

Ecological Entrepreneurship and Sustainable Development

Przedsiębiorczość ekologiczna a rozwój zrównoważony

Elena Mieszajkina

*ul. Julii 17, 20-710 Lublin, Poland
E-mail: e.mieszajkina@pollub.pl*

Abstract

The issue of sustainable development applies to all spheres of social life. Current activities in this field endeavour to create comprehensive solutions at all levels, ranging from local to global. Their planning should take into account the coexistence and interaction of the three capitals: economic, social and environmental. This article presents the essence of sustainable development, which seeks to harmonise these capitals. The proposal is to consider them in accordance with the principles of the system approach. It will show that the implementation of this idea requires entrepreneurial activities aimed at rationalising and modernising the economic, social, and ecological subsystems, as well as their integration to achieve synergy. Particular attention is paid to environmental entrepreneurship as a factor in regional development.

Key words: sustainable development, ecological entrepreneurship, system approach

Streszczenie

Problematyka koncepcji zrównoważonego rozwoju dotyczy wszystkich sfer życia społecznego. Obecne działania w tym zakresie zmierzają do tworzenia kompleksowych rozwiązań na wszystkich szczeblach – od lokalnego do globalnego. Powinno się je planować uwzględniając współistnienie i wzajemne oddziaływanie trzech kapitałów: ekonomicznego, społecznego i ekologicznego. W artykule przedstawiono istotę zrównoważonego rozwoju, który dąży do harmonizacji tych kapitałów, zaproponowano rozpatrywanie ich zgodne z zasadami podejścia systemowego. Pokazano, że wdrożenie tej idei wymaga działań przedsiębiorczych skierowanych na usprawnienie i unowocześnienie podsystemów ekonomicznego, społecznego, ekologicznego, a także na ich zintegrowanie i uzyskanie efektu synergii. Szczególną uwagę zwrócono na przedsiębiorczość ekologiczną jako czynnik rozwoju regionalnego.

Słowa kluczowe: rozwój zrównoważony, przedsiębiorczość ekologiczna, podejście systemowe

Introduction

The issue of sustainable development is increasingly becoming the subject of theoretical and practical research. It is actively discussed in scientific and popular literature, on various forums as well as during national and global conferences. Many scientific works are devoted to the development of theoretical and methodological basics of the various sustainable development aspects including political, environmental, organisational, financial, and economic. Politicians, philosophers, economists, lawyers, environmentalists, sociologists, physicists and biologists

from around the world are involved in discussions on this subject. Each discipline perceives sustainable development through the filter of its own concepts and methods. From the management point of view the main objective should be to equip people with the right tools so that they can responsibly plan for social and economic development of the communities to which they belong, by wisely exploiting natural resources (Cao Y., Piecuch I., 2012; Olkiewicz et al., 2015). A simplified discrete analysis of the economic, environmental and social systems should be replaced by an integrated approach. Here, man plays the main role shaping reality around him through his

actions. There is even the opinion that *the management of natural resources is really the management of people*, but the importance of the social aspects of resource management is not widely recognised (Berkes, Folke, Colding, 1998).

For a better understanding of the inter-relationship between the economic, social and environmental components, which form the basis of sustainable development, a systems approach should be used. This will give the opportunity to take into account many points of view and to take advantage of the available knowledge and experience of all stakeholders (local authorities, representatives from local communities, non-governmental organisations, scientists from various disciplines, businesses).

Sustainable development of each system (organisation, society, natural environment) is impossible without commercial activities. Free enterprise is widely regarded as a major factor in a country's socio-economic development and rise in its economic competitiveness. It is usually only associated with economic activity. The evolution of sustainable development is accompanied by a process which shapes the main instrument of this concept – a multi-dimensional enterprise. Innovative, creative actions are needed to rationalise and modernise all economic, social and ecological systems, to integrate them and achieve synergy. One can talk about the three dimensions of free enterprise:

- free enterprise in the economic dimension involves the creation of new businesses, introducing new products, services and production inputs, developing new organisational and management methods, etc. Mariusz Bratnicki points to three main aspects: carrying out a business activity, creation of new enterprises and the creation and taking advantage of opportunities, which incorporate a strategic renewal of existing organisations (Bratnicki, 2008),
- free enterprise in the social dimension includes the behaviour of entire communities, comprising of different groups of people. Andrzej Klasik stresses that *free enterprise can be characterised as a socially conditioned process of generating opportunities for wealth creation, as well as their imaginative use through the exploitation of financial, material, as well as human and social capital in an innovative way* (Klasik, 2006),
- free enterprise in the ecological dimension, i.e. commercial activities undertaken and implemented for the benefit of the natural environment, while simultaneously respecting the legal regulations, take into account the pro-ecological impact on the market and the ecological values of the consumers. The state of the environment and a sense of responsibility for the exploitation of its resources may affect the business model. More and more frequently it takes on an eco-friendly character, based on environmental com-

petencies, creating a value chain, which takes into account ecological requirements, eco-innovation arising out of ecological awareness (Chodyński, 2009, p. 34; *Ekologiczna strategia sukcesu*, 2008).

Businesses perceive opportunities of conducting their commerce within the concept of sustainable development on a global scale across national borders, without political turmoil, with financial stability, in a favourable investment climate, support from national and regional institutions which protect human rights and ensure security for citizens and organisations.

Sustainable development in economics and management

The concept of *sustainable development* was defined in 1987 in a report titled *Our Common Future* (Brundtland Report) published by the World Commission on Environment and Development. The definition in the report is *Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs* (WCED, 1987). Achieving this goal requires diversified, integrated worldwide activities in three key areas: responsible, long-term economic growth of all nations and communities, as well as uniform distribution of benefits, protection of the environment and natural resources, social development. Only such an approach helps to plan long-term ventures taking into account the following:

- a) their economic facet (satisfying needs and attaining profits),
- b) rational use of natural resources (which naturally limit the possibilities of satisfying needs),
- c) ethics and responsibility both on a local and global scale (satisfying the needs of all people in a similar way).

The main objective of sustainable development is to satisfy the most important needs for living for all people and to ensure everyone has equal opportunities to realise their aspirations for a better life (Кувшинов, 2011). However, one must remember about the existence of restrictions constrained by growth of knowledge, techniques and technologies that affect the natural environment's ability to meet humanity's present and future needs (Miksch, 2015; Siepak, 2015).

The current approach to the concept of sustainability was shaped over many decades. It was presented for the first time by the Club of Rome, in the report *Limits to Growth* published in 1972, which analysed humanity's future with respect to the growth of Earth's population and the exhaustion of natural resources (Meadows, Meadows, Randers, Behrens, 1973).

Members of this international organisation, consisting of scientists, politicians and businessmen, discussed the concepts of dynamic growth, organic

growth and dynamic progress (Peccei, 1977; Pestel, 1989; Гизатуллин, Троицкий, 1998) which had one common element – a comparison of the global economic system with that of a living organism. In the evolution of living organisms quantitative growth does not play a significant role, vitality and the ability to survive are the most important improving quality as well as adapting to the environment. Likewise, a society that has attained sustainable development will be able to respond to changing external and internal circumstances and achieve an internal state of equilibrium as well as in the environment where it operates. In management this organisational characteristic is called dynamic equilibrium, or homeostasis.

It could be argued that contemporary ecological problems which inspired the concept of sustainable development, to a certain extent, have been due to the delay of the economic school of thought. From the time of Adam Smith, neither classical theories, nor subsequent economic schools paid any attention to environmental constraints in economic development. It was only in the 1970s, when worldwide environmental problems strongly intensified, did a need to understand and explain economic developmental trends arise in addition to the development of new concepts. To deal with the long-term, extensive and complex challenges of sustainable development, according to Robert Costanza and Carl Folke, it is necessary to solve three interrelated problems (Costanza, Folke, 1994):

- 1) maintain a stable economic size, which corresponds to the ecological life support system,
- 2) achieve a fair distribution of resources and opportunities within the current generation, between the current and future generations as well as between humans and other biological species,
- 3) ensure an efficient allocation of resources while taking into account natural capital.

According to traditional economic thought, the second problem should be resolved by using political rather than economic means. In turn, the third problem was not even considered to be important because the possibility of replacing or finding new resources was taken into account through the achievements of scientific and technical progress. However, due to intensive development of management science within the field of economics with its systems approach, attention was also drawn to these two problems. The systems approach treats an organisation as a unified, purposeful, open system, composed of interrelated parts which form a certain whole which differentiates itself in the environment (Figure 1).

From the definition of an organisation as *a group of people who work together in an orderly and coordinated manner to achieve a set of goals* (Griffin, 2010, p. 35), it follows that individual economies, societies and countries can be examined and analysed in a similar way. They are also complete systems which form part of the external environment.

The creators of the systems approach believed that the only non-negotiable and explicit objective of an organisation (and thus the remainder of the listed systems) is survival and development. Consistency and strength of the system influences the prospects of its implementation, its position in the environment, and its ability to be maintained and strengthened (Katz, Kahn, 1979; Yuchtman, Seashore, 1983; Leavitt, Bass, 1964).

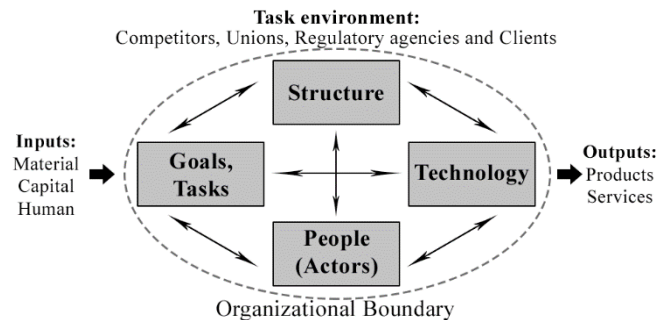


Figure 1. A model of an organisation by Harold Jack Leavitt – a systems approach, based on Leavitt, 1965, p. 1144.

This form of thinking fully reflects the essence of sustainable development. It is worth emphasising the difference between economic growth and development. Economic growth is a quantitative change. It depends on increasing the production of goods and the number of services provided in a short time. It is not accompanied by changes in the structure of the economy in a given country. Economic development is the transformation of both quantity and quality. The increase in production of goods and the number of services is observed over a long term. It causes changes in the structure of the economy.

The concept of sustainable development would not have become widely accepted if there were no suitable justifications within the traditional economic sciences and societies. Three basic processes need to be mentioned here: rationalisation, globalisation and economic development based on knowledge and information. Up to the middle of the 20th century, economic growth was based mainly on rationalisation, i.e. the search for any methods and techniques which allow obtaining the best possible results at the lowest possible cost (time, energy, raw materials, manpower, etc.). Later globalisation intensified and the global economy was established. It turned out that the business must take into account the global and not the local point of view. The globalisation process refutes all constraints (economic, financial, and cultural) and leads to a gradual disappearance of barriers to the movement of capital, goods, services and people. It was only in the 1990s that it gained a strong momentum after the collapse of the socialist system and the breakup of the Soviet Union. Borders were opened not only to goods, services and investment, but also to technology, information and ideas (Godlewska, 2001).

Globalisation has helped to accelerate the development of the modern world economy, raise living standards, quicken the pace of technological progress, and open up access to learning and education. It has led to the emergence of an economy based on knowledge and information at the turn of the 21st century. Its essence is effective creation, assimilation, sharing and exploitation of knowledge with the economy being the basis for doing business. Its characteristics include the growing importance of knowledge, the rapid pace of technological change, the development of information and communication technologies, the growing demand for knowledge creation etc. (Świadek, 2011). Thus the traditional principles of economic efficiency of the 1970s were somewhat changed by the need to solve social problems in developing countries. Increased poverty in those countries required specific actions on a global scale related to allocating part of the profits to social objectives. In the beginning of the 1980s it was proven that the degradation of the natural environment is a serious obstacle to economic development. Neglecting ecological problems cannot be explained by the need to pursue economic goals. Combining these three points of view (economic, social, ecological) led to the creation of the concept of sustainable development.

Remigiusz Rosicki believes that the inspiration for solving complex problems of sustainable development should be sought, among others, in (Rosicki, 2010):

- systematic research methods,
- new management concepts,
- performance research,
- technological development,
- development forecasts presented at scientific and journalistic circles,
- economic analyses of international economic relations,
- analyses of the so-called third world countries, both developing and developed,
- research into climate change,
- the generation of new man-environment ideas.

The systems approach is certainly suitable for sustainable development. Environmental protection, economic growth and social justice are closely related. This is shown in Figure 2.

The results from one sphere are the input for the remaining two spheres relating to life and social activities. The natural environment, its condition and quality, is necessary for business as production indicators and for society as essential living conditions. Results from the economic sphere (goods, services, income) satisfy human needs while simultaneously affecting the environment. The process and method of satisfying social needs, including natural resources, also have certain effects which impact on the environment and on the possibility of obtaining resources for the business. Moreover, one can notice not only that these spheres are interlinked but also a

conflict of interest; the more the interests are taken into account and objectives are met in one sphere the more the interests of the remaining two are in conflict. It is therefore a very complex task to reconcile these interests and devise specific projects. The interaction between the social and economic spheres generates such tasks as the pursuit of justice in the distribution of income and help for the poorer classes in society. The interaction between the economic and environmental spheres requires tackling the problems associated with implementing eco-friendly, efficient technologies. Linking the environmental and social spheres requires the resolution of such dilemmas as intra-generational and inter-generational equality, taking into account the rights of future generations and the development of an eco-friendly mind-set (ТО КЕН СИК, 2010).

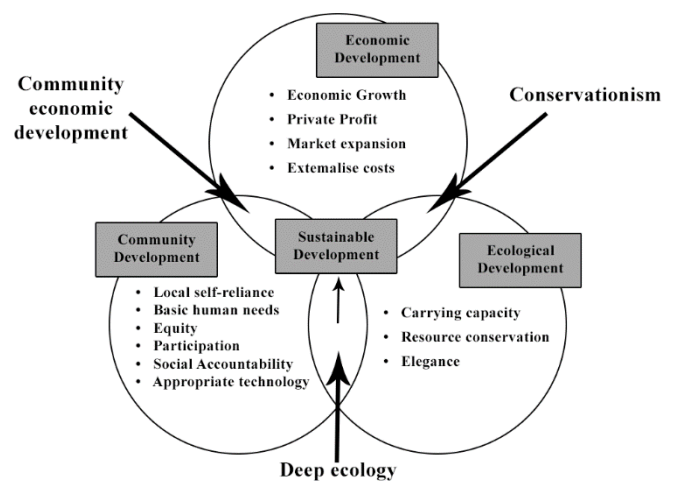


Figure 2. The sustainable development model, source: http://lewishistoricalociety.com/wiki2011/tiki-read_article.php?articleId=110 (17.05.2015).

Understanding these interdependencies and devising appropriate ways for organisations and societies to function under such complex conditions requires creative and innovative thinking and enterprising actions.

Ecological entrepreneurship

There is general agreement that entrepreneurship has contributed to the civilised development of the modern world and not just economic progress. Social prosperity grows when innovative processes are implemented, the economy is knowledge-based, and the principles of sustainable development are implemented. Entrepreneurship is a broad and multi-faceted concept which is difficult to define clearly. Robert Hisrich and Michael Peters define it in a fairly universal way as the process of *creating something different with value by devoting the necessary time and effort, assuming the accompanying financial, psychological and social risks and receiving the resulting rewards of monetary and personal satisfaction* (Hisrich, Peters, 1992). For the development of

entrepreneurship, not only are economic and political factors important, but so too are cultural, i.e. a system of values and beliefs, traditions, trust, family ties, a social climate (Kraśnicka, 2002). It is also strongly linked to local development, which is based on harmonised and systematic communal actions, aimed at satisfying its needs and contributing to its overall progress. It should be extended to cover increased environmental awareness, based on respecting values for the natural environment, careful creation of spatial order, reduction in pollution, and use of eco-friendly technologies.

The aim of eco-entrepreneurship is the initiation and realisation of projects related to environmental protection, dissemination of *clean technologies*, recycling and deepening society's knowledge and awareness, striving to create a *green*, more eco-friendly economy. It is widely accepted that eco-entrepreneurship plays an important role in minimising the negative impact of organisations and people on the environment. It includes actions in the development and implementation of (Wzorce..., 2011; Huczek, 2010):

- environmental technologies, generating less pollution than hitherto, which use natural resources sparingly. They relate to: acquiring resources, conservation of soil, waters, and air, preventing global climate change, sustainable production, consumption, logistics,
- clean production technologies, namely various technical measures adopted to conserve resources and reduce or even eliminate *at source* any arduousness, pollution and waste. They focus on conserving raw materials and energy, eliminating toxic raw materials and reducing the quantity and toxicity of all emissions and waste, and determining interactions throughout the product life cycle, from extraction of raw materials to their final disposal,
- non-technological innovations such as new products and services, new business practices with a reduced adverse impact on the environment or allow for the optimal use of resources,
- ecological awareness programs, to improve environmental education. These are complex processes, run differently, depending on the moral norms, and the degree of knowledge about the ecological consequences of actions undertaken in relation to the environment. The necessary change in awareness combined with the development of new civilisation models. A new world vision requires environmental education, which would change the way of understanding nature.

Three main groups of factors favour the development of eco-entrepreneurship. The first group includes the tightening of international and EU environmental standards, improvement of legal regulations at national and international level, simplifying administrative procedures and financial incentives for promoting environmental aspects. In 2012 TNS

Political & Social Research carried out research among businesses operating in the EU in the 27 EU Member States and in 11 other countries for the Flash Eurobarometer 342 survey *SMEs, Resource Efficiency and Green Markets*. It turns out that 51% of businesses believe that tax credits, grants and loans are the best measures to encourage investments in energy efficiency. Almost half (49%) of companies which already offer eco-products and eco-services, declared that financial incentives would be most helpful to increase the range of products or services and to develop the products. 31% of those who currently do not offer green products believe that financial incentives would help them to start such activities. Technical advice and simplification of administration were recognised as a very effective means to assist in the implementation of ecological issues (Flash Eurobarometer..., 2012).

The second group of factors is the rapid growth of markets in eco-goods and eco-services. The EU market for ecological products has quadrupled in the last 10 years. For the sector to continue expanding and responding to market challenges, the European Commission has undertaken a number of actions related to improving quality and promoting organic food, strengthening consumer confidence in organic products and the removal of barriers to the development of organic farming. They focus on three main objectives: maintaining consumer confidence, maintaining producer confidence and helping farmers in their transition to organic production (Ekologia modna, 2014). In 2013 worldwide organic production was estimated to be €55bn, with the United States (€24.3bn), Germany (€7.6bn), France (€4.4bn) and China (€2.4bn). The market value of organic products in the EU was €22.2bn. Figure 3 shows each country's share of organic sales.

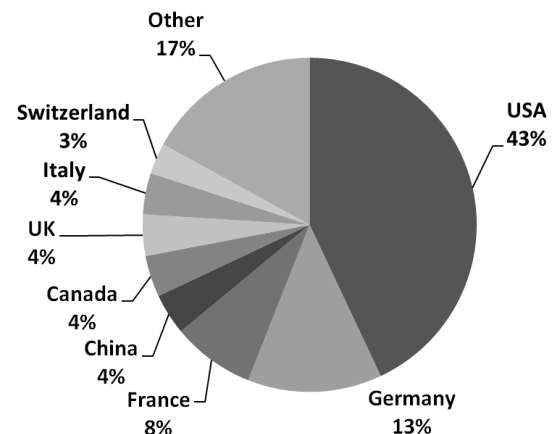


Figure 3. Global market of organic food: Distribution of retail sales by country 2013, source: *The World of Organic Agriculture. Statistics and Emerging Trends*, 2015, <http://www.organic-world.net/yearbook-2015.html> (01.07.2015).

The highest consumption per capita was recorded in Switzerland (€210), Denmark (€163) and Luxembourg (€157). The largest market share was achieved

Table 1. Factors in the development of the region, source: own work based on Brandenburg, 2011; Gralak, 2006; Makiela, 2008.

	<i>Sphere</i>	<i>Factors</i>
<i>Endogenous factors</i>	economic	economic base and structure of the region, scale and structure of local and regional markets, investments, entrepreneurship, ability to innovate, labour market, demand, personal and business incomes
	infrastructure	transport infrastructure, institutional infrastructure, potential for infrastructure development, investment in infrastructure and affluence of communities, counties and the region
	social	population structure, demographics, human capital, social capital, living conditions, values, institutions and social services
	spatial	the availability of space, condition and structure of the settlement, spatial structure (composition), spatial order, the value of space
	ecological	environmental components and resources, level of pollution and environmental devastation, quality of the natural environment, the development potential of the ecological infrastructure, residents' environmental awareness
<i>Exogenous factors</i>	political	globalisation, European integration, domestic policy, interregional policy, sectoral policy, constitutional changes, global political map, historical conditions
	socio-economic	macroeconomics, external investments, regional competitiveness, public welfare, external demand for the region's products and services, economic situation, human migration

in Denmark (8%), Switzerland (6.9%) and Austria (6.5%). Organic farming is practiced in 170 countries with approximately two million farmers growing produce organically on over more than 43 million hectares of agricultural land (The World of Organic Agriculture, 2015).

The third group of factors is increasing consumer interest in purchasing organic products thereby increasing the producers' production. As mentioned previously, the survey showed that 37% of SMEs in the EU has at least one full-time or part-time employee working in green jobs. For SMEs, 1 in 8 employees (almost 13% of all jobs) work in green jobs, while in large companies this figure is only 1 in 33 (3% of all jobs). 61% of all surveyed EU companies have offered green products or services for more than three years. In the US this figure is 52%.

The main reasons for the growth in sales of green products and services are: customer demand (48%), the company's core value (32%) and its image (30%). The most common actions are concentrated on the following: resource efficiency (93% of companies), energy saving (64%), minimizing waste (62%), and recycling (61%) (Flash Eurobarometer 342, 2012).

Creating a *green* image and the introduction of eco-friendly solutions has become in recent years an important element of an organisation's strategy throughout the world. Knowingly investing in ecological initiatives allows for the caring of the environment, which is consistent with the organisation's concept of social responsibility and its duty, but usually turns out to be cost effective in terms of business and helps build a positive image of the organisation. The concept of ecological investment means committing capital to so-called *green* economic sectors, such as *clean* energy, water management, and recycling. The additional capital raised from investors allows such organisations for a wider dissemination of

their technologies and solutions, and thus faster development. The development and marketing of innovative *green* solutions is also a way to stand out from competition. Offering a unique solution, the organisation increases its competitiveness resulting in higher returns. Such projects may be funded by the European Union under the Entrepreneurship and Innovation Programme (EIP).

Ecological entrepreneurship – ecology or economics?

Every country or region needs as one of the most important factors of economic development and employment growth a strong and competitive industrial base, both in terms of production as well as investment. Endogenous and exogenous factors have a decisive influence on this economic development. See the table below. Endogenous factors include all resources within a region, are located within its area, have a specific character pertinent only to that region and created by that region. Exogenous factors are factors external to that region and include changes in its macro-environment.

Over the last few decades in order to achieve economic growth in specific regions through the use of various instruments has resulted in profound damage to the natural environment. This includes climate change, global warming, air and water pollution, soil degradation, decrease in biodiversity, etc. Due to the fact that the environmental components are inextricably linked, a regional polluted environment has an impact on a national, international and even global scale. An example is China, whose rapidly growing economy is based on outdated technologies. They are frequently half as efficient and consume twice the energy than those currently used in developed countries. These outdated technologies have at times been banned in the developed countries due to their

destructive impact on the environment (Diamond, 2005). The *migration* of these low-cost technologies to countries which remain at a lower level of development can also pose a danger.

This raises the question, if it is possible to reconcile economics with ecology. On the one hand, it is known that initiatives to protect the environment are very expensive, while on the other hand, environmental problems create many opportunities for businesses. It should be taken into account that the European Union supports a number of business initiatives aimed at reducing environmental damage. These include building sewage treatment works and installing filters to extract harmful substances from being emitted into the atmosphere. More and more frequently there is a departure from heavy industry. Organisations appear which deal with environmental education, to increase ecological awareness and knowledge. Actions are also undertaken to increase a company's resource efficiency, one of the main factors of competitiveness. On average, for European businesses, raw materials constitute 40% of their costs and if expenditure on energy and water is included these costs can be as high as 50%. For comparison, labour costs account for 20% of the total production costs. Furthermore, 60% of all waste in the EU is not re-used or is not currently subject to being recycled or composted, which causes the loss of large amounts of valuable resources (Guide to resource efficiency..., 2012). Significant business opportunities arise from this situation, particularly for small businesses which could produce and sell green products, services and solutions. Business opportunities can also be created by implementing more business models, based on a closed loop and green technologies, to the activities of existing and new businesses.

Organic farming may be a development potential for certain regions. It combines best environmental practices, a high degree of biodiversity, protection of natural resources and high production standards using natural substances and processes. In view of society's growing environmental awareness, organic farming is beginning to play an important role. It is based on local resources, is environmentally friendly, and produces food products characterised by high quality. It is therefore more labour-intensive than conventional farming. Nevertheless, business development in this sector is characterised by significant dynamism, especially in recent years. The growth in organic agriculture is conducive to increasing the residents' business potential (Strategia Doliny..., 2015):

- eco-agriculture is more labour-intensive; the products are more expensive than in conventional farming. Although this involves more work, more revenue is ensured,
- eco-agricultural development entails the expansion of processing and sales networks for organic products, thereby increasing employment, and

creating demand for other organic products (cosmetics, cleaning products, clothing, furniture) and services (agro-tourism, herbal medicines, natural medicine),

- increased tourist and commercial attractiveness for the region creates prospects for setting up a private business in the countryside, including opportunities for the educated youth,
- greater availability of EU funding is an encouragement to conducting an eco-business.

Under favourable circumstances, an eco-business can become a resource and a value not only for those directly involved in the production of organic food. It can also influence the development of the community and the place where it is located. Its positive impact is felt primarily on local employment. Well-run associations and affiliations of producers of organic goods in many European, American, Asian and African countries have practically eliminated local unemployment problems. Eco-farmers are most frequently well-educated people, perfectly capable of coping with management even under very difficult agricultural conditions. They are open to innovation, collaboration and are involved in the local community. However, it is necessary to involve the local authorities and scientific institutions in the development of eco-businesses, creation of a good climate, and support for the promotion, research, and realisation of investments.

Conclusions

The effectiveness of the sustainable development strategy depends largely on the participation of all groups and social structures including the government in its implementation. Its ecological initiative is one of the key elements which is dependent on active, innovative actions in an eco-market aimed at obtaining income through satisfying social needs in ecologically friendly living conditions. The priorities of an eco-business at all levels (individual, organisational, regional) are not only financial benefits, but above all environmental care and people's health. Taking up the challenge to implement ecological solutions in the organisation, one must remember that *green* business can bring tangible benefits only if it is long-term and consistent with its development strategy. Taking care of the natural environment must become one of its values which will be realised, with consequences, by all employees starting from senior management down. This is important, because by all indications, in future, ecology will be an organisation's business card. Eco-innovations can become the main development direction of not only a single organisation, but also the region. An enterprising region is one that is characterised by innovation; a high degree of investment, both public and private, in research and development; has a high number of high-tech companies; has a high level of individual entrepreneurship; and has an aspiration

for sustainable development. Thus appropriate investment and innovation policies need to be established which will stimulate eco-friendly business ventures as well as the development of the eco-goods and eco-services market. The policies should be based on a strategic partnership between users of natural resources, local authorities, residents and eco-business. The words of the Greek philosopher Aristotle are worth calling to mind: *The time has come to understand that nature will exist without man, but not man without nature* (CPE, 2015).

References

- BALCEROWICZ L., RZOŃCA A. (eds.), 2010, *Puzzles of Economic Growth. Directions in Development*, World Bank, Washington.
- BERKES F., FOLKE C., COLDING J., 1998, *Linking Social and Ecological Systems: Management Practices and Social Mechanisms for Building Resilience*, Cambridge University Press, Cambridge.
- BRANDENBURG H., 2011, *Zarządzanie lokalnymi projektami rozwojowymi*, Uniwersytet Ekonomiczny w Katowicach, Katowice.
- BRATNICKI M., 2008, Konfiguracyjne ujęcie przedsiębiorczości organizacyjnej, in: *Ekonomia i Organizacja Przedsiębiorstwa*, No 6, p. 17-22.
- CAO Y., PIECUCH I., 2012, The Role of State in Achieving Sustainable Development in Human Capital, Technology and Environmental Protection, in: *Rocznik Ochrona Środowiska/Annual Set Environment Protection*, vol. 14, p. 314-328.
- CPE (CENTRUM PROMOCJI EKOROZWOJU), <http://www.cpe.info.pl/artykuly/cytaty/> (10.07.2015).
- CHODYŃSKI A., 2009, Przedsiębiorczość ekologiczna a rozwój przedsiębiorstwa, in: *Przegląd Organizacji*, no 2, p. 34.
- COSTANZA R., FOLKE C., 1994, *Ecological Economics and Sustainable Development*, Paper prepared for the international Experts Meeting for the Operationalization of the Economics of Sustainability, Manila, July 28-30.
- DIAMOND J., 2005, *Collapse – How Societies Choose to Fail or Succeed*, Viking Adult Publishers, New York.
- EKOLOGIA modna, 2014, http://ec.europa.eu/polska/news/140325_eco_pl.htm (25.03.2014).
- EKOLOGICZNA strategia sukcesu, 2008, in: *Fakty. Magazyn Gospodarczy*, no 2(32), p. 58-59.
- FLASH Eurobarometer 342 'SMEs, Resource Efficiency and Green Markets', 2012, http://ec.europa.eu/public_opinion/flash/fl_342_anx_en.pdf (31.05.2015).
- HISRICH R.D., PETERS M.P., 1992, *Entrepreneurship. Starting, Developing and Managing a New Enterprise*, 2nd ed., Irwin, Boston.
- HUCZEK M., 2010, Przedsiębiorczość ekologiczna a rozwój lokalny, in: *Przedsiębiorczość, Edukacja*, no 6, p. 271-279.
- GODLEWSKA H., 2001, *Lokalizacja działalności gospodarczej. Wybrane zagadnienia*, ELIPSA, Warsaw.
- GRALAK A., 2006, *Rozwój regionalny – zagadnienia ogólne*, Szkoła Główna Gospodarstwa Wiejskiego, Warszawa.
- GRIFFIN R.W., 2010, *Podstawy zarządzania organizacjami*, PWN, Warsaw.
- GUIDE to resource efficiency in manufacturing: *Experiences from improving resource efficiency in manufacturing companies*, 2012, Europe INNOVA.
- KATZ D., KAHN R.L., 1979, *Spoleczna psychologia organizacji*, PWN, Warsaw.
- KLASIK A., 2006, *Przedsiębiorczość i konkurencyjność a rozwój regionalny*, Akademia Ekonomiczna w Katowicach, Katowice.
- KRASŃNICKA T., 2002, *Koncepcja rozwoju przedsiębiorczości ekonomicznej i pozaekonomicznej*, Akademia Ekonomiczna w Katowicach, Katowice.
- LANETECH, 2011, http://lewishistoricalssociety.com/wiki2011/tiki-read_article.php?articleId=110 (17.05.2015).
- LEAVITT H.J., BASS B.M., 1964, Organizational Psychology, in: *Annual Review of Psychology*, Vol. 15, p. 371-398.
- LEAVITT H., 1965, Applied Organizational Change in Industry: Structural, Technological, and Humanistic Approaches, in: *Handbook of Organizations*, eds. March J.G., McNally R., Chicago, p. 1144-1170.
- MAKIEŁA Z., 2008, *Przedsiębiorczość regionalna*, Wydawnictwo Difin, Warsaw.
- MEADOWS D.H., MEADOWS D.L., RANDERS J., BEHRENS W.W. III, 1972, *Limits to Growth*, Universe Books.
- MIKSCH K., CEMA G., FELIS E., SOCHACKI A., 2015, Nowoczesne techniki i technologie inżynierii środowiska, in: *Rocznik Ochrona Środowiska/Annual Set Environment Protection*, vol. 11, p. 833-857.
- OLKIEWICZ M., BOBER B., MAJCHRZAK-ŁĘPCZYK J., 2015, Instrumenty zarządzania w ochronie środowiskowej, in: *Rocznik Ochrona Środowiska/Annual Set Environment Protection*, vol. 17, p. 710-725.
- PECCEI A., 1977, *The Human Quality*, Pergamon Press Oxford, New York.
- PESTEL E., 1989, *Beyond the Limits to Growth: A Report to the Club of Rome*, Universe Books, New York.

31. ROSICKI R., 2010, Międzynarodowe i europejskie koncepcje zrównoważonego rozwoju, in: *Przegląd Naukowo-Metodyczny*, no 4, p. 44-56.
32. SIEPAK J., 2015, Analiza specjacyjna w badaniach środowiska, in: *Rocznik Ochrona Środowiska/Annual Set Environment Protection*, vol. 17, p. 526-539.
33. *Strategia Doliny Ekologicznej Żywności*, http://www.ekolubelszczyzna.pl/Dolina_o_projekcie.php (07.06.2015).
34. ŚWIADEK A. (ed.), 2011, *Gospodarka XXI wieku. Innowacyjność, ekonomika i organizacja*, Naukowe Wydawnictwo IVG, Szczecin.
35. *THE WORLD of Organic Agriculture. Statistics and Emerging Trends 2015*, <http://www.organic-world.net/yearbook-2015.html> (01.07.2015).
36. WCED, 1987, *Our Common Future*, Oxford University Press, New York.
37. *WZORCE zrównoważonej produkcji (WZP) w działalności przedsiębiorstw – propozycja rozwiązań systemowych wspierających wdrażanie WZP w MSP*, 2011, PARP, Warsaw.
38. YUCHTMAN E., SEASHORE S.E., 1983, Efektywność organizacji w świetle zasobów systemu, in: *Zachowanie człowieka w organizacji*, eds. Scott W.E. i Cummings L.L., PWN, Warsaw, p. 220-236.
39. ГИЗАТУЛЛИН Х.Н., ТРОИЦКИЙ В.А., 1998, Концепция устойчивого развития: новая социально-экономическая парадигма, in: *Общественные науки и современность*, № 5, p. 124-130.
40. КУВШИНОВ М.А., 2011, Понятие управления устойчивым развитием социально-экономической системы муниципального образования, in: *Молодой ученый*, № 7, Т. 1, p. 86-91.
41. ТО КЕН СИК, 2010, *Системный подход к исследованию и управлению процессами устойчивого развития общества*, СахГУ, Южно-Сахалинск.

