of local communities, reconciling unit interests with common welfare,

following environmental changes under the influence of economics, formulating suggestions improving the quality of environment, etc. (after Hopfer, Sobczak, 1998).

However, those studies marginalized the issues of environmental protection. A certain breakthrough has been observed in recent years, with the introduction of the idea of sustainable development which led to significant changes in the approach of scientists, politicians and representatives of economics to mutual relations between economics and ecology.

On 1st March 2005, the United Nations proclaimed the Decade of Education for **Sustainable Development**, entrusting UNESCO with the mission of promoting and coordinating activities in support of the integration of principles, values and practices aiming at respecting human dignity, observing diversity, protection of natural environment and resources of the Earth (Kostecka 2009).

3. Economic awareness

The idea of economic awareness, as well as of ecological awareness, is the effect of information activities focused on man. A growth of economic awareness is one of the consequences of the system transformation in Poland. Investors and communes began to stimulate the economic growth of the economy. Local economic growth is not possible without economic awareness of local inhabitants. It can be assumed that development of economic awareness is a process as a result of which local government and investors increase the quality of life for local residents, therefore forming a "new community" and creating an economic process. The local government reaches this aim directly, e.g. by planning the effective use of local resources, including the creation of new workplaces. Fundamental issues in local economic growth are to:

- acquire new investors,
- support the creation of new companies,
- support the development and expansion of already existing companies.

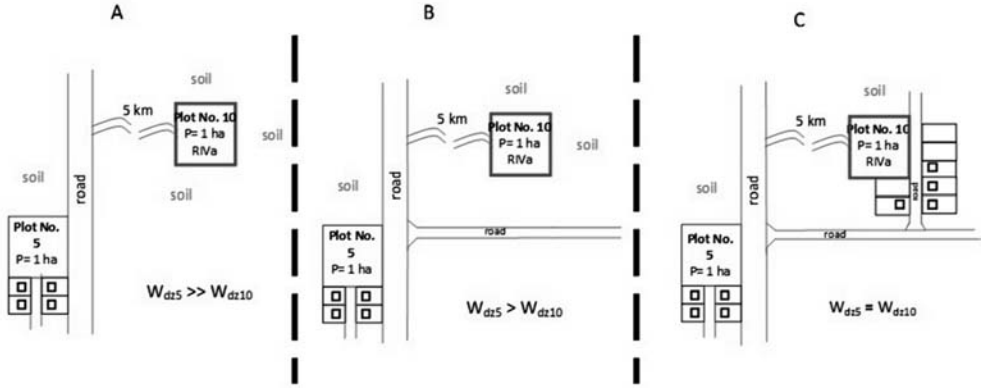
One of the vital, primary issues related to running a business activity is the choice of its location. An investor should look for the best possible place for carrying out the activity. This is the matter of adjusting the type, the manner and the size of production/services to the proper location. Two viewpoints can therefore be observed here: the first one, from the perspective of the company, which assesses the climate and investment attraction of a given place as an investor; and the second one, from the perspective of the territorial unit (commune, region or country), which offers specific location values. The subject matter of the investment location is very broad. It makes up a part of broadly understood spatial management and enterprise economics, but also, due to its spatial dimension – economic geography (Budner 2007).

An example of various levels of awareness concerning the economic value of properties in the market is presented in Figure 1. People living in a certain space

assess this space through the prism of the knowledge they have about various components of this space.

Figure 1 presents two plots, No. 10 and No. 5, situated in certain location, in a spatial situation marked with the letter A. Let us assume that technical and functional parameters (apart from location) are the same for those two plots. Economic awareness will cause that people will be willing to pay more for plot No. 5 (the market value of plot No. 5 is much higher than the market value for plot No. 10 - Wdz5>>Wdz10) due to better location (easy access, availability of infrastructure) for future possible investments (e.g. construction of detached houses).

What is the reason why similar elements of space (shape, area, type and class of land) are differently assessed by people? Location factors bring about the diversity in market values of plot No. 5 and No. 10. The situation marked with the letter B shows the case in which there is no such difference in values. The participants do not differentiate the value of plots No. 5 and No. 10 to the same extent as in Figure A. The situation marked with the letter C presents a similar location of plots, and consequently, the market values of plots are comparable.



Notation and symbols used:

P – register area of the plot,
W_{dzn} – market value of plot No. n,
soil – development direction indicated in the study of conditions and directions of spatial development,
| – boundaries of the record plot,
□ – contours of residential buildings,
| – road boundaries.

Fig. 1. Different location of plots of similar properties
Source: Own study

Ecological awareness is the main factor responsible for creating market value. When an investor makes a decision about purchasing the real estate property (plot No. 10 or No. 5) for development purposes, the question of causing damage to the environment and rural landscape is marginalised.

4. Ecological awareness

Emphasizing the ambiguity of the concept of "ecological awareness", two groups of definitions can be distinguished. In the narrow meaning, ecological awareness is the knowledge, views and beliefs about the environment. On the other hand, in a broad meaning – it is "the entirety of recognized ideas, values and opinions about the environment as the place of life and development of man (society)" (Domka 1998).

Essential differences between those two perspectives amount to different characteristics of the subject of ecological awareness, its status and inner structure. A narrow perspective can be considered today as outdated, one-sided and individualistic. Ecological awareness understood in categories of individual awareness of a single person is presented in a similar way.

The other, broad view of ecological awareness is a result of perceiving and recognizing the relationship between economic activity of the society and the process of devastation and degradation of nature. It corresponds to two contemporary ideas of natural protection, introduced at the end of 1960s: pragmatic and systematic (Papuziński 2006).

One of the definitions in a narrow perspective describes ecological awareness as the attitude of man to the natural environment, a set of information and beliefs held about it, as well as the system of values which man uses towards the environment in his approach (Kiełczewski 2001).

Sociologists claim that "to date, no sociological category referred to as ecological awareness has been defined" (Sandner 1999).

As Papuziński (2006) emphasizes, significant determinants of the sense of the "ecological awareness" category include:

- ecological crisis,
- risk of global ecological disaster,
- concern for the natural foundations of social life (the most important determinant in the opinion of the author),
- ecological movements and organisations,
- Green parties,
- international environmental protection policy.

Figure 2 presents a scheme of ecological awareness development, after Mirowski (1999). Biotic elements with links (nature) as a part of space are present in the human environment. By analysing the state of nature, man assesses, suggests, informs and, therefore, creates a system of values through which he influences other people. As a consequence of information activities, man possesses specific knowledge about nature, which leads to development of an approach towards nature and attitude of man, known as determinants of ecological awareness, as understood by Mirowski (1999).

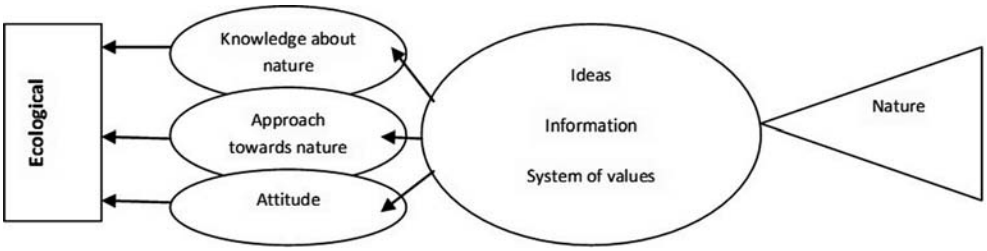


Fig. 2. Ecological awareness as a social product
Source: after Mirowski 1999

5. Coexistence of economic and ecological awareness

Societies drive towards development. At the same time, development is related to making investment decisions. Each decision should be preceded with numerous analyses leading to risk calculations. Profits will be directly linked to all costs incurred by the investor. The spatial and objective scope of the costs and revenue analysis will depend on applicable legal regulations in this regard. Undoubtedly, in order to reach a high profit, costs should be limited; therefore, investors are not interested in revealing costs related to environmental impact to the environment. Will ecological awareness alone be sufficient to repair damage made to the ecosystem? As practice shows, it is not the case. Legal regulations must exist (Protection of Farming and Forest Land Act, Environmental Protection Law Act, Environment Protection Act), and they should be introduced on the basis of growing ecological awareness, causing the investor to incur additional costs if he interferes with the ecosystem.

Figure 3 presents the interrelations between ecological and economic awareness in the context of implemented investments. The general rule is as follows: economic awareness cannot be lower than ecological awareness if we want to develop. Violation of this rule will lead to a decline in investment and, therefore, also the development of the society. Equality between the two principles under analysis will make the process of development stop. In light of the described principles, the concept of sustainable development, based on the balance between economy and ecology, is a utopian assumption since, in that case, we would be dealing with a cessation of development.

Is sustainable development therefore a utopian idea? Yes. Such a viewpoint, although not without reservation, has been demonstrated by Hull, Gawor and Zdzisława Piątek.

But the fact that sustainable development is a utopian idea does not mean that it is a pipe dream, another programme of a happy society passing stoically by the issue of the possibility of its implementation. However, such utopian nature does not exclude its rational character. First of all, because it is a utopia, to which no accusations calling into question the classical form of the Enlightenment idea of progress can be applied (Papuziński 2006).

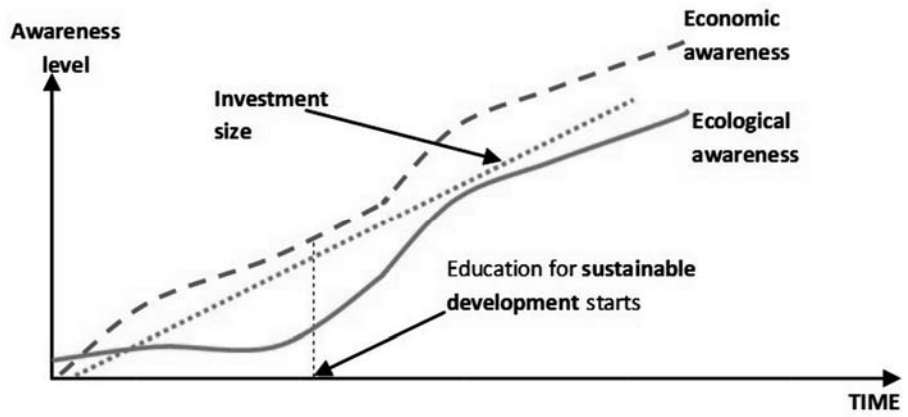


Fig. 3. Diagram of awareness levels against the size of investment
Source: Own study

6. Ecological awareness in spatial planning

Due to the fact that economic awareness is higher than ecological awareness, a series of legal regulations should be introduced, providing for the balance between environmental elements of space and economic interests. Environmental protection in Poland has many years of tradition - although the first act concerning the prohibition of cutting down yews dates back to 1423, and the first parliamentary "environment protection" act was created on 10 March 1934. However, it is only the latest Planning and Spatial Management Act of 23 Mach 2003 that fully reflects the idea of sustainable development as a basis for all actions in space. Basic planning analyses in the area of the commune include: the study of conditions and directions of spatial development and the local zoning plan (Cymerman et al. 2005).

The character and the scope of those studies are different, and the following differences should be referred to:

- the study covers the area of the entire commune, while the local development plan covers only a fragment of the commune,
- the study is mandatory, while a local plan must be prepared only in certain cases,
- the study is not local law,
- a local zoning plan is an act of local law (Kowalczyk, 2010).

The study determines, in particular:

- directions of changes in the spatial structure of the commune and in the purpose of the areas;
- directions and indicators concerning management and the use of areas, including areas excluded from development;

- areas and principles of protection of environment and its resources, cultural landscape and health resorts;
- areas and principles of protecting cultural heritage and contemporary cultural achievements;
- areas for which the commune intends to prepare a local zoning plan, including areas requiring a change of intended use of farming and forest land for non-farming and non-forest purposes;
- directions and principles of developing agricultural and farming production space;
- areas exposed to the risk of flood and landslides;
- objects or areas for which a protective pillar is established in the mineral deposit.

The local plan must specify:

- intended use of the areas and lines dividing areas of different uses or different principles of development;
- principles of protecting and shaping the spatial order;
- principles of protecting environment, nature and cultural landscape;
- principles of protecting cultural heritage and contemporary cultural achievements;
- limits and methods for developing areas or objects subject to protection, established under separate regulations, including mining areas, as well as areas exposed to the risk of flood or landslides;
- specific conditions of land development and limitations in its use, including prohibition of development.

In both these types of studies, the issue of environmental protection is included through the analysis of:

- current intended use, development and utilities of the area;
- status of spatial order and requirements of its protection;
- state of the environment, including state of agricultural and forest production space, size and quality of water resources and requirements for protection of environment, nature and cultural landscape;
- status of cultural heritage and contemporary cultural achievements;
- occurrence of objects and areas protected under separate provisions;
- occurrence of areas of natural geological threats;
- occurrence of documented mineral deposits and underground water resources;
- occurrence of mining areas determined under separate provisions.

Additionally, depending on the requirements, the local plan describes:

- limits of rehabilitation areas of the existing development and technical infrastructure;
- limits of areas requiring transformations or reclamation.

At the stage of preparing the local zoning plan as an act of local law, two studies are created, which in a particular way focus on issues related to environmental protection and together with approvals and remarks, affect the final form of the plan. These studies include:

- forecast of environmental impact,
- forecast of financial results of adopting a local plan (Art. 17 par. 4 and 5 of the Planning and Spatial Management Act).

A weakness of the environmental impact forecast is lack of uniform methodology of estimating effects for the environment. In practice, it depends, to some extent, on ecological awareness of the authors' of the given study.

7. Summary

It seems that economic awareness and ecological awareness will continue to be in opposition to each other for quite long. Generally understood economic awareness provides a basis to carry out an in-depth analysis of costs and revenue resulting from the planned undertakings. A cost-revenue analysis should not be understood here only in economic categories, but its ecological aspect should be also taken into account.

Ecological awareness supported by forecasts of environmental impact (legally required while planning the investment) makes it more probable that the focus will be not only on economic costs but also on costs related to environmental impact. However, without the support caused by the ecological awareness of every human being, negative effects related to implementation of the investment cannot be limited.

Spatial planning alone cannot efficiently protect the environment, but by providing possibilities of protective actions, it has a huge impact on saving the environment from degradation.

As follows from the analyses carried out by the author, an understanding of sustainable development as development which preserves the balance between economic and ecological factors is not reflected in practice.

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Cezary Kowalczyk

Department of Planning and Spatial Engineering
Geodesy and Land Management Department
University of Warmia and Mazury
Ul. Prawocheńskiego 15
10-719 Olsztyn
Email: cezary.kowalczyk@uwm.edu.pl