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AREAS OF NECESSARY ADJUSTMENTS TO EU REQUIREMENTS CONCERNING ENVIRONMENTAL PROTECTION IN POLISH AGRICULTURE

The article presents the important elements of the Common Agricultural Policy in the European Union with special regard to the measures taken towards environmental protection. It also describes Polish regulations in that area and the directions of adjustments to EU requirements. The main purpose of the paper is a presentation of the connections and relations between agricultural and ecological policy and their implications in the case of Poland in the context of its effort for membership of the Community. The harmonization process will be connected with high costs, both in environmental protection and in agriculture. The modernization of this sector of the economy could improve its competitiveness on the one hand, and on the other hand enable taking part in structural funds - especially in agro-environmental programmes connected with the sustainable development of rural areas. This is a great chance for Poland where extensive methods of production are used in the majority of farms and where many rural areas are not polluted.

INTRODUCTION

The EU has always been concerned with environmental protection. In the course of creating new documents important for the functioning of EU, environmental issues have gradually been given more and more attention. This refers mainly to such important events in the process of European integration as the Single European Act, Maastricht Treaty and Amsterdam Treaty. The purpose of this paper is a presentation of the mutual relations between agricultural and ecological policy in the EU as well as a general description of the functioning and evolution of environmental policy in EU agriculture, which is of paramount importance for Poland, a country aspiring to full EU membership. Based on these, the authors analyse and evaluate the state of Polish regulations and determine the range of necessary adjustments of Polish laws to those in force in the EU.

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1. POLISH LEGAL REGULATIONS CONCERNING THREATS TO THE ENVIRONMENT CAUSED BY AGRICULTURE

Environmental protection policy (also known as ecological policy) is a constant process of making political decisions regulating the access to limited natural resources which results from activities of different people, groups and organizations who realize the indirect interests of state authorities; it also means all normative acts and measures taken by various entities, including local self-government entities. (Lisiecka 1995 pp. 22-23).

Polish ecological policy was established by the government in 1990 and accepted by the Sejm resolution, dated 10 May 1991 (Monitor Polski No 18, item 118), in which ecological and economic criteria were acknowledged as equally important. Polish ecological policy was later documented by the acceptance of "State New Ecological Policy" in 1999. Another political document formulated after giving an account of the realization of the ecological laws and including the tasks of state ecological policy till the year 2000 is the Sejm resolution, dated 19 January 1995, concerning the policy of sustainable development (Monitor Polski No 4, item 47). In this resolution the Sejm acknowledged that sustainable development is a necessity and duty of modern civilization, and that its realization should be observed in both Polish and foreign economic policy, not only by the departments responsible for environmental protection, but also within the framework of multilateral interdisciplinary activities of central organs of state administration (Radecki 1996).

The way we understand environmental protection in Polish agriculture now results from the law concerning the protection and formation of the environment (Environmental Protection Act) dated 31 January 1980, (Journal of Laws 1994 No 49, item 196 with later amendments). In article 1, part 2 the law defines the environment as all the natural elements (in particular land surface and soil, minerals, waters, the air, plant and animal life, and landscape) both in natural conditions and transformed by human activity (Radecki 1996). It also defines (article 2, part 1) environmental protection as all the activities, or the lack of such activities, which enable the preservation or restoration of the natural balance necessary to ensure advantageous living conditions for contemporary and future generations and the realization of the right to the use of environmental resources and to the preservation of the value of the environment. Analysing the legal issues concerning environmental protection we move within the realms of environmental protection law which in this aspect is very closely connected with agricultural law.

According to L.Ryszkowski, S.Balazy, the main threats to the environment are (Ryszkowski, Balazy 1993):

1. Increasing water deficit observable in an area of about 120,000 square km, especially in mid-Poland Lowlands.

2. Water pollution.

3. Soil deterioration encompassing on the one hand small areas in danger of industrial emissions and lying along roads with very heavy traffic, and on the other hand a much more dangerous phenomenon of soil acidity caused, among other things, by acid rain. According to some estimates, 25.5% of arable land and 15.4% of green land is of a very acid soil.

4. Air pollution; in over half of Poland's area pollutants concentration threatens the normal development of plant assemblage.

5. Settlement urbanization, technical infrastructure, transport and recreation.

6. Soil erosion; 28.2% of Poland's area is in danger of potential wind erosion - 1% of this area is in danger of strong erosion and surface water erosion.

- 18% of the area is in danger of gully erosion (3.5% of this land being in danger of its extreme forms),

- 18.2% of the area is threatened by strong and very strong forms of erosion.

7. Present systemic changes including land privatization and the introduction of a market economy will result in an interest in non-agricultural land use, which may lead to the devastation of biological resources.

Examining the internal threats to agricultural production space, one can distinguish quantitative and qualitative ones (Radecki 1996). The former can be seen in the decrease in the area of agricultural land resulting from designating land for non-agricultural purposes, mainly for industrial, transport and residential use. Designating land for forest related purposes and also arable land can be, on the other hand, beneficial to environmental protection. We should aim at minimizing such phenomena, and our priority should be to save the best land by laying down and obeying the law. Qualitative threats, on the other hand, mean damage to arable land resulting from mining activities and pollution, mainly industrial air pollution and waste pollution.

Agriculture, like other sectors, is also a pollutant. The possible threats here are (Bieszczad, Sobota 1993, pp. 11-54):

1. Threats caused by crop protection chemicals which cause the poisoning of farm and wild animals and bees, soil and water contamination and food chains poisoning.

2. Threats caused by fertilizers, soil changes and eutrophication of water with fertilizers (especially nitrogen) runoff.

3. Agricultural engineering (heavy equipment).

4. Threats resulting from animal production, particulate and gas pollutants from animal farms, offensive smell, microbiological pollution, animal excrements - especially liquid manure.

The main threat to agricultural environment are the changes of the natural landscape and the impoverishment of biodiversity. This leads to the discontinuation of the regulation processes of herbivorous animal population by plants which reduce the number of animals (predatory, parasitic, and disease-causing plants). At the same time the processes of soil regeneration are slowed down, which increases outlay on their renovation (Ryszkowski, Bałazy 1993).

Any activity in the environment, including agricultural activities, brings about certain effects which should not result in environmental incursion. The present state of agriculture is a result of aiming at high crop yields by using the potential of agricultural knowledge, civilization development and environmental capacity understood as the ability of ecosystems to bear the anthropogenic burden caused by industrial activity (Michałowski 1997, p. 79).

2. ENVIRONMENTAL PROTECTION IN AGRICULTURE IN THE LIGHT OF THE EVOLUTION OF THE EU COMMON AGRICULTURAL POLICY (CAP) AND ECOLOGICAL POLICY

The agricultural policy has always been one of the most important areas of the functioning of the European Community. The Rome Treaty included a separate part concerning agriculture - article 38 (Orłowski 1996) in which were defined the most essential purposes of CAP. These concerned mainly the necessity to ensure the appropriate standard of life of farmers, increase in agricultural production, market stability, the security of food supplies, and the appropriate prices of agricultural products. At that time the basic rules of CAP were formulated. They comprised the functioning of the common market of agricultural products, the free flow of production means, the preference to goods produced in the Community, and solidarity in bearing the costs of CAP.

In the course of developing CAP and with the introduction of Mansholt's Plan, it was acknowledged that the least market disturbance was caused by the system of direct income support. This consisted of granting farmers a fixed amount of money independent of the level of prices, production and employment.

In the mid-eighties CAP led to a considerable surplus in food production. This was a symptom of imbalance in this sector of the economy, which was against one of the main purposes of CAP - market stability. It was said that European agriculture was effected by crisis - economic, social and ecological. The economic crisis was connected with the surplus in food production and unnecessary budget burdens. The social crisis was first of all caused by the decrease in incomes and deep differences within sectors between large and small farms as well as the differences within regions between areas of tolerable and marginal welfare (Ciamaga et al. 1998).

The changes in the environment which contributed to the ecological crisis were first of all soil and ground water contamination with nitrates, phosphates and pesticides, the incursion on the integrity of traditional agricultural ecosystems and landscapes, and gradual extinction of many plant and animal species. The main reason for this may be the transition from extensive to intensive methods of agricultural production.

In this situation it was necessary to take further measures to reform CAP. The proposals of changes were included in the so-called "Green Box" concerning "The Prospects of CAP" presented in 1985. It was the first time that agricultural policy paid so much attention to ecological as well as market and income problems. In the legal system this was reflected in Regulation 797/85 in which were determined the conditions of granting financial help to those who in environmentally sensitive areas would introduce, for the minimum period of five years, methods of environmentally friendly production. The solution was criticized for the division into polluted and protected areas and for confining the measures taken only to special areas.

"The Green Box" announced a more coherent market policy (the prices of agricultural products should result from market demand and not from the decisions of the ministers), the introduction of supply control instruments, and compensation for lying fallow and arable land afforestation. The objectives of the Green Box were to be realized by decreasing the prices of surplus products, limiting the guaranteed intervention outlays, and increasing the quality requirement standards. Unfortunately, the instruments proved inefficient in meeting most of the objectives of the Green Box.

The connection between environmental protection and agriculture was clearly emphasized in 1986 with the introduction of the Single European Act. This document emphasizes the importance of environmental protection and says that the measures taken by the Community towards nature conservation must be integrated with Community policy in other areas, especially with agricultural, regional and energy policy. It also introduces the policy of

financing agriculture in regions characterized by difficult production conditions and mountain regions in order to prevent depopulation and to support environmental protection (van Mournik 1998).

The Maastricht Treaty (the Treaty of European Union) did not introduce any essential changes to agricultural policy, but in May 1992 the Council of the European Community recommended that the EU Commission should work out new foundations of agricultural policy. Its main objective now is to keep farm income at the same level and at the same time to decrease production and eliminate threats to the environment. This concept is a revolutionary turning point in Community agricultural policy. Firstly, Mansholt's Plan (1969) has been abandoned, and the system of compensation is now directed to farmers themselves (Kenny 1994). Another novelty is the introduction of agricultural-environmental programmes. It is also planned to allot extra money to ecological farms - 250 ECU per ha. One can conclude that over time agricultural policy started evolving towards rural policy. This means a return to more natural methods of cultivation and an increase in the variety of crops and animal breeding. Also various incentives are planned for those who decide to settle in deserted areas, as well as subsidies encouraging the afforestation of farming areas. The abandoning of the hitherto existing agricultural policy proves that the social costs of agricultural production outside agriculture (environmental deterioration, violation of social relations) are much higher than the economic results achieved in farms.

Other changes in CAP were connected with the so-called Mc Sharry's package which also included projects aiming at limiting the pollution caused by agriculture (Orłowski 1996). Among them was a project of lying fallow which on the one hand was intended to limit too high production, and on the other hand, as it proposed the afforestation of fallow land, contributed to environmental quality improvement and to the introduction of more extensive methods of production. Medium-sized and large farms were encouraged to leave part of the land fallow in return for compensation for the losses suffered (Van Mournik 1998). The legal result of the Mc Sharry reform was Regulation 2078/92 which concerns agri-environmental measures.

The next proposal of changes in CAP were included in "Agenda 2000" - a document published in 1997. They were aimed at structural policy measures connected with environmental protection - the development of the agro-environmental programme, the afforestation of low quality land, or help for producers in regions of unfavourable natural conditions. It is suggested that the process of the considerable reduction in institutional prices be continued. Unfortunately, "Agenda 2000" does not introduce any specific changes towards

intensifying pro-ecological measures in agriculture. The only important change is the replacement of Regulation 2078/92 by Regulation 1257/99/WE which further integrates "rural development" measures connected with structural funds (financed by FEOGA). Although it follows on from the document that member countries will have a chance to relate direct financing to environmental conditions, it is said that the Commissioner should go so far as to decide that the money will only be granted if basic environmental standards are met. Another question is the lack of the financial obligations of CAP concerning the sustainable development of rural areas and environmental programmes (Van Mournik 1998). It was suggested that a quarter of the CAP Guarantee Fund should be allotted to agro-environmental programmes, and half of the means to the programmes of ecological development of rural areas till the year 2006. Due to this, farmers could introduce innovations and diversify production. This would enable creating stable work places in agriculture and at the same time we would get closer to WTO directions. Generally speaking however, agro-environmental policy was not treated as the main element of CAP.

In the course of introducing other reforms and taking account of the problems resulting from agricultural policy, but not directly connected with plant production (environmental, cultural and social aspects), it was acknowledged that CAP concerns not only one branch of the economy, but is one of the constituents of a wide strategy of regional development of rural areas (Ciepielewska 1998). It proved necessary to abandon the sector approach in favour of the territorial approach, which resulted in the transformation of CAP into CARPE (Common Agricultural and Rural Policy for Europe). Its main purpose is to maintain economically effective agriculture and to stimulate the coherent development of the Union's rural areas. A greater emphasis is placed on the use of environmentally friendly production methods and on the fate of animals. Four indispensable elements of the reformed CAP are: market stability, incentives to the development of rural areas, help in the transition period, and payments connected with the protection of environmental and cultural values of the countryside. This reflects the fact that greater importance is attached to the structural policy in CARPE in which a very important role is played by agro-environmental programmes (connected with Regulation 1257/99/WE). Another important aspect is the increase in farmers' participation in natural resources management and landscape conservation.

Poland, as a country aspiring after full EU membership and, consequently, equal rights in CARPE, should in the adaptation process take into account the evolution which the most important Community politicians are going through.

In this aspect, the possible benefits that the integration of Polish agriculture with the EU could bring would result from membership of structural funds.

Agriculture, as a sector of the economy, is a great environmental nuisance. Consequently, ecological policy and agricultural policy are closely related, which is caused by ecological, economic, and social stimuli - especially in connection with the concept of sustainable development introduced in developed countries. There are many examples of such relations between economic and ecological issues in CAP and EU ecological policy. The reform of CAP and the transition to CARPE are both elements of a growing tendency towards taking into consideration the problems of environmental protection in the development of rural areas, which may prove beneficial to future generations.

3. A DESCRIPTION OF EU LEGAL REGULATIONS CONCERNING ENVIRONMENTAL PROTECTION IN AGRICULTURE

In this respect two EEC Council Regulations and three EEC Directives are still valid in EU countries.

1. EEC Council Regulation 2092/91, dated 24 June 1991, concerning ecological agriculture and the labelling of its products and food-stuffs.

2. EEC Council Regulation 1257/99/WE concerns the development of rural areas. It replaces the previous Regulation 2078/92, dated June 1992, concerning agricultural production methods compatible with the requirements of environmental protection.

- Directive 86/278/EEC concerning environmental protection, and especially soil protection when using sewage sludge in agriculture;
- Directive 91/676/EEC concerning water protection against pollution with nitrates from agriculture;
- Directive 91/414/EEC concerning crop protection chemicals (pesticides).

In Regulation 2092/91 it is taken for granted that agricultural chemicals be excluded from food production and processing. It also introduces the requirement of farm inspection concerning the compliance with ecological protection criteria and determines the conditions of labelling of market products offered as ecological. It has been valid with the strength of domestic law since 1 January 1993 in all member countries, which means that it replaces domestic law whenever it is contradictory to the Regulation.

The Regulation is intended to stimulate the market development of agricultural products manufactured with the help of less intense use of the land. It may have an influence on CAP re-orientation, food market balance and

environmental protection through landscape preservation and the prevention of biodiversity impoverishment through the limitation of the development of large-area farms. However, analysis of the Regulation's substance reveals that it was introduced to protect the consumer and the producer (against unfair competition) rather than to protect the environment.

The aim of the introduced legislation is the standardization of international regulations concerning production control and ecological food-stuffs turnover not only within a united Europe. The Regulation requires that non-member countries create legal regulations and organizational structures if they are interested in exporting ecological products to EU. Detailed regulations of the Regulation are included in the Statutes of the EEC Council (2092/91) concerning the organization of agricultural production and labelling of food-stuffs, food processing, agricultural production quality standards, inspection system, and the legal sanctions which it can impose (Softysiak 1995).

The Regulation 1257/99/WE (previously EEC Council Regulation 2078/92) is the most important element of CAP (now CARPE) concerning environmental protection in agriculture. The essence of the document is the assistance in the implementation of the rules included in the codes of good agricultural practices and supporting ecological agriculture through compensation for the expenses incurred in environmental protection. The regulation is a binding one. It concentrates on environmental protection and landscape conservation and offers a wide range of measures (co-financed from the EU agricultural budget and European Agriculture Guidance and Guarantee Fund - EAGGF - FEOGA) aiming at supporting changes in the rules of market organization, co-operation in achieving the objectives of Community policy concerning agriculture and the environment, and co-operation in securing appropriate incomes of farmers (Zdanowicz 1998).

The programmes of environmental protection in agriculture whose implementation the Regulation imposes consist in compensating farmers for the loss of incomes and extra expenses incurred, and also in giving small financial incentives to those farmers who in their farms commit themselves to act for the benefit of environmental protection and landscape conservation. National and regional long-term programmes aim at using such practices which reduce the harmful impact of agriculture on the environment along with a decrease in the volume of production, which may contribute to a better-balanced agricultural products market. Their aim is also the pro-ecological intensification of agricultural production, the use of arable land compatible with the protection and improvement of rural natural environment, the preservation of landscape amenities and the preservation of natural resources,

soil and genetic diversity (transformation of arable land into extensive green land). The programmes also comprise activities connected with the conservation of abandoned farmlands and forests, which is necessary for the sake of the environment and because of various threats, and also to prevent the dangers connected with the depopulation of rural areas. They also propagate the long-term discontinuance of farming due to environmental reasons, land management for public recreation purposes, and education and training for farmers concerning methods of agricultural production compatible with the requirements of the protection of the environment and rural areas. Co-financing of the payments within the programme from EU agriculture budget is 75% in the areas qualified as so-called objective 1 (structural funds), and 50% in the remaining areas, where the money comes from the EAGGF. The EU does not participate in the administrative costs connected with the realization of the programmes (Zdanowicz 1998).

The realization of the programmes of environmental protection in agriculture consists in signing by farmers contracts with the member state agricultural administration organ, e.g., the regional office of Ministry of Agriculture or its agency, concerning the realization of certain payable tasks for the sake of the environment in the area of their farm. When calculating the payments, three elements are taken into account: real or potential income loss, extra costs incurred, and, when necessary, a small additional economic incentive. In 1996 the outlays on agro-environmental programmes accounted for 3.5% of the agriculture budget (the same as in the sheep or fruit and vegetable sector; e.g. Spain - 1%) which seems a rising tendency. To present the level of outlays connected with the Regulation, we quote the data for Spain, a country comparable to Poland and of a similar area.

By mid-1997 1.35 million contracts were signed, which accounted for 17% of all EU land holdings. The contracts comprised 22.3 million ha, which is 17% of EU arable land (6% in Spain). The average payment per 1 ha of arable land within the programme of environmental protection is ECU 117/ha in all EU (cf. ECU 81/ha in Spain).

To compare all EU programmes, the European Commission divided them in its December 1997 report into a few subcategories:

a. Effective agricultural production carried out in a way beneficial to the environment (over 80% of the outlays on the programmes in all EU).

- ecological agriculture - 8% of the means - ECU 124.4 m in 1997. (When analysing this variant we should bear in mind the research showing that the costs of production and the costs of purchased inventories used in the analysed ecological farms are about 28% higher than with conventional farms).

- other forms of agricultural production leading to the improvement of the natural environment - 40% - ECU 622.4 m in 1997.

- preservation of the existing extensive production systems (35% of the means - ECU 544.6 m in 1997).

b. Land management for non-productive purposes (20-year lying fallow for the sake of the environment, abandoned land management, landscape preservation) - 14% of the means - ECU 217.8 m in 1997.

c. Training and demonstration programmes - 3% of the means - ECU 46.7m.

In 1997 ECU 1,556m was spent in the EU on environmental protection programmes.

In 1996 it was ECU 1,391m (cf. Spain - ECU 54m and ECU 33m respectively).

Directive 86/278/EEC limits the use of sewage sludge in agriculture by establishing the maximum limit values of heavy metals concentration in soil and sludge and the maximum limit of heavy metals (cadmium, copper, nickel, lead, zinc, mercury) which can be added to the soil. The Directive determines the conditions of the use of such sludge and the maximum time intervals in using sludge in certain sorts of arable land.

Directive 91/676/EEC concerns water protection against pollution with nitrates from agriculture. It supplements the Directive concerning municipal sewage treatment and imposes on member countries the duty to limit and prevent water pollution with nitrates from agriculture, artificial fertilizers and cattle manure. It also imposes on member countries the duty to create at least one Code of Good Agricultural Practices which has to be propagated in the area of a given country. The measures described in the Code are not obligatory except those areas which are threatened by agricultural pollution. The Directive provides that the areas which are especially prone to this type of pollution must be identified. This is to be done basing on the results of monitoring network research provided for in the Directive. The measures included in the programme are obligatory. It is also possible for each member country to implement the programme in all of its area. In such case it is not necessary to identify the areas prone to this kind of pollution.

Another important legal act concerning environmental protection in agriculture is Directive 91/414/EEC concerning crop protection chemicals, dated 15 June 1991. The Directive was issued because plant production is of great importance in the Community, and plant crops are constantly attacked by harmful organisms. It aims at protecting plants against such organisms, limiting crop losses and securing supplies. To meet these objectives, it is necessary to

use crop protection chemicals, which can be hazardous and dangerous for people, animals and environment, especially if the chemicals are marketed without official tests and licences. One of the reasons for issuing the Directive were also the differences in the use and distribution of such chemicals in member countries, which created barriers not only in trading such products, but also in trading agricultural products. The Directive says that such chemicals cannot be marketed without an appropriate licence conformable to its requirements. This is intended to ensure an appropriately high standard of plant protection and its priority is to limit threats to the environment, especially to the quality of ground water, and health of people and animals. In connection with this, a list of active substances (included in the appendices to the Directive) was prepared which legalizes their turnover and use. The Directive also defines the criteria which determine granting and withdrawing licences for a given product of plant protection and standardises them (harmonization of experiment methods, tests and controls in member countries).

4. POLISH REGULATIONS AND THE AREAS OF NECESSARY ADJUSTMENTS

To become a European Union member, Poland has to fulfil a lot of conditions concerning political, economic and legal systems including environmental protection legislation. An especially important task is the adaptation of the Community law *acquis communautaire* which imposes very high health and quality standards of the products manufactured or imported to the Community. Future confrontation will require Polish products to be more competitive and we should be preparing for it now. The decision to apply for EU membership and the adaptation process are a strong stimulus for the modernization of the Polish economy and its compliance with the high systemic standards prevailing in the EU. This concerns agriculture to a large extent, which is a sector of the economy whose functioning greatly differs from EU agriculture, especially as far as the regulations concerning environmental protection are concerned. Another important aspect is the development of education. The low level of education and agrotechnical knowledge of the majority of producers may prove to be an important barrier in the adaptation process of Polish agriculture to the requirements of the common agricultural market. Hence, it is very important to support the development of education and advisory and training systems (including production methods compatible with environmental protection requirements) and to gain the basic economic and financial knowledge of agriculture accounting. This knowledge is an important condition of the possibility of future use of various EU funds supporting

structural transformation in agriculture and in rural areas.

In this situation the integration gap in environmental protection in agriculture should be bridged as soon as possible, and the direct costs connected with it may be considered an outlay likely to bring great profits in the future - especially in the aspect of enabling earlier participation in the structural funds (payments connected with agri-environmental programmes based on Regulation 1257/99/WE). To this end, however, new legal acts should be introduced, or existing ones be amended.

EU Union reports from the years 1998-1999 on the state of the preparation for membership of aspiring countries revealed, on Poland's part, many delays concerning law adjustment, particularly in environmental protection and agriculture where the delays were the greatest. It is optimistic on the other hand that some acceleration and intensification of law harmonization can be observed (as revealed in the latest European Commission report from the year 2000). One of the effects was the preparation and introduction of the law concerning ecological agriculture - essentially conformable to EEC Council Regulation 2092/92, dated 24 June, 1991. There is, however, no state organization which would control and coordinate the ecological food market. Perhaps after the legal sanctioning of the market of production and turnover of ecological food-stuffs, appropriate EU solutions will be implemented and an organization will be set up to deal with the organization of production, labelling and ecological food-stuffs trade. The analysis of the divergences of Polish and EU regulations concerning environmental protection in agriculture was carried out within the research of the authors of the paper in connection with the development of the KBN grant in the Department of Ecological Economics of Wrocław University of Economics. It is dealt with more thoroughly in the paper (Fiedor 1999-2000).

Its rules should be similar to those of The International Federation of Organic Agriculture Movements (IFOAM).

The current state of regulations and institutions of environmental protection in agriculture reveals a strong divergence which implies an urgent need for further adjustment measures. The lack of institutional regulations is an essential barrier in the development of ecological agriculture, which is highly unfavourable, the more so as a great part of arable land in Poland is suitable for agricultural production due to numerous advantageous conditions (the structure of farms, production methods, human resources, and the relatively low environmental pollution in a great part of the area) (Łuczka-Bakuła 1999, p. 100.).

The necessity of adjustment measures concerns mainly Regulation 2078 (later replaced by Regulation 1257/99/WE), dated June 1992, concerning agricultural production in accordance with the requirements of environmental protection and landscape conservation. In Poland there are not any legal or administrative

instruments regulating the principles of ecology in agriculture in connection with the realization of the basic foundations of agricultural policy. In some government documents there are entries corresponding to those of Regulation 1257/99/WE (in The Government Programme, dated June 1994, in The Strategy of Agricultural Development Till the Year 2010 created by the Ministry of Agriculture, in The Mid-term Strategy of the Development of Agriculture and Rural Areas from 1998). Besides, in some region the pilot programs financed by PHARE are introduced.

The introduction of the equivalent of Regulation 1257/99/WE and the preparation of the formal conditions of its functioning would enable an earlier use of EU structural funds (perhaps the moment Poland gains EU membership), which would greatly reduce the costs which Poland has to incur to meet EU requirements concerning environmental protection. Due to this, part of the costs necessary to introduce ecology in agriculture will be co-financed from EU means. This would decrease the outlays connected with the adjustment process in both agriculture and environmental protection. Besides, the regulation clearly propagates extensive ecology-friendly production methods which are most frequently used in Poland. Encompassing many farms with agro-environmental programmes and related payments would mean for them an opportunity of further existence and, consequently, would prevent many socio-economic problems. The implementation of the rules included in the Codes of Good Agricultural Practices would contribute to limiting of the unfavourable impact of agriculture on the environment.

The consequences of not following the introduction of ecology in agriculture (resulting from the divergences of EU norms) are, among others, the environment exploitation which causes first of all water pollution, the degradation of agricultural landscape and soil, destruction of small biotopes, hedges, balks, mid-field plantings, limitations of biocenosis diversity, and increases energy consumption and the cost of treating diseases caused by changes in the environment and environmental contamination.

Currently in Polish legislation there are three amendment regulations concerning water protection against pollution by nitrates from agriculture - an equivalent of Directive 91/676/EEC concerning water protection against pollution by nitrates from agriculture. They are: The New Water Act, The new Environmental Protection Act and new Wastes Act. The Ministry of Agriculture has also introduced the Code of Good Agricultural Practices but it doesn't have binding power.

Polish legal regulations concerning the use of mineral fertilizers is adjust to EU requirements. However the law concerning environmental protection here includes only some directions and there is no proper strategy to accomplish the regulation in practice - it's very expensive. These problems are now being negotiated.

The new law should include a programme of water protection against nitrates comprising at least two variants:

1. The identification of the areas in danger of pollution – the so called Environmentally Sensitive Areas “ESAs”(which would require the introduction of an appropriate classification of water resources);

2. The implementation of a more rigorous programme in the area of the whole country and setting the appropriate tasks. Besides, it is necessary to create codes of good agricultural practices in order to train farmers and also to appoint authorities responsible for the implementation of the measurement and monitoring system of surface and underground water. When choosing the appropriate variant of the programme of prevention against pollution, we should take into account the expenditure of scientific and technical work connected with the implementation of each of them. The areas and the effectiveness of the programmes should be periodically examined.

In 2000 a legal regulation introduced into Polish legislation met some requirements of the EEC Council Directive 86/278/EEC concerning sewage sludge in agriculture. The problem was taken into account in the project of the decree of the Ministry of Environment, Natural Resources and Forestry concerning the conditions which have to be fulfilled when using sewage sludge in agriculture. The project is a part of the authorization included in the new Act on Waste Products, dated 27 June 1997. It transposes the resolutions of Directive 86/278/EEC concerning environmental protection, especially soil, when using sewage sludge in agriculture. Based on the latest knowledge of agricultural science, it is in some respects more rigorous than the Directive, but has not been yet discussed by the appropriate ministries.

With reference to agriculture there is a need to establish appropriate institutions which would co-ordinate sewage waste management, with the help of experts from the Ministry of Environment, Natural Resources and Forestry and Ministry of Agriculture. A system of authorization and documentation should be introduced for both industry and sludge use. It is also desirable to analyse the results of many separate studies carried out by ministry institutes and universities (the lack of information about such studies makes it difficult to use their results).

Polish equivalents of Directive 91/414/EEC concerning crop protection chemicals, dated 15 June 1991, are compatible with EU requirements. The Law on Cultivated Plants Protection, dated 12 July 1995, (Journal of Laws No 90, item 446) also concerns environmental protection against the influence of such chemicals. It includes the conditions of the use of such chemicals to fight harmful organisms and specifies the institutions responsible for the right decisions concerning this issue. It also enumerates the duties of landowners in whose land

the harmful organisms appear. The Law says that only those chemicals which, when used properly, do not threaten people, animals and the environment can be traded and used and gives priority for using biological, farming and agrotechnical plant production methods over chemical ones. It insists on minimising the use of chemicals and determines the rules of their use. However, it lacks precise, standardized rules of granting licences to trade and use such chemicals and does not include any list of admissible products. In view of the integration with the Community the problem should be solved. The only legal act of lower rank concerning this issue is the Decree of the Ministry of Agriculture, dated 10 January 1991, concerning health and occupational safety during the use and storage of crop protection chemicals and natural and artificial fertilizers in agriculture (Journal of Laws No 14, item 64). However, it formulates the issues from the point of view of health and occupational safety rather than environmental protection.

In the light of the necessity of institutional-legal sanctioning of this problem, three basic courses of action can be distinguished:

- the reduction in nitrates emission (the realization of Directive 91/676/EEC requirements)
- the wider introduction of agro-environment programs
- the supporting and institutional sanctioning of ecological agriculture development.

The three above mentioned variants of solutions can complement one another and thus facilitate the achievement of the desired aim. They are compatible with Regulation 1257/99/WE, which seems an additional incentive to follow this direction. To reach environmental protection standards resulting from transposing the directives concerning ecology in agriculture, it is necessary to create:

- a national system of economic aid to ecology in agriculture in connection with the right balancing of the agricultural production market
- a national system of ecological agriculture support and organization.

It is also necessary to take into account the fact that one of the most important reasons for the introduction in the EU of legislation which enabled the realization of the programmes of environmental protection in agriculture was a growing tax payers' dissatisfaction with the current system of support for agriculture, whose results were often unfavourable for the environment. Moreover, the present system of support for EU agriculture is questioned by WTO because it creates more favourable production conditions for farmers in the EU than for those in non-member countries and thus deforms competition in the world market. Pressure from other WTO members will result in CAP reforms towards payments not connected with agricultural production as such (the so-called decoupled support). The payments due to income loss or outlays on environmental protection are

acceptable within WTO as a means of support which are not connected with production and will therefore be still permitted. They are contained in the so-called Green Box and are connected with Regulation 1257/99/WE.

CONCLUSION

The implementation of EU regulations requirements in environmental protection requires great financial outlay, particularly if the vast scope of the regulations and the divergence between Polish and EU law are taken into account. This concerns direct costs connected first of all with the outlay necessary to carry out legislative changes, as well as the investment outlay connected with the implementation of the introduced solutions.

The integration of Polish agriculture with the EU is one of the most complicated problems of the adjustment process, and there is a lot of controversy and a lot of concepts concerning its solution - both on Poland's and the EU's part. This is one of the reasons why there still have not been created (or are not available in the literature on the subject) a thorough and reliable estimates of the costs of the harmonization process. Moreover, the estimation of the costs of integration defined as the difference between the costs of functioning of appropriate institutions now, and after the implementation of EU solutions is difficult as ecology in agriculture in Poland is, in the light of the law, sanctioned on a very limited scale. Taking this into account, adequate measures should be taken by the appropriate state authorities.

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