Chapter 7

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The National Agri-Environment Programme as Part of an Impact of Agriculture on the Natural Environment in Selected Districts of the Mazovian Province

1. Introduction

Agriculture is the branch of economy that is closely dependent on natural resources which may be impoverished or destroyed as a result of intensive farming. It can manifest itself in water and soil pollution, air pollution, biological diversity decline and changes in landscape. Irrespective of the adopted farming methods, modern farmers notice the negative impact of agriculture on the natural environment. However, they rarely associate this with their own holdings and claim that their farming methods do not cause environmental degradation and, as a result, there is no need for them to undertake actions in this area (Korsak-Adamowicz et al. 2009).

Participation in the agri-environment programme is an important element of taking care of the environment character and quality, despite the fact that the programme is not always oriented to the regions which require biodiversity protection or have got environments which are particularly threatened. The main objective of the programme is to eliminate the negative impact of agriculture on the environment, and strengthen its positive influence on landscape and biodiversity, and, in particular, to restore positive aspects of the environment or maintain valuable agricultural habitats, to promote the sustainable farming system, appropriate soil and water utilization, and conservation of endangered local livestock breeds and local crop plant varieties. The farmer implementing the programme is obliged to use, for a period of at least 5 years, environmentally-friendly farming methods which go beyond the conventional good agricultural practice (to obtain the intended environmental effect). In return the farmer receives

financial support which compensates for additional costs incurred and profits lost due to an adoption of different farming methods (Duer 2007).

Agri-environment programmes (schemes), as a compulsory instrument of the Common Agricultural Policy, have been introduced in all the EU countries. In some they enjoy popularity, particularly in Austria, Finland, Sweden, in others, like Belgium, they are not very popular. Based on EU legislation determining the overall scope and programme implementation methods, each country establishes actions which take into account natural and landscape values, type of agricultural economy and economic situation in a given country (Przewodnik … 2009). Appropriate agri-environment programmes were introduced in the EU in 1992 under Regulation of the European Council 2078/92/WE (30 June 1992) as amended by Regulations 1257/99/WE (17 May 1999) and 1698/2005/WE (20 Sept. 2005). They are carried out over long-term programming periods: 1992-1999, 2000-2006 and 2007-2013, and the next one is established for 2014-2020. Polish participation in the programmes followed immediately the EU accession when the Rural Development Policy had to be implemented. The participation in the programme in 2004-2006 was declared by over 70 thousand farmers – owners of around 4% holdings. They were mainly from regions where large economically-strong farms dominate. Between 2000 and 2006 more farmers participated from provinces characterized by a poorer agro-climate quality index and whose farms were smaller and economically-weaker (Jaskulski 2009). The current policy for 2007-2013 is a continuation of the former one but with some changes. It includes 9 agri-environment packages (divided into 49 variants). Package 1. Sustainable agriculture: 1.1 sustainable farming system. The objective of the agriculture is to streamline crop production intensification. Basic requirements of the package include: appropriate crop selection and rotation by cultivating at least three crop plants, each from a different plant group; yearly design and implementation of a fertilizer scheme based on nitrogen balance and current soil chemical analysis, determination of P, K and Mg contents and liming requirements; cutting or grazing of permanent grassland at dates stated in the scheme; application of nitrogen derived from natural manures, composts and mineral fertilizers on ploughed land and permanent grassland at rates of up to 150 and 120 kg $N \cdot ha^{-1}$, respectively; nonapplication of waste sediments. Package 2. Organic agriculture: 2.1 (certified) agricultural crops; 2.2 agricultural crops (in conversion) 2.3 (certified) permanent grassland 2.4 permanent grassland (in conversion) 2.5 (certified) horticultural crops 2.6 horticultural crops (in conversion) 2.7 (certified) herbs 2.8 herbs (in conversion) 2.9 (certified) fruit crops + berries 2.10 fruit crops + berries (in conversion); 2.11 the remaining fruit crops + berries (certified) 2.12 the remaining fruit crops + berries (in conversion). To carry out the package the farmer has to comply with the following requirements: crop production has to meet requirements specified in the organic farming law and Council Regulation (EC) no 834/2007; crop cultivation based on the best agricultural knowledge and culture; in the case of variants 2.3 and 2.4, obligation to cut and graze and remove biomass and store it gathered in stacks up to 2 weeks after cutting; for variants 2.3 and 2.4,

obligation to keep numbers of animals at least 0.3 LSU; for variants 2.9, 2.10, 2.11 and 2.12, nursery material has to meet certain requirements and cultural practices have to be conducted every year. Package 3. Extensive permanent grassland: 3.1 extensive meadow and pasture management. The objective of the package is to conserve biodiversity on meadows and pastures which can be threatened by intensification or abandonment of farming. Basic agri-environment restrictions of the package include: limited amounts and dates of cutting (from 1st June to 30th September, no more than two cuts), leaving part of a meadow intact, biomass removing or placing for storage in stacks up to 2 weeks after cutting; reduced grazing; ban on ploughing, rolling, reseeding, and levelling extending from 1st April to 1st September, application of plant protection chemicals, waste and waste sediments; fertilization reduced to 60 kg $N \cdot ha^{-1}$ per year. Package 4. Protection of endangered bird species and natural habitats outside Natura 2000 areas: 4.1 protection of bird meadow habitats; 4.2: small sedge-moss communities; 4.3 tall sedge swamps; 4.4 litter meadows Molinion and Cnidion; 4.5 xerothermal grass; 4.6 semi-natural wet meadows; 4.7 semi-natural mesic meadows; 4.8 species-rich Nardion grassland 4.9 salt marshes; 4.10 natural lands; Package 5. Protection of endangered birds and natural habitats in Natura 2000 areas: 5.1 protection of bird meadow habitats; 5.2 sedge-moss meadows; 5.3 tall-sedge swamps; 5.4 litter meadows Molinion and Cnidion; 5.5 xenotermal grass; 5.6 semi-natural wet meadows; 5.7 semi-natural mesic meadows; 5.8 species-rich Nardion grassland 5.9 salt marshes; 5.10 natural lands. Packages 4 and 5 can cover only permanent grassland, Package 5 covering Natura 2000 areas only. Implementation of the packages results in reduced changes to nature when farmers appropriately manage meadows and pastures. All the variants share common agri-environment commitments: obligation to prepare natural documentation; ban on ploughing, rolling, reseeding, and levelling extending from 1st April to 1st September, application of plant protection chemicals, waste and waste sediments. Differences between the variants include dates of cutting which must always be delayed due to the bird nesting season (from 1st August to 30 September) or unique development of particular natural habitats (from 15th June at the earliest – variant 4.6 and 4.7, to 15th September, at the latest – variant 4.4). While implementing most variants the beneficiary has to leave a part of a meadow intact (from 5 to 50%, depending on the variant), remove or place the biomass in stacks up to 2 weeks after cutting, reduce or stop fertilizing or grazing. What also matters is a cutting method which should not destroy vegetation and soil structure, and ban on circular cutting – from the outside to the inside of the meadow. Package 6. Conservation of endangered genetic plant resources in agriculture: 6.1 commodity production of local varieties of crop plants; 6.2 commodity seed production of local crop plants; 6.3 seed production commissioned by gene banks; 6.4 traditional orchards. The main role of the package is to conserve biological diversity of crop plants and production of material for breeding. The most important agri-environment commitments include: traditional cultivation of local plant varieties, that is maintenance of identity and varietal purity, field and laboratory certification, application of certified sowing

material. Package 7. Conservation of endangered genetic cattle resources in agriculture: 7.1 conservation of local cattle breeds; 7.2 conservation of local horse breeds 7.3 conservation of local sheep breeds; 7.4 conservation of local pig breeds. The package aims at protecting genetic resources through keeping on family farms animal breeds threatened with extinction, or recovered breeds as a significant component of biological diversity produced by man. The farmer is obliged to register animals in the register of breeding animals appropriate for a given breed, maintain the breeding documentation of the herd, monitor animal health and resistance, implement the breeding programme of genetic resources conservation for a given breed. Package 8: Soil and water protection: 8.1 post-harvest intercrops; 8.2 winter catch crop; 8.3 stubble crop. The obligations specified in the package include maintenance of catch crop cover on ploughed land over the period between two maincrops. It results in a number of benefits: it limits leaching of nitrates, calcium and potassium from the soil, provides shade and prevents soil erosion, and builds up organic matter. The main recommendation is to sow plants at the right date, remove straw after harvest, perform cultural operations after the 1st of March, incorporate the biomass of catch crops/undersown crops, excluding cultivation without ploughing; also farmers cannot apply waste or waste sediments and mineral fertilizers prior to the cultivation of catch crops. Package 9. Buffer zones: 9.1 maintaining 2-metre buffer zones; 9.2 maintaining 5-metre buffer zones; 9.3 maintaining 2-metre inter-field boundaries; 9.4 maintaining 5-metre inter-field boundaries. The package's aim is to protect water against agricultural contamination and to preserve biodiversity. The most important requirements include: maintenance of a buffer zone or field boundary of a certain width, cutting plants every year or every 2 years on the 30th September, at the latest, maintaining and taking care of existing shrubs and trees, ban on an application of fertilizers, plant protection chemicals and waste and waste sediments. All the applicants who want to participate in the agri-environment programme agree to comply with basic requirements of the so called cross-compliance. They include: appropriate storage and application of farmyard manure and slurry, preservation of basic requirements concerning plant protection chemicals, keeping the farm clean and tidy, preservation of bans associated with nature conservation. Moreover, every farmer undertakes to maintain on his/her farm permanent grassland and non-agricultural landscape components, that is trees and shrubs which play an important part in soil and water protection and are important for the natural environment as a whole (Przewodnik… 2009, www.minrol.gov.pl/Wsparcie.../Biblioteczka-rolnośrodowiskowa 2011).

The order of the Minister of Agriculture and Rural Development of 10 March 2001 introduced a number of changes into the agri-environmental programme which in some cases are inconvenient for the farmer (www.minrol.gov.pl/ pol/Ministerstwo/Biuro...2011). One of them is a limited access to Package 3. Extensive permanent grassland. Farmers entering the programme since 2011 have been allowed to carry out the package in Natura 2000 areas only. The next significant change, that is a higher level of payment, is to Package 8. Soil and water

protection. For Package 7. Conservation of endangered animal genetic resources in agriculture, payments will be related to the number of animals stated in the application form and not to the averaged yearly number of animals. The amendment introduced some changes to extending the agri-environmental commitments: it is possible now to add Package 6 Conservation of endangered genetic plant resources in agriculture in the second and third year of programme implementation. Substantial simplifications for those applying for the payments (Package 4 and 5) have also been introduced and beneficiaries do not have to provide the opinion of the Regional Director for Environmental Protection. Moreover, they can prepare natural documentation in the year they submit the application form.

According to Duer (2007) following Kleijn and Sutherland, the beneficial influence of agri-environmental programmes was most frequently found for numbers of some birds and restoration of arthropod biodiversity. It was much more difficult to evaluate the impact on botanic diversity increase, in particular in fields which had been intensively farmed for many years. There is no assessment of the impact of agri-environmental programmes on the biodiversity in extensively farmed fields, in natural valuable regions and in organic agriculture. Under Polish conditions in regions covered by the programme, improved water (nitrate content examinations) and soil quality and by 1.8% lower application of mineral fertilizers and organic manures are all an indicator of implementation of sustainable land management regulations. Also, the effect on climate was observed, mainly due to substantial reduction of greenhouse gasses associated with livestock production as well as lower utilization of industrial production means and fuels (www.minrol.gov.pl/pol/informacje...2011).

The purpose of the work is to present results of an implementation of the agri-environmental programme in eastern regions of the Mazovian Province, and to demonstrate their pro-ecological role. The additional objective was to indicate the packages with the greatest and lowest demand and to assess the situation at present.

2. Methodological comments

The work is based on data on the implementation of agri-environment programme, obtained from the System of Management Information (Agency for Restructuring and Modernization of Agriculture), and compiled on 20th April 2011 by the Department of Social and Environmental Activities. They refer to the following districts (poviats) located in the eastern part of the Mazovian Province: Łosicki, Siedlecki, Sokołowski and Węgrowski. The data made it possible to determine the structure of the proportion of individual packages and their variants, and land area where they had been implemented, and to calculate payments for the beneficiaries who carry out the activities.

According to the physical and geographical division of Poland (Kondracki 1978), the region under study is situated on the South Podlasie Lowland (mesoregions: Siedlce Upland, Węgrów Depression, Podlaski Gorge of the Bug River). It is a predominantly agricultural region with low production intensity.

Both the outlays on production means and yields obtained are low compared to the average for the whole country (www.stat.gov.pl 2010).

3. Results

In the districts studied 1180 farmers adopted the agri-environment programme in 2008-2010, which amounted to around 18% of all the participants in the Mazovian Province. They pledged to implement 1809 agri-environmental variants on the area of 10385.75 ha (tab.1 and 2), which amounted to 11% of the province area under the programme (System Informacji Zarządczej ARiMR 2011).

The most popular package was "extensive permanent grassland" which amounts to 51.5% of all the applications and covers 3701 hectares of grassland (36.3% of area under the programme). However, the popularity of this package was different in individual districts. In the Siedlecki district the number of applications in 2010 decreased by almost a half compared with 2008. In the Łosicki district the trend was the opposite – the popularity of the package increased almost twice. The next most popular package is "soil and water conservation" (27% of all the applications) and it has been implemented on 26.2% of area covered by the programme (tab.1 and 2). Of all the possible variants in the package, farmers from the Łosicki and Siedlecki districts preferred "stubble catch crop" whereas in the remaining districts, Węgrowski district in particular, "winter catch crop" was the most popular. According to Jaskulska and Gałęzowski (2009), the role of catch crops as a source of feed for animals is less important in modern agriculture compared with their pro-ecological function which made them an instrument of shifting to environmentally-friendly agriculture. Cultivation of catch crops provides a permanent plant cover for the soil, which improves soil biological properties, limits soil degradation, protects water from contamination and enhances biodiversity and landscape diversity (Duer 2007). The package has been popular among beneficiaries since the beginning of programme implementation in Poland (Bereżnicka 2006, Bieńkowski 2007). The area under catch crops in Poland ranged from over 200 th ha in 2005 to around 700 th ha in 2008, of which stubble catch crops amounted to 70% (Jaskulska and Gałęzowski 2009). Analysis of data on programme implementation in 2004-2007 revealed a great demand for the package in the district under study as 48% of all the applications were made for this package and it covered 54% of arable land under the programme. The most popular crop was "stubble catch crop" because it is easiest to implement (Korsak-Adamowicz et al. 2007). The package "organic agriculture" was chosen by 13.4% farmers (14.5% of the area) in the years 2008-2010 (tab. 1 and 2). Poland's accession to the EU and passing of the CAP in 2003, which created very favourable conditions for organic farming development, resulted in a substantial increase in the number of organic farms (www.minrol.gov.pl/pol/Jakosc... 2011). Data on programme implementation in 2004-2007 in the analysed districts showed a 5% share of the programme in the total number (Korsak-Adamowicz et al. 2007). In the current programming period most applicants have chosen "crop plants" and

"permanent grassland in conversion". The least popular were: "vegetable crops" and "the remaining fruit crops" with no applications made for "herbs" (Table 1).

Table 1

Number of variants of the agri-environment programme implemented in the districts in 2008-2010

Package and variants	Poviats				Sum
	Łosicki	Siedlecki	Sokołowski	Węgrowski	
Sustainable agriculture					
1.1	16	9	19	27	71
Organic agriculture					
2.1	7	10	5	4	26
2.2	7	12	12	32	63
2.3	6	6	4	3	19
2.4	7	9	12	32	60
2.5	2	1	4	1	8
2.6	2	2	5	3	12
2.9	9	7	4	1	21
2.10	5	4	6	4	19
2.11	5	3	1	-	9
2.12	3	1	1	1	6
Extensive permanent grassland					
3.1	110	371	106	346	933
Protection of endangered bird species and natural habitats outside Natura 2000 areas					
4.1	-	1	1	-	2
4.3	2	-	-	-	2
4.6	1	-	-	-	1
4.8	1	-	-	-	1
Protection of endangered birds and natural habitats in Natura 2000 areas					
5.1	-	1	1	-	2
5.3	-	14	1	-	15
5.8	-	2	-	-	2
Conservation of endangered genetic plant resources in agriculture					
6.4	5	2	4	3	14
Conservation of endangered genetic cattle resources in agriculture					
7.1	-	1	-	3	4
7.2	2	3	-	8	13
7.3	1	6	-	4	11
7.4	2	2	-	-	4
Soil and water protection					
8.2	14	30	41	87	172
8.3	84	159	37	41	321
Sum	289	656	264	600	1809

Souce: System of Management Information (Agency for Restructuring and Modernization of Agriculture). Department of Social and Environmental Activities. Warsaw

Explanations – see next page

Table 1 – explanations:
Sustainable agriculture: 1.1 sustainable farming system
Organic agriculture: 2.1 (certified) agricultural crops; 2.2 agricultural crops (in conversion) 2.3 (certified) permanent grassland 2.4 permanent grassland (in conversion) 2.5 (certified) horticultural crops 2.6 horticultural crops (in conversion) 2.9 (certified) fruit crops + berries 2.10 fruit crops + berries (in conversion); 2.11 the remaining fruit crops + berries (certified) 2.12 the remaining fruit crops + berries (in conversion).
Extensive permanent grassland: 3.1 extensive meadow and pasture management
Protection of endangered bird species and natural habitats outside Natura 2000 areas: 4.1 protection of bird meadow habitats; 4.3 tall sedge swamps; 4.6 semi-natural wet meadows; 4.8 species-rich Nardion grassland
Protection of endangered birds and natural habitats in Natura 2000 areas: 5.1 protection of bird meadow habitats; 5.3 tall-sedge swamps; 5.8 species-rich Nardion grassland
Conservation of endangered genetic plant resources in agriculture: 6.4 traditional orchards
Conservation of endangered genetic cattle resources in agriculture: 7.1 conservation of local cattle breeds; 7.2 conservation of local horse breeds 7.3 conservation of local sheep breeds; 7.4 conservation of local pig
Soil and water protection: 8.2 winter catch crop; 8.3 stubble crop

The package "integrated agriculture" amounts to 3.9% of all the applications and is implemented on almost 20% of arable land (tab. 1 and 2). More and more farmers are interested in this type of management compared with 2004-2007 (Korsak-Adamowicz et al. 2007, Waśąg 2010, www.minrol.gov.pl/pol/ Wsparcie.../Dokumenty/ 2011), which, in the poviats under study, was observed in 2010 when the number of applications and the area increased several times (System Informacji Zarządczej ARiMR 2011). It is probably influenced by farmers' greater awareness and knowledge of this farming method, payments which increased by 200 PLN compared with the previous programming period, and the possibility of implementation on every agricultural holding (excluding organic farms). The shares of the packages "conservation of endangered animal genetic resources" and "conservation of endangered plant genetic resources" are small and amount to, respectively, 1.7 and 0.8% of all packages. "Protection of endangered bird species and natural habitats in Natura 2000 areas" and "protection of endangered birds and natural habitats outside Natura 2000 areas" are the so-called natural packages and their implementation started in 2009 because selection of these packages was associated with an expert natural and ornithological opinion from the previous year and the opinion of the Regional Director of Environment Protection.
The share of these packages amounted to, respectively, 1 and 0.3% (2.3 and 0.7% of area). The Siedlecki district was most involved in the implementation, in particular one participant who declared his intention to implement variant 5.1 on 173 hectares (Table 2). As in the previous years (Korsak-Adamowicz et al., 2007) nobody chose the package "buffer zones" and only a few farmers decided to implement the suggested environment protection methods and receive payments associated with the package (System Informacji Zarządczej ARiMR 2011). A similar tendency was observed in the whole of Poland (www.minrol.gov.pl/ pol/Wsparcie.../Dokumenty... 2011).

The greatest sum of payments, altogether in the analysed districts, were received by beneficiaries who had implemented the package "extensive permanent

grassland", the next being "soil and water conservation" and "organic agriculture" (Table 3).

Table 2

Hectarage and animals numbers for individual variants of the agri-environment programme

Package and variants	Poviats				Sum
	Łosicki	Siedlecki	Sokołowski	Węgrowski	
Sustainable agriculture					
1.1	327.75	155.33	1040.19	502.38	2025.65
Organic agriculture					
2.1	52.05	68.83	33.91	104.54	259.33
2.2	50.45	26.96	110.31	238.96	426.68
2.3	11.24	197.57	3.09	27.17	239.07
2.4	14.16	73.02	136.75	117.88	341.81
2.5	2.15	0.43	2.48	0.20	5.26
2.6	0.66	1.11	1.25	0.58	3.60
2.9	32.85	10.81	3.09	3.78	50.53
2.10	10.16	60.77	37.95	6.00	114.88
2.11	21.39	5.04	0.82	-	27.25
2.12	12.37	3.52	1.29	1.50	18.68
Extensive permanent grassland					
3.1	324.26	1325.33	472.47	1578.86	3700.92
Protection of endangered bird species and natural habitats outside Natura 2000 areas					
4.1	-	1824	20.00	-	38.24
4.3	4.07	-	-	-	4.07
4.6	0.40	-	-	-	0.4
4.8	0.56	29.63	-	-	30.19
Protection of endangered birds and natural habitats in Natura 2000 areas					
5.1	-	172.89	17.00	-	189.89
5.3	-	38.86	2.66	-	41.52
5.8	-	2.45	-	-	2.45
Conservation of endangered genetic plant resources in agriculture					
6.4	1.65	1.10	1.06	0.40	4.21
Conservation of endangered genetic cattle resources in agriculture					
7.1	-	5	-	3	8
7.2	2	15	-	28	45
7.3	10	89	-	10	109
7.4	18	6	-	-	24
Soil and water protection					
8.2	99.45	141.85	335.45	545.98	1122.73
8.3	455.83	677.18	250.92	168.46	1552.39
Sum area	1421.45	3125.86	2470.69	3306.69	10324.69

Souce: System of Management Information (Agency for Restructuring and Modernization of Agriculture). Department of Social and Environmental Activities. Warsaw
Explanations as in table 1

Table 3

Payments in PLN received by the farmers who implemented the agri-environment programme

Package and variants	Poviats				Sum
	Łosicki	Siedlecki	Sokołowski	Węgrowski	
Sustainable agriculture					
1.1	117990.0	55918.8	374468.4	180856.8	729234.0
Organic agriculture					
2.1	41119.5	54375.7	26788.9	82586.6	204870.7
2.2	42378.0	22646.4	92660.4	200726.4	358411.2
2.3	2922.4	51368.2	803.4	7064.2	62158.2
2.4	4672.8	24096.6	45127.5	38900.4	112797.3
2.5	2795.0	559.0	3224.0	260.0	6838.0
2.6	1023.0	1720.5	1937.5	899.0	5580.0
2.9	50589.0	16647.4	4758.6	5821.2	77816.2
2.10	18288.0	109386.0	68310.0	10800.0	206784.0
2.11	13903.5	3276.0	533.0	-	17712.5
2.12	9896.0	2816.0	1032.0	1200.0	14944.0
Extensive permanent grassland					
3.1	162130.0	662665.0	236235.0	789430.0	1850460.0
Protection of endangered bird species and natural habitats outside Natura 2000 areas					
4.1	-	21888.0	24000.0	-	45888.0
4.3	3256.0	-	-	-	3256.0
4.6	320.0	-	-	-	320.0
4.8	448.0	-	-	-	448.0
Protection of endangered birds and natural habitats in Natura 2000 areas					
5.1	-	236859.3	23290.0	-	260149.3
5.3	-	35362.6	2420.6	-	37783.2
5.8	-	2131.5	-	-	2131.5
Conservation of endangered genetic plant resources in agriculture					
6.4	3465.0	2310.0	2226.0	840.0	8841.0
Conservation of endangered genetic cattle resources in agriculture					
7.1	-	5700.0	-	3420.0	9120.0
7.2	3000.0	22500.0	-	42000.0	67500.0
7.3	3200.0	28480.0	-	3200.0	34880.0
7.4	10260.0	3420.0	-	-	13680.0
Soil and water protection					
8.2	41769.0	59577.0	140889.0	229311.6	471546.6
8.3	182332.0	270872.0	100368.0	67384.0	620956.0
Sum	715757.0	17182880.0	1149072.0	1664700.0	5247810.0

Souce: System of Management Information (Agency for Restructuring and Modernization of Agriculture). Department of Social and Environmental Activities. Warsaw
Explanations as in table 1

However, there was observed some variation in individual districts. In the Sokołowski district the highest payments were paid to the participants of

the package "integrated agriculture" because it covered the greatest land area whereas in the Łosicki district such payments were associated with the package "soil and water protection". Organic farmers received payments which were the second highest in most districts due to the area under crops and the level of compensations associated with individual variants. Money from additional sources motivates farmers to participate in the agri-environment programme (Bereżnicka 2007; Korsak-Adamowicz et al. 2009) although favourable environmental effects have also been observed (Korsak-Adamowicz et al. 2009). According to Bereżnicka (2007), potential beneficiaries choose packages based on the level of payments rather than benefit calculation. One should remember that the money is not the payment which replaces income earned by the farm but a form of bonus paid to the farmer to compensate for income lost due to abandoned intensification and additional costs incurred because of participation in the programme. The farmer can also obtain money by participating in other aid programmes offered by the European Union.

The priorities of the Rural Develoment Programme for 2007-2013 include supporting agricultural activities carried out based on the natural environment protection standards, and different undertakings which positively influence biodiversity and natural landscape conservation. A total of 2.3 mld EUR has been planned to be spent in the comming programming period to continue agri-environment commitments. Around 110 th Polish farmers have received the payments and over 3.4 mld PLN was already paid by the Agency for Restructuring and Modernization of Agriculture till the end of February 2011 (www. arimr.gov.pl/pomoc… 2011).

A noticeable increase in demand for RDP 2007-2013, axis 2, agri-environment programme in the districts under study over 2004-2007 (Korsak-Adamowicz et al. 2007) and 2008-2010 indicates that farmers are more and more interested in EU pro-environment suggestions. It is most likely that easier access to information, training, expansion of an agricultural advisory system, and changed funding provided for and guidelines of participation in particular packages have been reflected in management methods adopted by modern farmers. It is particularly important for agricultural advisors to be more involved in educational activities as farmers in Poland are less interested in environmentally sensitive farming (Bieńkowski 2007). The situation, however, is likely to change because it has been possible to obtain a 80% subsidy for the access to the services of agricultural advisors since 3rd Jan 2011 (www.arimr.gov.pl/aktualnosci...2001).

4. Conclusions

1. The national agri-environment programme accomplishes its objectives in the districts analysed where farmers are more and more willing to participate in various packages. Due to attractive payments and uncomplicated implementation, the most popular package was "extensive permanent grassland", the next one being "soil and water protection".

2. A noticeable and dynamic increase in interest in package 1.1 (sustainable agriculture), which is a result of activities of advisory services, an access to information and systemic transformations, indicates that the likelihood is that integrated agriculture will be the agriculture of the 21st century.
3. Organic agriculture, which best fulfills the goals of the agri-environment programme, is more and more popular among applicants who notice not only the economic aspect but also environmental benefits of the programme implementation.
4. A very small but increasing proportion of natural packages (4 and 5) indicates that threatened natural habitats and endangered farmland birds will be completely protected, which may, to a great extent, contribute to increased biological diversity of rural areas and agrocoenoses.

References

Bereżnicka J., 2006. Ochrona środowiska w gospodarstwie rolnym – nowe wyzwanie dla rolników. Stowarzyszenie ekonomistów rolnictwa i agrobiznesu. Rocz. Nauk., T. VIII, 4: 37-41.

Bereżnicka J., 2007. Program rolnośrodowiskowy a bilansowanie środków pieniężnych w gospodarstwie. Fragm. Agron., 95(3): 11-17.

Bieńkowski J., 2007. Ocena implementacji przedsięwzięć rolnośrodowiskowych w Wielkopolsce. Fragm. Agron., 95(3): 18-25.

Duer I., 2007. Programy rolnośrodowiskowe instrumentem ochrony zasobów środowiska we Wspólnej Polityce Rolnej Unii Europejskiej. Studia i raporty IUNG-PIB, 7: 33-53.

Jaskulska I., Gałęzowski L., 2009. Aktualna rola międzyplonów w produkcji roślinnej i środowisku. Fragm. Agron., 26(3): 48-57.

Jaskulski D., 2009. Przyrodnicze i organizacyjno-ekonomiczne uwarunkowania realizacji programu rolnośrodowiskowego w Polsce. Fragm. Agron., 26(4): 46-54.

Kondracki J., 1978. Geografia fizyczna polski. PWN, Warszawa: 316-323.

Korsak-Adamowicz M., Starczewski J., Dopka D., 2007. Realizacja Krajowego Programu Rolnośrodowiskowego we wschodniej części województwa mazowieckiego. Pam. Puł., 146: 5-10.

Korsak-Adamowicz M., Starczewski J., Dopka D., 2009. Działania rolników zmierzające do kształtowania i ochrony bioróżnorodności. Pam. Puł., 151/II: 541-551.

Przewodnik po programie rolnośrodowiskowym., 2009: Biblioteczka programu rolnośrodowiskowego 2007-2013.

Rozporządzenie Ministra Rolnictwa i Rozwoju Wsi z dnia 10 marca 2011 r. zmieniające rozporządzenie w sprawie szczegółowych warunków i trybu przyznawania pomocy finansowej w ramach działania „Program rolnośrodowiskowy" objętego Programem Rozwoju Obszarów Wiejskich na lata 2007-2013. Dziennik Ustaw Nr 96, Poz. 560.

System Informacji Zarządczej ARiMR. Departament Działań Społecznych i Środowiskowych. Warszawa (data sporządzenia 20.04.2011).

Wasąg Z., 2010. Realizacja pakietów rolnictwo zrównoważone i rolnictwo ekologiczne w ramach programów rolnośrodowiskowych w powiecie biłgorajskim. Fragm. Agron., 27(4): 155-160.

www.arimr.gov.pl/aktualności/artykuły/komentarze-zmiany-w-zasadach-dofinansowania-dostepu-do-platnych-uslug-doradczych (data sprawdzania 27.05.2011)

www.arimr.gov.pl/pomoc-unijna/prow-2007-2013/program-rolnośrodowiskowy (data sprawdzania 27.05.2011)

www.minrol.gov.pl/pol/informacje-branżowe/Opracowania-i-publikacje (data sprawdzania 27.05.2011)

www.minrol.gov.pl/pol/Ministerstwo/Biuro-Prasowe/Informacje-Prasowe/Rozporządzenie-dot.-Program-rolnośrodowiskowy (data sprawdzania 27.05.2011)

www.minrol.gov.pl/pol/Jakosc-zywnosci/Rolnictwo-ekologiczne-w-Polsce (data sprawdzania 27.05.2011)

www.minrol.gov.pl/pol/Wsparcie-rolnictwa-i-rybolowstwa/PROW-2007-2013/Dokumenty-analizy-raporty (data sprawdzania 27.05.2011)

www.minrol.gov.pl/pol/Wsparcie-rolnictwa-i-rybolowstwa/PROW-2007-2013/Działania-PROW-2007-2013/Os-2-Poprawa-srodowiska-naturalnego-i-obszarów-wiejskich/Program-rolnosrodowiskowy-Platnosci-rolnosrodowiskowe/Biblioteczka-rolnosrodowiskowa www.arimr.gov.pl (data sprawdzania 27.05.2011)

www.minrol.gov.pl/pol/Ministerstwo/Biuro-Prasowe/Informacje-Prasowe/Rozporządzenie-dot.-Program-rolnośrodowiskowy (data sprawdzania 27.05.2011)

www.stat.gov.pl (data sprawdzania 27.05.2011)

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