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GENERAL PROBLEMS IN THE INTERPRETATION AND IMPLEMENTATION OF THE CONCEPT OF SUSTAINABLE DEVELOPMENT

1. The origins of the issue and concepts

The global problem of unsustainable development connected with declining levels of natural resources began to be noticed at the turn of the sixties and seventies. Public opinion became concerned with ecological imblances thanks to *e.g.* Bernhard Grzimek's film *the Serengeti Shall Not Die* and Rachel Carson's book *Silent Spring*. The academic and political-environmental environments were greatly affected at this time by the publication of two reports devoted to global development: a report by the UN Secretary-General – U Thant and the famous first Report of the Rome Group, *the Limits of Growth* in 1972 [Meadows et al., 1972]. The reaction that these reports made, in conjuction with the mid 1970s oil crisis that some had forecast, caused major political changes and made governments of industrialised states realise how dependent they were on a constant supply of raw materials and energy.

Scientific research carried out in the following years indicated a wide range of new ecological problems resulting from the negative influence of economic growth on the human environment. In particular, the problems of the greenhouse effect and the so called "hole in the ozone layer" were, due to their nature, perceived very quickly as global problems. This induced developed countries to introduce measures to limit, for example, energy consumption – in order to reduce the emission of greenhouse gases

– and to limit the emission of gases depleting the ozone layer, including a complete ban on the production and use of certain products.

The global nature of ecological threats has lead to the development of many international organisations campaigning to promote and implement the concept of ecologically sustainable development. Problems connected with ecology and natural resources also began to be the subject of special UN commissions and other international organisations. The activities of these goups led to the first definitions (concepts) of sustainable development, understood both in theoretical terms, as well as in terms of practical solutions concerned with economic development and economic policy. The term itself, "*sustainable development*", was introduced during the UN conference on the Natural Environment and Economic Development, which took place in Stockholm in 1972.

There followed a series of important international events, which developed and more precisely specified the concept of sustainable development, including:

– the acceptance in 1982 of the World Charter for Nature by the UN General Council.

– the 1987 UN conference "Development and the Environment", which passed the well known World Commission for the Environment and Development report entitled "Our Common Future" as its fundamental document. This document was called the Brundtland report after the then Norwegian Prime Minister, who led the commission. In this report the most important elements of sustainable development were stated to be:

- a qualitative change in economic growth,
- maintaining the human population at an appropriate level,
- protecting, and even expanding, the base of natural resources,
- reorientation of technological processes and management methods,
- the inclusion of the concepts of environmental protection in the process of economic decision making,
- ensuring employment, nutrition, water supply and sanitary appliances.

The 1992 "Earth Summit" in Rio de Janeiro was an important event. This summit passed a series of international laws, which were aimed at implementing the concepts of sustained development at a global (*e.g.* the convention on climate control, the convention on protecting biodiversity), national and local level (Agenda 21).

The 1997 Kyoto conference, together with the 2002 Johannesburg conference, also played a significant role in discussing the problems of development at a global level. The Kyoto conference was mainly devoted to counteracting global climatic changes resulting from energy production and consumption.

2. Interpretation of the term sustainable development

At present, sustainable development is understood as a process dependent on many factors, which concentrates on ecological, economic and socio-cultural equilibrium. The three, equally important, elements of the concept of *sustainable development* are:

1. **Environmental protection:** understood primarily as:
   a. ensuring that the natural environment can assimilate pollution,
   b. the rational use of renewable resources,
   c. reducing the use of non-renewable resources to the minimum possible level,
2. **Stable economic development:** understood as:
   a. increasing the quality of life,
   b high level of employment (low level of unemployment)
   c. price stablisation and macroeconomic equilibrium,
   d. equilibrium in international exchange,
3. **Equal opportunities:**
   a. with respect to individuals,
   b. between North and South,
   c. between generations.

Combining these components, sustainable development should be defined as follows:

1. Development (growth) is sustainable, if it does not cause a fall in any of the factors defining the social and economic goals connected with economic development.

2. Sustainable development means the maximisation of net gains from economic development, while preserving the level and quality of natural resources in the long term. Economic development encompasses growth in income *per capita*, as well as improvements in fields which create social benefits.

3. In order for development to be sustainable, the consumption of goods and services must be simultaneously limited to a level which is acceptable from an ecological point of view – in particular, due the need to preserve the quality of the environment for future generations and the need for everyone to have access to resources.

Maintaining the natural environment plays a major role in realising social needs, although other factors are also important. Due to this, the problem of defining and applying the concept of sustainable development in scientific (not just economic) terminology requires some explanation. In the Polish literature, this concept has generally been associated with the concept of *ecodevelopment*, which does not encompass many of the ele-

ments contained in the concept of *sustainable development*. In particular, social and economic equilibria are not considered by such an approach.

Ecodevelopment „recognizes the priority of ecological demands, which should not be affected by the growth of civilisation or cultural and economic development". This concept should thus be understood as „carrying out all forms of economic activity in harmony with nature". This differs somewhat from the generally accepted definition of *sustainable development* formulated by Pearce and Turner, according to which „sustainable development is based on the maximisation of net gains from economic development, while maintaining the utility gained from natural resources and the quality of these resources in the long term. Hence, economic development should not be understood solely as growth in *income per capita*, but also as an improvement in other factors defining social wellbeing. It must also embrace necessary structural changes in both the economy and society as a whole [Pearce and Turner, 1990].

The concept of balanced development and/or ecodevelopment used in Poland at present primarily stresses the ecological aspect of the concept of sustainable development. This concept, however, highlights the interactions between ecology, economics, society and geography in socio-economic development and underlines that each of these fields are factors in ensuring a sustainable income. Hence, the concepts of balanced development and ecodevelopment are narrower concepts and more nature centred than the concept of *sustainable development*.

3. Conflicts of goals when aiming to balance the process of global development

The problem of conflicts of goals associated with balancing the process of global development has various aspects, as illustrated by Table 1. The fundamental problem lies in the fact that the economy and the environment are directly connected. The economic system obtains resources from the environment and emits waste into it. In recent times an imbalance has arisen in this system – too many resources are extracted from the environment and too much waste is emitted in relation to the potential of the environment for adaptation. The only possible result of a continuation of this process is an ecological crisis, understood as a rapid depletion of non-renewable resources, together with restricting the access of future generations to resources, a decline in the quality of the environment, which is manifested in threats to human health and life, as well as loss of biological diversity at all its levels: *e.g.* genetic, species, ecosystems, landscape.

Table 1. The fundamental conflicts (problems) on the road to balancing the process of global development

Environment Ecology		The economy Economics
Global threats to the environment and natural recources	**Versus**	Poverty (absolute or relative) The desire of states to increase economic growth
The ecological goals of society as a whole		Economic goals of firms

Source: Authors' own elaboration.

Two scientific disciplines interested in these two systems – ecology and economics – cannot agree on the source of the crisis. Ecology sees a lack of an "ecological ethic", together with economic and demographic growth, as the main source. According to economists, the main problem lies in ill defined property rights, which enables economic players to make use of natural resources, whilst the costs of the use of these resources are transferred to a third party or society as a whole.

These different approaches to the same ecological problem was (and still is) the main reason for the impracticability of models and concepts of global development and growth. Such models have been defined too strictly in economic terms – which lead to problems in assessing the value of resources and ignoring ecological questions – or too strictly in ecological terms, which led to economically impractical models This has been confirmed by practice. Calls for restricting industrial growth, a return to the past in terms of relations between humanity, technology and nature have proved as unrealistic as the earlier belief in the all embracing power of technology to transform the natural environment. Socio-economic realities have shown that breaking the impasse does not lie in restricting scientific and technical advance and economic growth to zero. It is necessary to give economic development a new proecological orientation.

Time has shown that ecological concerns on their own are not sufficient to cause the necessary changes in the process of development (at least at present). In addition, when such concerns become sufficient to cause the necessary changes, it may well be too late then for a successful reaction. In turn, the economic reality in which we live indicates that in order for actions to be undertaken or to cease, there must be visible benefits – in material or non-material form. At present, it is difficult to say what pro-ecological activities are economically profitable and if so, who are they profitable for, where and in what conditions. This presents a difficult problem in defining and justifying the goals of development – especially

ecological goals – and the sources for financing them. In such a situation the argument that these goals are in the interest of humankind is far too imprecise. This is due to the fact that any activity promoting development, including proecological activity, should be compared with the other possibilities which might be undertaken. This conclusion implies the need for a wider appraisal of the environmental balance in the economic process, and hence in economic theory itself, especially in the theory of development and economic growth and the economy of firms. It is also important that the conflict between the economy and the environment should be resolved by a change in the direction of economic development in an acceptable way. That is to say that the level of natural resources should be maintained and pollution limited, while people's aspiration for a better life should be fulfilled.

The second conflict results from probably the most global contradiction between ecological protection and the development process. Von Weizsacker et al. [1997] very clearly describe this conflict when he states – „it is impossible that the present level of consumption of energy, land, water, air and other natural resources (by direct or indirect means) by the richest 10% of the world could become a possiblity for the remaining 90% without causing an environmental "heart attack". However, this „standard" is their declared goal of development".

Any study regarding balanced, ecological development must tackle its most global question – can global, proecological and qualitative world development be the goal of all states and regions?

In other words, we are interested in the question – can such a process of developmentat on a global scale be acceptable at the same scale? The intuitive answer to this question is as follows: given the present huge differences in the level of development in various countries, the desire of rapidly developing countries (*e.g.* China, India and Brazil) to narrow this gap, together with the huge number of very poor and/or very slowly developing countries, in the short and mid term such a solution can only acceptable by the political elites and societies of the highly developed countries. Their citizens can afford – at least at the level of abstract thought, or for heuristic reasons – to deal with their own environmental problems, as well as the problems to be faced by future generations. It is not surprising that highly developed countries stress the first (ecological) part of the concept of *sustainable development*, while the underdeveloped countries stress the third (social) part of the concept.

In theory, considering environmental quality as a higher order good, then demand for it will increase when income increases. This means that the average willingness to pay for schemes aimed at protecting

the environment increases as income increases. This is an example of Engel's law.

Taking this into account, environmental protection and quality are goods which the 80–90% of the Earth's present population, who are living below or close to the social minimum, cannot (yet) afford. The priority scale of most of these individuals is completely different. They wish to close the development gap and intend to do this through economic growth and often economic growth in its worst, extensive form. The authors of the Club of Rome Report [Meadows et al., 1972] consider the industrial plans of many states with a low income *per capita*. Large scale industrialisation projects in many developing countries (*e.g.* China) are based on the burning of coal (leading to the harmful emmission of CO_2). This will become a great burden on the environment at the global scale and comes at a time when the majority of industrialised states are fighting to drastically reduce the level of emissions of pollutants. On the other hand, forcing or recompensating developing countries to slow down their industrialisation processes would be morally indefensible and catastrophic from a political point of view. In addition, in the case of large countries (*e.g.* China, India), such a policy would be impossible to realise.

It thus may be stated that there exists a conflict between environmental protection and the understandable desire of underdeveloped states and regions to increase their economic growth rate. In theory this problem could be solved by transferring part of the production of highly developed countries to underdeveloped countries. However, in practice such a transfer of production results from the facts that in underdeveloped countries regulations on environmental protection are more liberal and labour (and hence production) costs are lower.

When considering the relation between the quality of the environment and improving material welfare as alternative goals of economic growth, or studying such a relation in terms of alternative costs, we should answer the following important question: will the increasing willingness of richer societies to pay for environmental projects lead to an improvement in the quality of the environment at a global level, or in more concrete terms, cause a rise in the value of the environment as a global public good? Unfortunately, the course of the environmental debate over the last 15 years or more on the ecological constraints and effects resulting from the liberalisation of world trade, make it hard to believe that such a willingness appears on a global scale and even if such a willingness exists, is it increasing?

From the point of view of this question, political acceptance at an international level of the following question is fundamental: since the

highly developed industrial and post-industrial countries have made use of the world's resources for at least two centuries, including the ability of the environment to regenerate and absorb pollution, to what extent has this limited the access of developing countries to these resources? This implies that in order to pursue a policy of sustainable development, it is necessary for developed countries to recognise their obligations with regard to developing countries and to international society as a whole. In the long term fulfilling these obligations will be beneficial to international society as a whole, since it would lead to more rational use of the earth's limited resources, less pressure on it's ability to regenerate and assimilate pollution, as well as preserving the non-economic value of the environment to future generations in both developed and developing countries and more efficient and effective solutions to global ecological problems.

In the context of international competition on one hand and sustainability and ecologically balanced developed development on the other hand, in practice this question leads to the need for a complete reorganisation of international trade, in order to remove barriers limiting economic growth in developing countries. In realising this goal, the following two fundamental questions must be addressed:

1) poverty and social inequality in developing countries are major causes of ecological degradation, also leading to ecological problems becoming more acute at a global level;

2) if developing countries carry out (or wish to carry out) activities aimed at environmental protection, then the support of developed countries should not be treated as a form of aid – technical, financial or otherwise – but a type of "internalised payment" which is associated with positive effects on the environment at a global level. In this context foreign support is justified by the long term use of the earth's resources by developed countries at the cost of the potential of other countries to develop, in particular the poor countries of the South. Reducing debt by transforming debt into investments in environmental projects can be understood as a type of support. Of course, such support cannot be treated as a substitute for direct aid, *i.e.* the transfer of financial aid or technological and expert support from highly developed countries.

From the point of view of international trade, the rapid opening of the markets of developed countries to imports from developing countries, including finished products is a fundamental necessity. A degree of asymmetry is required in the form of an international agreement to temporarily increase the level of protection in the internal markets of developing countries (in particular, using non-taxation forms of protection; for example public subsidies to support the production and export of specified

goods[1]). Such an opening of markets is, in general, in line with the liberalisation of trade, which was accelerated after the round of GATT talks in Uruguay and formation of the World Trade Organisation. Such liberalisation is not sufficient, as shown by the results of the Millenium Round (also known as the Dohau Round) and the Earth Summit in Johannesburg. However, developing countries encounter a large number of non-taxation barriers – for example, ecologically orientated production standards, standards aimed at environmental protection and other regulations regarding packaging and the recycling of packaging[2] – which may very effectively replace means of protection using taxation (duties) and non-taxation methods (for example, quotas on the amount or value of imported goods). Practice has shown that such means may effectively impede the access of goods from developing countries to the markets of developed countries. In this way the economic growth of developing countries is lowered. The solution of the resulting problems clearly cannot be based on developed countries unilaterally resigning from their regulations in this field, but need to be based on agreements made by international organisations (*e.g.* UNCTAD, WTO, UE) regarding technological and institutional activities. Such agreements should be aimed at creating the conditions for the gradual adaptation of trading conditions which will give developing countries access to the markets of developed countries. Another conflict in balancing the development process is the conflict between the economic goals of firms and individuals and the goals of society as a whole (see the diagram below).

Proecological development obviously lies in the interest of society. However, firms have other priorities associated with microeconomic profits. This means that there is a clear conflict between the interests of society as a whole regarding balanced and sustainable development and the economic goals of individual firms and consumers. The fundamental economic goals of firms: profitability, productivity and competitiveness are normally associated with the minimisation of costs and so come into conflict, or at least can into conflict – especially in the short term – with the goals of society regarding ecology, which are related to preserving the Earth's resources and limiting environmental pollution.

[1] This was expressed in, among others, the WTO's Transformation Clause, according to which countries undergoing the transformation into modern market economies (the post-communist countries and some developing countries) may make use of public subsidies, in order to support the technological and economic reconstruction of certain sectors (*e.g.* mining and steel production). However, the WTO strictly specified the basis for granting such subsidies.

[2] For more information see: Environmental Benefits of Removing Trade Restrictions and Distortions, WTO – Committee on Trade and the Environment, Geneva, February 1995.

Table 2. Conflict between the economic goals of firms and the goals of society as a whole

Ecological demands of society	Area of conflict	Economic demands of firms
Preservation of resources	Increasing external costs	Profit
Nature protection	State intervention, regulations regarding environmental protection	Competitiveness
Quality of life	Changes in the structure of consumer needs	Productivity
Ensuring the cleanliness of air, water and soil	Technological advances	Satisfying consumer demand
Control and neutralisation of pollution	Reduction in employment levels	Increasing market share
Limiting noise pollution		
Preserving recreational areas		

Source: Authors' own elaboration.

The following question is often asked – should a firm pursue proecological goals from its own free will due to its role in society? From the point of view of the economic interests of a firm, it seems that firms should not pursue such goals, especially in the short term. Milton Friedmann once said that „*the business of business is business*". Such an attitude disables any attempt of debating the socio-ecological role of firms. Since the function of a firm is to be profitable, expand and minimise costs, its role is to make a profit and the role of the state and law is to develop a legal/control framework, such that the activities of firms do not disturb the ecological balance.

In view of this, can one expect the development of "socially orientated" firms? Rather not, since economic reality has shown that ecological concerns are not in themselves sufficient to cause the necessary changes in the development process and if they become sufficient to cause such changes, it may well be too late for an effective reaction.

The economic reality, in which we live, means that in order for a firm to undertake or cease any activity, such a decision must be associated with a visible economic gain, whether material or non-material. Hence, the problem reduces to the question – whether, and to what degree, "socially and ecologically orientated" activities can be a source of measurable economic gains. Answers to this type of question have been considered by a large number of articles in the economics literature. Restricting our considerations to the question of the possibility of a positive associa-

tion between activities which are environmentally friendly and economic (trading) success, we can highlight three fundamental aspects of such an association:

1. Consistency and rigour in applying laws and regulations related to environmental protection. A lack of consistency in this field leads, in particular, to a situation where firms, which are leading in terms of implementing environmentally friendly technology in the production process and in products themselves, may well not gain a competitive advantage over firms not conforming to laws and regulations on environmental protection. In other words, the legal system must firstly address the problem of the external costs of the activities of firms and secondly eliminate (effectively restrict) the possibilities of obtaining economic gains from activities which are harmful to the environment.

2. An analagous problem, indicated in the point above, is related to the relation between the economic success of a firm and its "ecological responsibilities" at an international and even global level. In the conditions of modern, open global trading, in which markets and national economies are becoming integrated and the process of the liberalisation of trading and capital transfer is deepening, obtaining economic success from the proecological modernisation of firms may successfully counteract the large gap between countries in the sphere of ecological regulations and standards. This implies the possibility of obtaining – especially in the short term – a competitive advantage of firms located in countries which have a "liberal" approach to environmental politics. It should be stressed that using a low degree of the internalisation of ecological external costs as a source of competitive advantage cannot be effective in the long term. One reason for this is that international organisations can counteract such an advantage by creating new and improving existing international agreements on ecological protection and ecologically orientated modifications and supplements to international trading agreements (especially within the framework of the WTO).

3. The possibilities for positive interaction between ecological success and the success of a firm in a market economy depend to a large degree on the level of knowledge and awareness of ecological issues, among both producers and, above all, consumers (households). The ecological awareness of consumers decide the level of success of activities in the field of ecological marketing, understood in its wide sense; associated both with the promotion of ecologically friendly products and services and activities aimed at promoting the image of a firm being environmentally friendly. An important conclusion results from this approach, namely that in order to ensure that the proecological modernisation of a firm becomes a market and economic success and in this way stimulate the process of transform-

ing the process of development to sustainable and ecologically balanced development, it is necessary to intensively extend society's knowledge and education in ecological issues. This will increase the likelihood of a positive associative between this level of knowledge and education with the tempo of the proecological modernisation of a firm. Twisting the famous saying of Milton Friedmann mentioned previously, one could say: *Green business is (can be) also business.*

From the point of view of the global aspect of sustainable and balanced development, which interests us in this article, Point 2 above requires a brief discussion. Negative ecological and social effects at a global scale may be associated with both ecological dumping (which was discussed above) and so called ecological protectionism (ecoprotectionism), used as a method of protecting the internal markets of highly developed countries from imports from developing countries. Such protectionism may often favour the preservation of out of date, resource intensive methods of production and export in developing countries. This leads to a deepening of both local and global environmental problems. Secondly, such a danger is also associated with so called ecological neocolonialism, that is to say the phenomenon of firms from highly developed countries relocating their resource intensive forms of production, so called dirty technology, to countries with more liberal regulations on environmental protection.

4. Conclusions

In the light of the global dilemmas in the approach to the problem of balancing the process of development discussed above and the associated "conflicts of interest", the achievement of balanced global growth undoubtedly requires:

– globally coordinated energy policies based on the use of renewable resources and restricting energy consumption;

– globally coordinated policies regarding the Earth's resources aimed to maximising the length of availability of resources and stimulating the expansion of recycling;

– globally coordinated policies on environmental protection aimed at changing the direction of economic development and ensuring technological developments are in line with ecological and health norms.

– globally coordinated policies on controlling the human population, which will limit population growth in the poorest states and stabilise the age structure in developed countries.

It should be underlined that the above goals can only be achieved at a global scale when solidarity is obtained with the poorest states leading

to limiting (rationalising) consumption in developed countries and not – as is happening – to deepening the already huge economic gap. Nothing can be achieved in this field by attempting to increase the economic dependency of the developing states on developed states, since economic growth in many developing countries may well be unaffected by foreign aid, *e.g.* China.

It is often stressed that various socio-economic trends, which are at present developing or are foreseen to occur in the reindustrialisation phase, will positively influence the balancing and ecologisation of global development. The following are examples of such trends:

– a decrease in the average growth rate of physical production in highly developed states;

– the resulting increase in demand for free time – which will lead to a fall in the average number of working hours and a fall in production and demand (since incomes are lower);

– increasing awareness of the degradation of the environment and influence of environmental groups and organisations;

– an increase in demand for services and fall in demand for industrial goods;

– increasing decentralisation of power and the transferring of certain tasks, formerly carried out by central government, to private firms and local governments;

– the steady increase in the importance of consumer associations as a factor influencing the quality of goods and services;

– as income increases there is an increasing demand for higher order goods: a clean environment, peace, feeling of security etc.

However, it should be pointed out that these trends relate above all to highly developed states. In the poorest states poverty and limited opportunities for development will remain as the greatest problems. Changing this situation requires more than the international solidarity mentioned above. It also requires – maybe above all – a change in the trading relations between the North and the South. Highly developed countries must resign from many forms of economic protectionism, especially in the spheres of the production and trade of agricultural goods and food. Obviously, this must not eliminate international cooperation based on an objective cost-benefit analysis and aimed at helping the poorest states in achieving the goals and principles of sustainable and ecologically balanced development. In the long run this aid will be beneficial, not just for the recipients but the donors as well, simply from the point of view of the ecological and trade gains resulting from preserving the *global commons*. These commons are most often found in developing or underdeveloped countries.

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