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Final Report

Supportive Measures for Sustainable Rural Development

Austrian - Polish Research and Implementation Project

Report to the Federal Ministry
for Education, Science and Art, Austria

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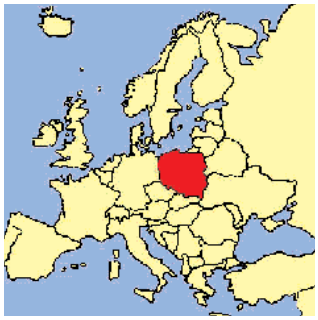
Content

1. INTRODUCTION

Agriculture as problem of Poland's EU accession

Poland will join the European Union (EU) in May 2004. In course of the integration process, Poland will undergo a variety of significant changes, including substantial adjustments of its agricultural sector to address major problems such as existing small-scale structures of farms. In addition, measures have to be designed and implemented to increase income from agricultural activities since Poland's farmers currently constitute one quarter of the country's workforce but produce only seven percent to the country's GDP. In its policy for future enlargement of the Union, the EU favors comprehensive approaches which aims at both the development of socially and economically stable structures and the protection of natural resources.

Map 1: Poland



Source: http://www.cia.gov/csi/books/poland/ch1.htm

Rural areas in Austria and Poland have similar conditions

- One of the goals of the Polish Government is to prevent emigration from and depopulation of rural areas. To address these issues the creation of new income sources and job alternatives for the rural population will be a major policy priority for the years to come. Polish Agricultural Advisory Centres are among the main institutions to co-operate with the Ministry of Agriculture and Food Economics and provincial authorities in order to implement the Policy of the State for sustainable rural development.

- In their search for new strategies and solutions for Polish rural areas and rural dwellers, the Advisory Centres are highly interested to co-operate with countries from the European Union, which are characterised by similar agricultural structures and proved to solve similar rural problems in a successful way.

Agricultural Advisory Centres are willing to cooperate

- Within the EU Austria brought in an agricultural and rural policy emphasising more the social and environmental sound aspects than the EU agricultural policy did ever before. Austria's agricultural structures are comparable to structures of the private agricultural sector in Poland, which is mainly small family farms depending on income sources outside farming activities. Therefore Austrian expertise could promote its approach to multifunctional agriculture which is more concentrated on regional markets also in Eastern Europe.

Austrians rural development policy emphasizes environment

- Austria has successfully established a wide range of institutions and organisations (such as Regionalmanagements, Dorferneuerung, Kleinregionen etc.) operating in the field of rural development. Through activities such as the proposed projects they can gain expertise in advising and working in Eastern European regions. This additional qualification in know how exchange will lead to future sources of income for them and strengthen their position on the market.

Austria has a wide range of institutions in rural development

Why a research co-operation on sustainable agriculture and rural development?

Over the last 10 years a close co-operation between MECCA Environmental Consulting and the Agricultural University in Poznań and two provincial Agricultural Advisory Centres (ODRs) has been established. This co-operation has been intensified and extended to NACARDs (National Advisory Centres for Agriculture and Rural Development) in the year 1999. A pilot project on sucessful co-operation in the field of agriculture and rural development has been conducted in the years 1998-2000. In course of this project a know-how exchange in the field of sustainable agriculture and regional development between Austrian and Polish experts and advisors took place. A major aspect of this project was to assist Polish Agricultural Advisory Services in improving the quality of their information services in order to meet future requirements on the respective field. Austrian experts developed a range of innovative and successful strategies for enhancing economic efficiency while at the same time promoting socially and ecologically sustainable development.

Polish - Austrian research cooperation to support agriculture in Poland

These approaches served as illustrative examples and starting points for discussion on strategies that may be suitable to address Poland's needs. In total, about 250 interested persons, including representatives of universities, Polish Agricultural Advisory Services, farmers and scientists together with 25 Austrian experts participated in a training programme. An important outcome of this intensive know-how exchange was the conclusion, that in a next step joint efforts should be put on the examination of specific measures having been sucessful in Austria under Polish conditions, in order to identify suitable and useful strategies fitting to local needs in Polish rural areas.

2. OBJECTIVES

The project aims to support Poland by developing a Coherent Structural and Rural Development Policy

Since Poland is aiming at the EU integration, the international collaboration became a more and more important element of successful long term projects for sustainable agriculture and rural development. Especially international standards and regulations concerning agri-environmental and other rural issues, crucial elements of the present model of European rural development, are fundamental to be developed in Poland. The proposed project aims at supporting Poland in developing a Coherent Structural and Rural Development Policy in order to prevent enormous economic breakdowns and unemployment in rural areas. It is to intensify the support of the agricultural and rural sectors in Poland through strengthening and extending activities aiming at the development and implementation of new strategies for both creating a healthy rural economy and ensuring the protection of the natural environment. One aspect of predominant importance is the enhancement of endegenous development strategies building on local resources. Another significant aspect will be the development of an integrated rural development approach, which ensures positive synergies among the different aspects of rural development.

Photograph 1: Market in Krakow

Source: MECCA

Common search for development measures for sustainable agriculture

The transition in Poland requires not only the simple adoption of Austrian strategies for agriculture and rural development but the many modifications and even new original solutions. The international co-operation project therefore aims at the creative identification and development of measures for sustainable agriculture and rural development projects adapted to the Polish situation by using Austrian´s broad experiences in this respective field. Central to all activities remain the following objectives:

- Study of the environmental and economical implications of agri-environmental measures on Polish farms and under Polish circumstances which have been successfully implemented in Austria
- Study of existing rural development activities in Poland and possible improvements by using Austrian experiences in rural development strategies
- The transformation of the scientific results into user friendly material for extension workers in agriculture and rural development
- Information of Polish rural extension services on successful strategies in sustainable agriculture and rural development and on implications of implementing European regulations in agricultural and rural areas in Poland
- Extension workers and other actors in agriculture are enabled for effective adoption of European experiences in sustainable agriculture and rural development
- Extension workers are enabled to deliver and multiplicate know-how in the chosen aspects of rural development and to promote rural development strategies among local communities
- Austrian experts are actively involved in innovating new strategies in Poland towards an environmental and economical sustainable rural development
- The establishment of an Austrian-Polish platform for know-how transfer in agriculture and rural development in order to conduct further EU-funded co-operation projects

Photograph 2: Small-scaled acres near Krakow

Source: MECCA

3. APPROACH AND METHODOLOGY

Studying agri-environmental measures and rural development in Austria and their implications for Poland

Using Austrian experiences in implementing agri-environmental programmes following the EU regulations 2078/92 and 1257/99, the possible implications of agri-environmental measures implementation under actual Polish conditions were studied. ÖPUL measures were selected (e.g. inter cropping, permanent grassland, reduction in fertilising, organic farming, nature protection), and tested under Polish agricultural conditions, focusing on it´s major potential implications for the Polish agriculture and rural areas.
Austrian case studies in rural development and possible applications for Poland are studied.

Literature study

In course of a literature review, a study of the history and the effects of the Austrian agri-environmental programmes on Austrian agriculture, environment and rural areas has been conducted. The agricultural policy in Poland and planned programmes concerning the implementation of EU regulation 1257/99 and arising problems were studied and evaluated.

Personal and telephone interviews

A lot of institutions and organisations (public and private) have been interviewed by phone to get the newest informations and to become an impression which measurements will be done in future.

Photograph 3: Polish experts at the excursion in Lower Austria 1998

Source: MECCA

Photograph 4: Small-scaled acres near Opole

Source: MECCA

Polish case study - Farm survey

A farm survey has been conducted in the Polish Voivoidship Opole in the course of this project. For this survey out of 50 farms, practising in course of a long term study comparable agri-environmental measures over a certain period of time, a set of private run farms, comparable to farm size and farm management of Austrian farms, are selected. The agri-environmental measures are assessed on each farm focusing on economic and environmental aspects. Changes in the economy, production and environment are evaluated for each farm.

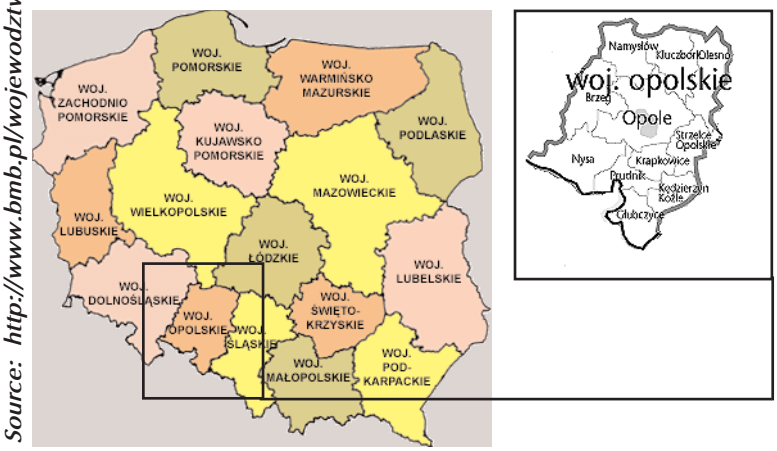
Comparative study

A comparative study on the implementation of selected agri-environmental measures in Poland and Austria was conducted and arising problems and chances under different circumstances discussed. Special attention is put on selective measures, like marketing of agricultural products, village development and diversification in agriculture. In Austria over the last 5 years many projects have been conducted in the above mentioned fields getting financially support in course of implemented 5b, actual Art. 33 measures.

Presentation of study results at an Experts Conference

The results of the scientific study were presented to the scientific community in course of an Expert Conference in Mistelbach, 17th to 20th of September 2002 on the implementation of rural development programmes in Eastern European countries. Additional there was given a speech at the Agricultural University of Poznan and at the Agricultural Advisory Centre in Losiow/Poland by the Austrian project partners.

Map 2: The case study region in Poland - Opolskie



Source: http://www.bmb.pl/wojewodztwo

4. PROJECT IMPLEMENTATION

The main goal of the project was to assist Polish institutions in developing appropriate long-term strategies for re-structuring the agricultural sector and rural development. In a first step a scientific research on the possible effects and implications of the implementation of measures according to EU Regulation 1257/1999 in Poland was made. The second step was to conduct and identify appropriate case studies in Austria and Poland. The third step was a ccomparative study using Austrian experiences for comparison and further recommendations. In the fourth step the outcome was presented to the scientific community in course of an experts conference. The transformation of the results is an ongoing process.

Figure 1: Project implementation

Organisational structure

Project module:	Methods:	Topics:	Partners: 1) MEC	2) VUT	3) AUP	4) ACI	5) NCA
Scientific Reserarch	Literature study	Agri-environmental measures	X	X	X		
		Rural development	X	X	X		
	Case study	Agri-environmental measures	X		X	X	
		Rural development	X	X	X	X	
	Comparative study	Agri-environmental measures	X	X	X		
		Rural development	X	X	X		
	Conference	Agri-environmental measures	X	X	X	X	X
		Rural development	X	X	X	X	X
Trans-formation of the Results	Facilitation of Know how exchange	Agri-environmental measures	X		X	X	X
		Rural development	X		X	X	X
	Development of practical guide f. extensionists	Agri-environmental measures	X		X	X	X
		Rural development	X		X	X	X

1) Mecca Environmental Consulting Vienna; 2) Vienna University of Technology, 3) Agricultural University Pozna , Poland; 4) Provincial Agricultural Advisory Centre Łosiov & Marshew (ODR), Poland; 5) National centre for Agricultural & Rural development Krakow (NACARD), Poland

5. AGRICULTURE AND RURAL AREAS IN POLAND

5.1. Agriculture

General information on Polish agriculture

Agriculture is still playing a decisive role in Poland although the contribution of agriculture, forestry and hunting to the Gross Domestic Product in Poland has been falling steadily since 1990. This results primarily from the lack of growth in agricultural production volume while the other sectors of economy were expanding. Besides, stagnation, and even decline in real term prices for agri-food products was in place. The importance of agriculture in Poland is much higher than it might appear given its contribution into the GDP. In many regions, agriculture is crucial to the development level and living standards of rural population.

In 90-ies decline in agricultural output volumes

Poland is a significant agricultural producer both, in Europe and world-wide with a leading position in the production of many agri-food products. In the 90-ies, the agricultural production growth rate fluctuated considerably. Notable decline in the output volume resulted not only from unfavourable weather conditions, but the overall ongoing changes of political system and economic terms and conditions as well. The domestic demand for agri-food products collapsed and the prices followed in suite, which led to deteriorated profitability and output decline. Moreover, comprehensive restructuring of public sector was underway as well, which imposed some limitations onto agricultural production and resulted in reduced share of that sector in agricultural output. A significant number of Polish farms (40%) have a mixed production profile without any clear specialisation. At present, 38.1% of farms above 50 ha are engaged mostly in plant production and 17% deal with animal production. Farms specialising in animal production appear mostly in the group of 7-15 ha (28.3%) and 15-50 ha (33.7%).

Figure 2: Agricultural product prices in Poland and Austria

	AUSTRIA (€ / ton)			POLAND (in % of austrian prices)		
	1997	1998	1999	1997	1998	1999
Wheat	113,37	118,46	113,37	122,5	102,8	90,1
Maize	101,74	109,01	108,28	135,6	118,2	95,4
Sugar Beet	47,24	41,42	42,15	62,9	67,0	59,3
Oil seeds	204,36	185,82	133,79	114,5	124,2	132,8
Tomatoes	444,76	434,58	446,94	45,5	.	.
Apples	254,35	268,89	247,09	18,5	.	.
Beef - Veal	2381,27	2484,39	2386,87	76,3	72,5	71,8
Pork	1692,40	1192,20	1078,76	72,2	101,9	89,3
Poultry	1074,83	1055,94	1042,86	115,8	111,0	88,3
Eggs	626,44	575,57	569,76	195,8	233,0	215,5
Milk	276,16	276,16	284,15	59,6	58,6	51,8

Source: PREPARITY (Study by WIFO Austria); Part 6-2 (Agriculture and food economy)

In the group of 1-7 ha farms the most important specialisation for 38.7% of the farms is plant production, whilst 25.5% of these farms concentrate on animal production. In livestock production, 90% of the total output is marketed, with 73% in case of milk, and 67% in case of eggs. Despite sizeable needs and publicly funded assistance, the investment outlays in agriculture have decreased in real terms primarily due to difficult economic situation in Polish agricultural sector. Soil conditions in Poland are not very favourable for agriculture. Poor quality soils (Polish grade 5 + 6) cover a high percentage of the land (34.6%) whilst the best soils (grade 1 + 2d) account for only 3.3%.

The land occupied by forests is 28% of the total which falls below the European average. The Government plans to increase expenditure on afforestation and to introduce afforestation incentives for private landowners as subsidies in line with EU legislation. According to the National Programme for Afforestation which has been in existence since 1995, 700.000 ha will be afforested before the year 2020.

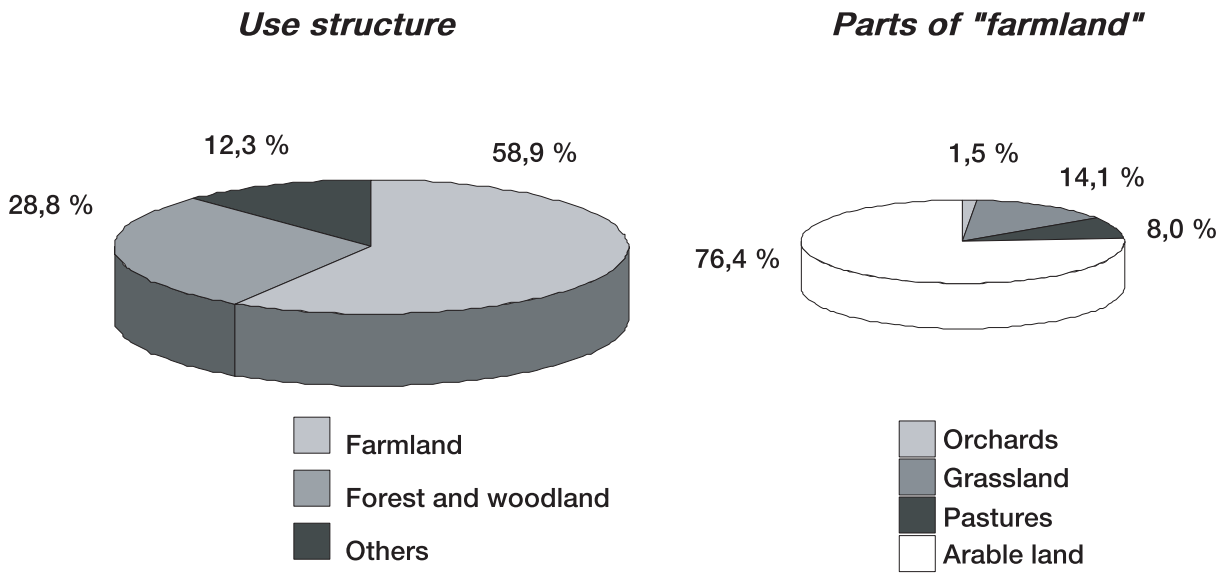
5.1.1. The Use of Farmland and the Profile of Farm Holdings

Poland´s farmland is almost 1/5 of the EU farmland

Rural areas in Poland are defined as territory situated outside town administrative boundaries, unlike in the European Union and by the OECD, where the distinction between urban and rural is based on population density.

The farmland acreage in Poland totals 18.4 million hectares, which accounts for over 18.5% of total farmland in the European Union. Only the total national farmland areas in Spain and France exceed that in Poland. In terms of farmland use structure, the share of arable land and the area under perennial crops in the total acreage in Poland is higher (78%) than in the EU (64%).

Figure 3: Farmland use structure in 2001



Source: Polish Central Statistical Office

In 1999, the reclaimed farmland area amounted to 6.7 million hectares, i.e. 36.2% of total farmland acreage, and 70% of the total area in need of reclamation. It is estimated that land reclamation facilities in the area of 1.3 million hectares need to be modernised and reconstructed as their amortisation period has elapsed already. Out of total farmland area in 2001, arable land accounted for 76.4% i.e. 14.1 million hectares.

Who ownes the farmland?

Out of the total farmland acreage in 2000, 17.0 million hectares, i.e. 92.2% was utilised in private sector, which was the dominating one, whereas 1.4 million hectares, i.e. 7.8% of the total, was in the use of public sector.

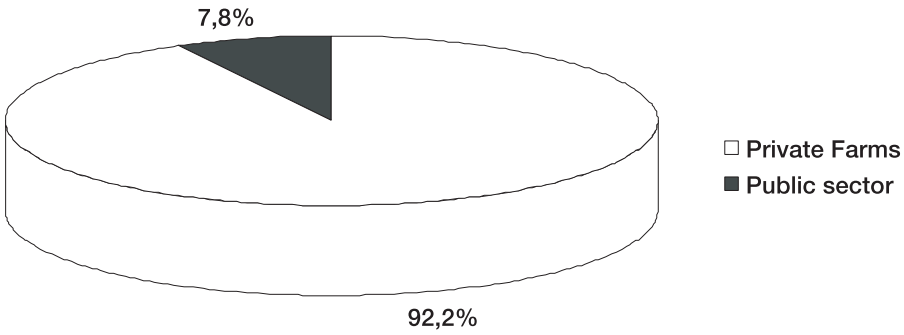
Figure 4: Land use in Poland 2001

Wyszczególnienie *Specification*		Powierzchnia ogólna kraju *Total area of the country*	W tym *Of which*					
			użytki rolne *agricultural land*					lasy *forests*
			razem *total*	grunty orne *arable land*	sady *orchards*	łąki *meadows*	pastwiska *pastures*	
		w tys. ha *in thous. ha*						
OGÓŁEM *TOTAL*	1990	31268	18720	14388	272	2475	1585	8754
	1995	31269	18622	14286	290	2417	1629	8822
	2000	31269	18413	14063	267	2608	1475	9004
	2001	**31269**	**18392**	**14046**	**268**	**2598**	**1480**	**9028**
W tym gospodarstwa indywidualne *Of which private farms*		**18097**	**15550**	**11916**	**250**	**2190**	**1194**	**1482**
W tym indywidualne gospodarstwa rolne *Of which private farms*[a]		15038	13450	10558	204	1916	772	996
o powierzchni użytków rolnych: *with agricultural land of:*								
1,01— 4,99 ha		3178	2687	2029	60	479	119	301
5,00— 9,99		3684	3245	2507	70	490	178	293
10,00—14,99		2452	2209	1717	35	318	139	160
15,00—19,99		1553	1413	1094	16	205	98	92
20,00—49,99		2529	2336	1843	15	307	171	122
50,00 ha i więcej *and more*		1642	1560	1368	8	117	67	28

a Excluding private agricultural plots of up to 1 ha of agricultural land.

Source: Polish Central Statistical Office

Figure 5: Farmland area according to user groups in 2000. (Private sector area total: 17 million ha, public sector area total: 1,4 million ha)



Source: Polish Central Statistical Office

In Poland there are about 2 million farms

According to the 1996 Agricultural Census, the total number of agricultural farm holdings was that of 2.046.8 thousand with the average farm acreage totalling 9.3 hectares and the average farmland area of 7.6 hectares. Furthermore, the Census revealed considerable differentiation of farm holding acreage depending on organisational forms. Farm holdings owned by the State Treasury were in the group with the largest average acreage, i.e. 1.550 hectares, whereas private farms were in the group of the smallest farm holdings with the average area of 7 hectares. In 2000, the number of farm holdings decreased to the total of 1.885.7 thousand, whereas the total average farm acreage rose to 9.6 hectares, and that of average farmland increased to 8.5 hectares, while the average acreage of a farm holding in the EU totalled 18.4 hectares of farmland in 1999.

Figure 6: Farm holdings and size in Poland

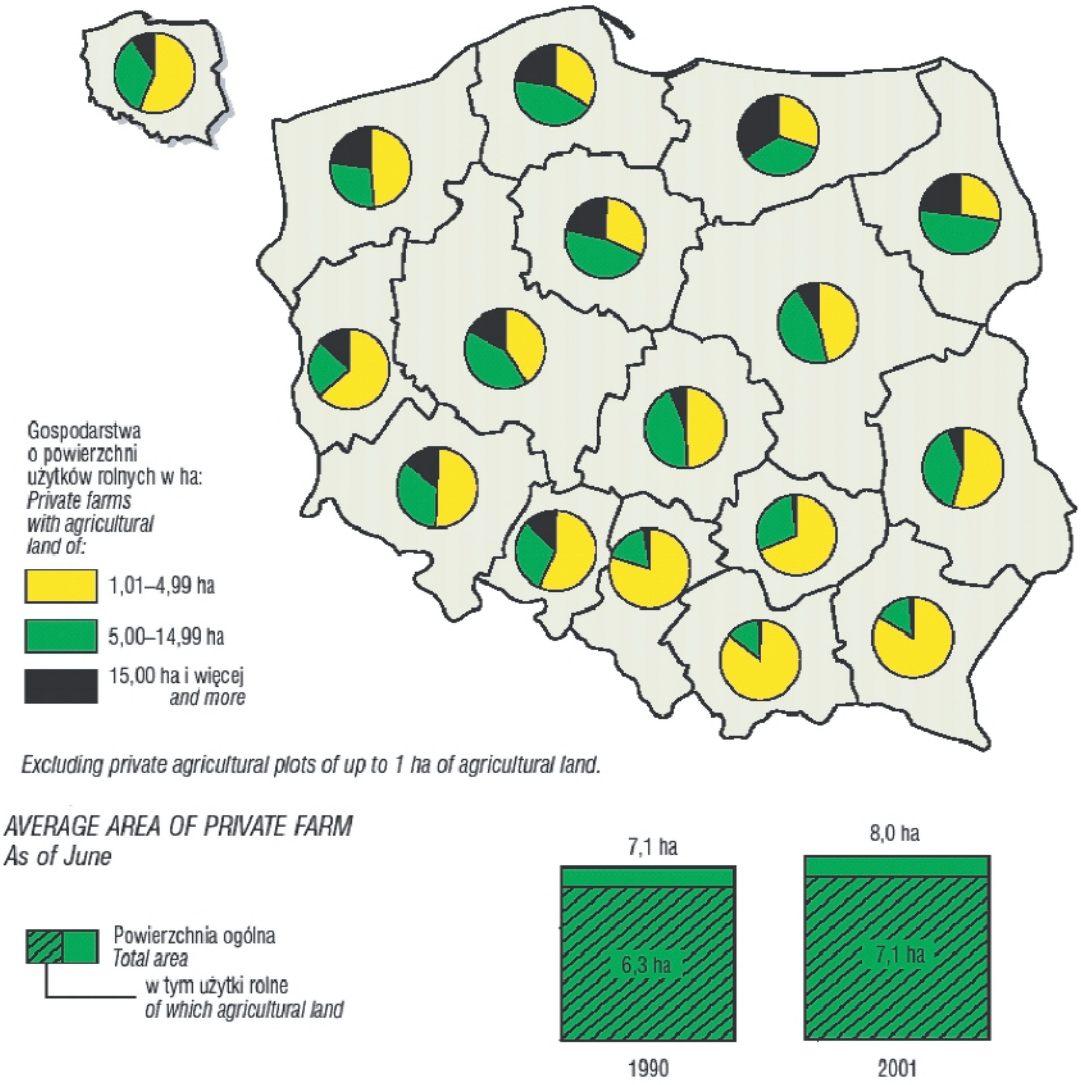
YEAR	TOTAL NUMBER OF AGRICULTURAL FARMS	AVERAGE FARMLAND AREA
1996	2.046.800	9,3 ha
2000	1.885.700	9,6 ha
1999		18,4 ha EU average

Source: Ministry for Agriculture & Rural Development

Low use of chemical inputs is a characteristic feature of Polish agriculture

As a result of historical development, various patterns and manners of farming and farm holding organisations have been set in place. Most of farm holdings in Poland, especially the commercial ones, are equipped with basic cultivation machinery, which they own. On the average, one tractor is used to cultivate 12 hectares of farmland in Poland. The average age of tractors is above 18 years. Furthermore, equipment to fit the tractors is often incomplete. The sales of agricultural machines were increasing slowly in the years 1992-1996. Farm machinery purchasing started to fall in 1997, which is due to downward economic trends and, therefore, reduced investment capacity in most farm holdings. Low use of chemical inputs is a characteristic feature of Polish agriculture. It is 1.5 times lower in Poland than in the European Union.

Map 3: Differentiation of private farms by size and voivodship in 2001



Source: Polish Central Statistical Office

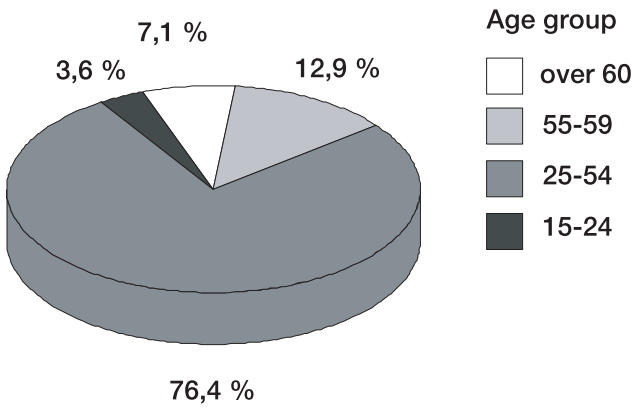
5.1.2. Employment in Farming Sector and Rural Areas

Women play an important role in agriculture

According to quarterly studies on the economic activity of Polish population, the number of people employed in agriculture, hunting and forestry in 2000 totalled 2.742 thousand people, i.e. 18.9% of the overall employment, whereas the overall employment in rural areas totalled 5.596 thousand people, i.e. 38.5% of the total. Women accounted for 4.4% of the total labour in agriculture, forestry and hunting. The percentage of multi-generation families is much higher than in towns. Households with 5 people and more account in rural areas for 29.7%, while in towns for 12.2%.

The unemployment rate nation-wide was 15% in December 2000. The total rate of unemployment in rural areas is twice as high as in urban areas. This, however, is regionally differentiated. The areas dominated by former state farms have the highest levels of unemployment. Many people have off-farm income, but agriculture still represents an important additional source of income that cannot be neglected.

Figure 7: Labour force in rural areas



Source: Polish Central Statistical Office

5.1.3. Rural Technical Infrastructure

Rural technical infrastructure still has to be improved

As regards rural infrastructure development in the last few years, some tangible and notable progress was achieved, even though it has not satisfied completely the existing demand and expectations of rural population. Tap water supply in rural areas has improved. About 76.5% of the total of farm holdings and farmland plots were connected to water supply network. However, the expansion of sewerage network still only rarely accompanies the investment projects aimed at the development of water supply network, as only about 9.6% of the total farm holdings are connected to sewerage network. The total number of villages in Poland is 43.505, 80% of them have communal water supply networks, and 16.3% have communal sewerage systems in place.

The density of rural road network is generally sufficient, even though many of them need to be modernised and repaired. Moreover, many of the convenience roads need to be macadam covered. The number of telephone network users in rural areas exceeded 14 per 100 inhabitants in 1999, which means that rural areas lag behind the national average, i.e. 26 telephone users per 100 inhabitants. Since the investment in rural infrastructure development is urgently needed, it is promoted and co-funded by many national institutions.

5.1.4. Plant Production

Ground vegetables are grown primarily in the private sector

In 2000, 99% of ground vegetables and 93% of protected vegetable output originated from private sector. Considerable share of ground vegetables is usually sold at market places and traded amongst neighbours, or consumed directly on the farm. Only 10-15% of vegetable output enters the market. Carrots, onions and tomatoes are the crops most frequently traded. As for geographical distribution, most vegetables are grown near big urban centres. In 2000, the total number of fruit bearing trees in Poland was 103 million with the area of 276.9 thousand hectares. Apple orchards are of major importance as apples account for 80% of the total fruit crop. Over 400 thousand tons of berry fruit is produced in Poland with strawberries and currants being major items in this group.

5.1.5. Animal Production

Intensity of animal production is generally low

Animals are kept on over 80% of all farm holdings in Poland. However, no marketable animal production takes place in most of them. In 2000, cattle was kept on almost 66% of farm holdings, whereas pig livestock was kept on over 46% of farms. Sheep production was carried out in over 15% of farms and that of chicken poultry was in place on over 70% of farm holdings. Intensity of animal production is generally low, but there are also some farms specialising in milk or meat production and also poultry. Since 1990, population of most farm livestock has continued to decrease, but the decline was less pronounced in case of pigs than cattle, sheep and horses.

Apart from pig and cattle livestock, the production of poultry, sheep and horses is also of some economic significance

Poland has been a sizeable pig meat producer for many years. Pig livestock accounts for about 1/4 of the total value of domestic marketable agricultural output. Recently, greater interest in pig livestock production has been observed, which results largely from reduced beef consumption and optimistic forecasts on good forage crops in 2001, especially cereals. Apart from pig and cattle livestock, the production of poultry, sheep and horses is also of some economic significance in Poland. The horses are mostly tillage and slaughter horses, frequently exported to the West European markets. Their use pattern has been changing for over a decade and now they are often used specifically for riding rather than general purposes. Wielkopolska, Small Poland and Silesian breeds are quite well known.

5.1.6. Ecological Farming

Ecological farms mainly in the south eastern and central part of Poland

Food produced thanks to environmentally friendly, ecological methods in clean and safe environment is becoming vitally important in agricultural production all over the world, and in Poland as well. The prices follow in suit, being higher than for traditionally produced food. This provides an excellent opportunity for the farmers to improve profitability of agricultural production. However, this leads also to some difficulties on the outlet markets, especially given the currently low income level amongst prospective customers. Therefore, ecological agriculture needs the public budget support. Until now, ecological production was based on the criteria developed by ECOLAND Association. Farmers running ecological farms are organised in two major organisations:

- EKOLAND
- Polish Association of Organic Farming

Figure 8: Subsidies for Organic farming in Poland (in Euro per hectare)

Product	Farms in transition to organic farming	Organic Farms
Vegetable	125	166,67
Cereals	100	125
Fruit-trees	150	183,33
Berries	166,67	191,67
Grassland	33,33	41,67

Area	Subsidies
< 5 ha	83,33
5 - 10 ha	97,22
10 - 20 ha	111,11
20 - 50 ha	125
50 - 100 ha	138,89
> 100 ha	166,67

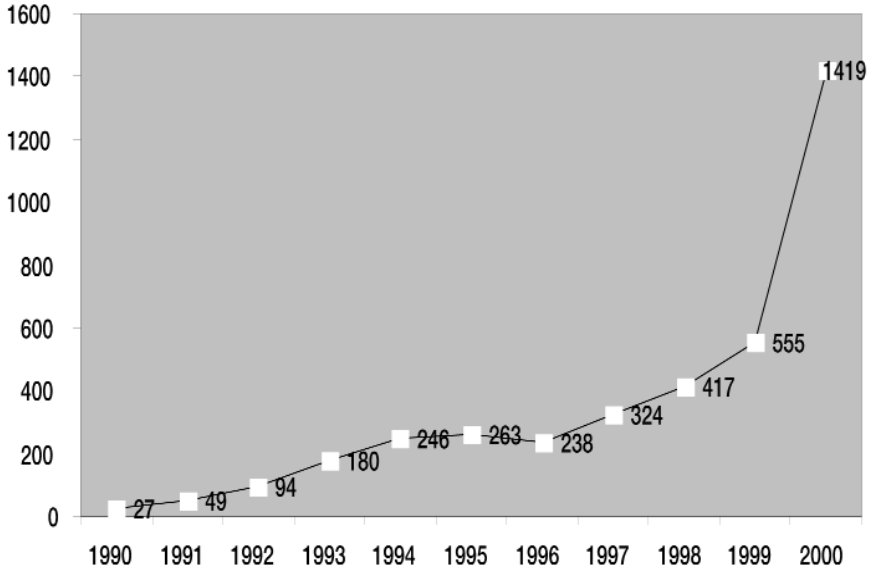
Figure 8a: Support for control activities in Polish organic farming

Source: Ministry for Agriculture & Rural development, Numbers for 1999

Ecological farming can provide additional employment opportunities

Ecological farms are inspected at least once a year by a certifying body, which performs also supervision activities. The dynamic growth of ecological farms number, primarily in the south-eastern and central parts of Poland is mainly due the fact that to cost of control activities was subsidised from public budget commencing 1998, but the implementation of subsidies per hectare of ecological crops in 1999 was of key importance. However, the number of ecological farms in Poland is still not significant given the fact that almost all of Polish farmland is free from heavy metals and other contamination of industrial origin. Ecological farming can provide additional employment opportunities for those seeking jobs in rural areas as well as contribution to the promotion of further restructuring process in Polish agriculture. A lot will depend upon the successful promotion, domestically and abroad, of ecological farming and ecologically produced food of guaranteed quality originating from Poland.

Figure 9: Number of ecological farms in Poland



Source: Ministry for Agriculture & Rural Development

5.1.7. State of the Environment

Polish agriculture tends to be extensive

The quality of the environment in rural areas reveals high regional variations. Nonetheless, most rural areas have high quality physical environments which allow organic production. Polish agriculture tends to be extensive; with the use of the mineral fertilisers being on average 2-3 times lower than in OECD countries. Whilst the use of pesticides is some 7 times lower than the mean OECD level.

Environmental problems in industrial areas

Water and soil tend to be more degraded in large industrial areas than in rural districts. Research done by the Institute of Plant Cultivation, Fertilisation and Soil has shown that soil contamination with heavy metals which makes production of plants for consumption not recommended only applies to 3% of arable land in Poland, whilst on 2% of land plants for consumption should not be grown at all.

Water pollution originates mainly from municipal waste and animal production in the absence of leakproof dunghills. Some small farms still use wells that are frequently polluted by effluent running into them from farm buildings and living quarters.

20% of Poland suffers from water and wind erosion

About 20% of Poland's land area suffers from significant water and wind erosion. Another 30% of soils are subject to the process of excessive acidification. The level of soil humus is also decreasing contributing to soil degradation.

Other environmental threats result from past swamp drainage and include the lowering of the ground water level and excessive drying out of about 800.000 ha of arable land.

Additional ecological problems arose due to the 1997 and 1998 floods. The floods destroyed almost half a million ha with a loss of the upper fertile soil layer and increased soil acidity.

This range of problems clearly indicates that protection of agricultural environmental resources must form an inherent part of any comprehensive programme. Agriculture may be a source of environmental pollution, but on the other hand it permanently suffers from pollution coming from other sectors of the economy. A comprehensive environmental policy in agriculture must encompass both human and farm resources with integrated environmental protection programmes including soil protection, biodiversity, flood protection, water management, urban and rural planning, afforestation and tree-planting programmes and promotion of organic farming.

5.1.8. Agro-tourism and Tourism in Rural Areas

Agro tourism has high potential in Poland

Tourist services related to farming activities have in Poland a tradition of many years. After a break of 50 years, that tradition was brought back to life at the onset of the 90-ies, which has provided the farmers with opportunities of earning some additional income, and the city dwellers could find out about folk culture that has been so lovingly preserved in many villages. In Poland, there are many rural areas of outstanding scenic beauty. The European Union experts have recognised agro-tourism as one of the five major tourism products in Poland having a good chance of successful competition on international markets.

Polish Federation of rural tourism represents about 2.500 service providers

The time has come to adjust service performance level in line with the expectations of prospective quests. Persons offering accommodation are organised in regional associations and over 40 regional units, which represent about 2.500 tourist service providers. They have formed the Polish Federation of Rural Tourism "Guest Welcoming Farms", which is the member of European Organisation of Rural Tourism-EUROGITES and organises many fairs and seminars. The work was launched to categorise accommodation facilities according to specific criteria developed under the framework of PHARE TOURiN II Programme. Business activities related to the development of agro-tourism services in rural areas are supported by the state in the form of tax abatements, micro-loans and soft-term credits. Furthermore, non-government organisation provide their support as well, such as training activities, conferences, publications or catalogues promoting agro-and rural tourism in various regions in Poland. Over 11.000 holdings welcome tourists in their farmhouses. Most agro-tourism farms are located in the region of Mazury, Suwalki, Kaszuby, Bory Tucholskie, Bieszczady, Sudeten and Lower Silesia.

Numerous publications promote specific regions and present the up-to-date selection of "Guest Welcoming Farms". The National Federation has implemented a service standardisation system with logo. Tourism services in rural areas provide 15.5 thousand jobs. In 2005, about 55 thousand jobs are expected to be created in agro-tourism services, which will rank 5th as non-agricultural business activity in rural areas in terms of jobs supply. Moreover, further growth of tourist services will pave the way for the expansion of other business activities in rural areas, which will significantly reduce tensions on the labour market.

5.1.9. The Agricultural and Food Trade in Poland

Diminishing importance of export and import of agricultural products

Agricultural produced and processed foodstuffs are important groups of Polish foreign trade items even though their share has been declining on the export and import side. In 2000, the agri-food products accounted for 8.4% of total exports, and 6.5% of total imports. The value of agri-food exports totalled USD 2.6 billion, and USD 3.2 billion on the import side.

As for trading partners of Poland, the European Union was the main one as regards both, exports and imports. Russia and Former Soviet Union Republics played a very important role with regard to exports. In 2000, 48.6% of total Polish agri-food exports were sold onto the European Union market, whereas 22.7% hit the eastern markets. Slightly over 50% of the total imports originated from the European Union Member States.

5.1.10. Research and Development in Agriculture and Rural Development

29 research units within the Ministry of Agriculture

The Minister of Agriculture and Rural Development is in charge of 29 research and development units. Research units operating within the Ministry framework carry out research and development activities supported with the public budget funding in such areas as plant and animal production, agri-food processing, farming know-how as well as production economics and organisation, and multi-functional rural development. Experimental units within institutes facilities deal with the scientific research, they run business activities in the area of breeding, animal keeping, crop cultivation and production technology and also prepare annual draft programmes of implementation, dissemination and training activities. Moreover, they are also to reach the specialists working in many institutes and organisations. They are also targeted directly at farmers.

5.1.11. Science and Education

During the 1999-2000 period, some government programmes were launched to increase educational opportunities for young people in rural areas. With the establishment process underway, post-elementary schools (gymnasium type) have been staffed with highly qualified teaching personnel, and their didactic facilities are sufficient to prepare pupils for secondary education.

Rural youth will be provided with more aid through a system of stipends, which will involve government institutions, NGO's and local government authorities. The aid system provides direct support to cover the cost of full board and accommodation, commuting to school and handbooks.

Permanent Education Centres have been established

The students from rural areas become bank guaranties from the Agency for the Restructuring and Modernisation of Agriculture. Depending on the farm family income level, the collateral of up to 80 or 100% of the total amount of credit used can be provided. The effectiveness of the transformation process in rural sector is largely dependent on the efficiency of adult education, supplementary training and re-qualification activities. The process of adult education, professional supplementary training and qualifications improving activities have taken place at permanent education centres established in 1998. At 48 centres nationwide, some of the most common activities include:

- Basic level training sessions and courses to upgrade the know-how and economic expertise amongst farmers and agricultural workers
- Expertise improving courses to obtain certain vocational qualifications (qualification titles); Seminars, training courses, study tours, distant learning sessions, exhibitions, display and demonstration events.

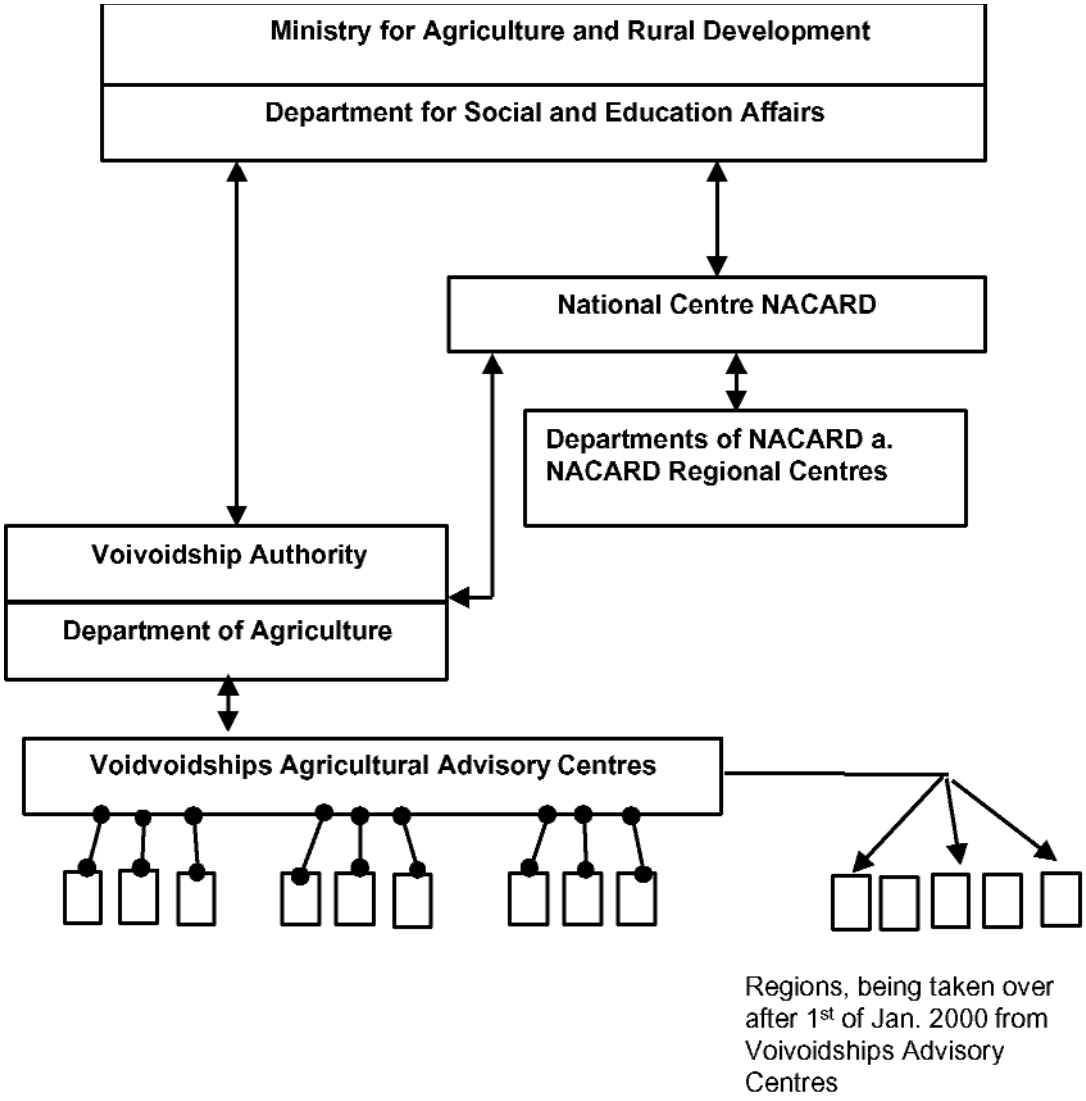
5.1.12. Agricultural Extension

Agricultural extension is organized by NACARD and ODR

The NACARD and Voivodship Extension Centres (ODRs) are primarily responsible for:

- Assisting farmers to organise their holdings
- Assistance by implementation of local and regional rural development programmes, particularly those aimed at creating new jobs in non-agricultural sectors of rural economy
- Contribution into the preparatory work for EU
- Participation in the Society Information Programme, i.e. information on different forms of EU-pre-accession assistance
- Co-operation with foreign partners in the field of extension and permanent education of extension workers, pedagogical staff of agricultural education, farmers and rural communities;
- Establishment of national data bases and information systems

Figure 10: Organisational Scheme of the Agricultural Advisory System



Source: MECCA

The NACARD has been assigned the task of performing assessment of aid applications under with EU funds financed projects (SAPARD Operational Programme), as well as participation in the implementation of "Polish Rural Areas in the European Union" Programme.

5.1.13. Rural and Agricultural Sector Programmes

Support for agriculture and rural areas is much lower in Poland than in the EU

In the social and political dimension, agriculture is approached differently from any other sector of national economy. Public budget funds are used to support current activities and development. Agricultural tax and insurance systems are also distinct, and agricultural imports are controlled most strictly. However, the level of support for agriculture and rural areas is much lower in Poland than in the EU. Agricultural and rural development is supported with the funds administered by the Minister of Agriculture as well as other ministers, funds and foundations, or provided as foreign aid (Phare programme) and loans (World Bank).

Medium-term Development Strategy for Agriculture and Rural Areas

The basic conditions, assumptions and objectives of policy which is aimed at a permanent transformation of rural areas and agriculture are set out in the Medium-term Development Strategy for Agriculture and Rural Areas, which was prepared 1998. The Coherent Structural Policy for Rural Areas and Agriculture Development is a more detailed development of that part of it, which relates to structural and other changes of rural areas and agriculture. This policy is also consistent with binding accession related programmes and actions set out in the Partnership for Accession and the National Programme of Preparation for Memebership of the European Union and should last during the period of Poland's run-up to EU accession and for several post-accession years. The document contents three policies:

- Policy objective I: Creation of adequate working and living conditions in rural areas so as to allow rural people to achieve their economic, educational, cultural and social potential
- Policy objective II: Restructuring the agricultural sector by putting in place conditions for the adaption of agriculture to the changing economic and social situation
- Policy objective III: Sustainable development of rural areas, protection of the natural environment and cultural heritage

Operational programmes

The document is going to be implemented by a number of operational programmes e.g. SAPARD-Programme, Phare, SPP programmes, and (after accession) for the Structural Funds.

Implementation of the programmes

Preparations for the implementation of the programmes are underway:

- Annual programmes of intervention activities on agricultural markets to be implemented by the Agricultural Market Agency (AMA)
- Annual support programme for investment projects in agriculture, agricultural up-and down-stream sectors, rural areas and agri-food processing, to be implemented by the Agency for the Restructuring and Modernisation of Agriculture (ARMA)
- Rural Areas Development Programme (RADP), to be implemented thanks to the funds provided as the World Bank loan
- The "Rural Development Programme for Poland" (RDP) 2004 - 2006
  Sectoral Operational Programme Restructuring and Modernisation of the Food Sector and Rural Development (SOP)
- SAPARD Operational Programme, being prepared for the implementation with the co-financing ensured from both, pre-accession funds and national budget
- Phare Programmes, which have been providing support to the ongoing preparations for the European integration in the agricultural and rural sectors, mainly in the form of technical assistance, training activities and experts input
- Polish Fine Food Programme

Rural Areas Development Plan (RADP)

The basis for the Rural Areas Development Plan (RADP) are 7 instruments defined in Council Regulation EC 1257/99 laying down support for rural areas and in the draft Common Position of 15 April 2002. The objective of the proposed instruments is to support a multifunctional and sustainable growth of rural areas. RADP may include the following instruments that are currently being implemented in EU member states:

- Agri-environmental measures aimed at supporting agricultural production-methods complying with the environmental protection rules as well as maintaining rural areas and preserving biological diversity
- Afforestation of arable land in order to enlarge afforested areas, improvement of the spatial structure of rural areas, withdrawal of low quality land from agricultural production and prevention of soil degradation as well as protection of water resources
- Support for agriculture in less favoured areas in order to maintain farming in these areas
- Structural pensions aimed at improving the agrarian structure and creating growing and economically viable farms

In addition, the European Union offered the future member states three additional instruments that may be implemented and financed in 2004 -2006. They include:

- Support for partially commercially-oriented farms aimed at alleviating the difficulties experienced by farms entering the restructuring path and threatened with the loss of liquidity and income
- Support for producer groups (not covered by market regulations) covering the costs of establishing such groups as well as administrative costs
- Technical support in order to facilitate smooth transition from financial measures financed from national funds and SAPARD to new rules that will bind Poland after accession to the EU

Rural Development Programme (RDP)

The Rural Development Programme (RDP) is aimed at increasing the pace of transformations in rural areas. It is co-financed from the World Bank credit contracted by the Polish government totalling 118 million Euro. The programme, which is to be completed by 31 July 2004, is targeted at inhabitants of villages and small towns. Actions and measures supporting the development of economic activities in rural areas comprise the following components:

A - micro loans to create new jobs
B1 - programme of reorientation/and retraining of the workforce
B2 - education
B3 - creation of local and regional administration
C - rural infrastructure

The total cost of tasks implemented under RDP equals to approx. 300 million Euro. The stage of particular components varies. Infrastructure investments and education objectives are currently at the most advanced stage.

The rural infrastructure component is implemented throughout the entire country. It includes investments related to water pipelines, sewage systems and sewage treatment facilities, solid waste management, gmina and poviat roads. At the initial stage of component C technical assistance and training was provided to gmina and poviat self-governments. The largest number of contracts was concluded for the construction and modernisation of roads (54%) and the greatest share of the RDP funds was used to construct sewage systems (48%).

Within component B2, education, there are tasks related to the improvement of conditions and level of education in primary and secondary schools in rural areas. Financial support is provided to achieve the following objectives:

- investments in the existing school infrastructure
- adjusting a network of day centres and waiting rooms for children transported to schools in compliance with the requirements on school consolidation
- training for teachers and school principals
- purchase of teaching aids and materials and computer software
- computerisation of schools in rural areas

Sectoral Operational Programme Restructuring and Modernisation of the Food Sector and Rural Development (SOP)

The Sectoral Operational Programme Restructuring and Modernisation of the Food Sector and Rural Development (SOP) will include, among others, following measures:

- Farm investments, i.e. aimed at supporting farm modernisation in order to improve production conditions, at decreasing production costs, adjusting the production to the current market condition, quality improvement, protection of the natural environment and improvement of the livestock keeping conditions
- Facilitating the start of young farmers (under 40 years of age) by granting cash benefits or subsidies to interests on a credit contracted to cover the costs related to farm establishement and management
- Training in order to expand the knowledge and professional skills of agricultural producers
- Diversification of farming and related activities in order to ensure alternative sources of income for farms (i.e. agro-tourism, small business, craftmanship, initial processing of agricultural products)
- Upgrading the processing and marketing of agricultural pruducts in order to adjust the structures of agricultural product processing and marketing to the market needs in terms of quality, size and diversification of the product offer as well as improvement of the environmental protection

Additonally, measures related to support of rural areas were included in other sectoral programmes i.e.:

- SOP Human Resource Development: training, professional activity and adjustment of the rural community to the conditions on the labour market
- SOP Economy Competitiveness Enhancement: support for small and medium business
- SOP Large Transport Infrastructure and Integrated Operational Programme for Regional Development

SAPARD Operational Programme

The SAPARD Operational Programme proposed to increase the financial resources available, to modify the Phare programme and how to expand the present range of activities in order to cover the regional development component. Poland submitted the Programme in question on 28 December 1999. On 18 October 2000, European Commission issued a Decision on the Approval of Polish SAPARD Operational Programme. Apart from SAPARD Operational Programme, the other preparatory work underway focused also on the development of a system to implement the SAPARD programme itself. Specification of more detailed requirements for the system was included in the Multi-annual Financial Agreement, signed by the EU on 25 January 2001. This is of financial activities in years 2000-2006.

The programme is co-financed from Guarantee Section of the European Agricultural Guarantee and Guidance Fund (EAGGF). The EU budget resources earmarked for the implementation of SAPARD programme in Poland in the years 2000-2006 amount to EUR 168 million a year. The release of funds depends upon the European Commission granting its accreditation to the SAPARD Paying Agency. Implementation of the SAPARD programme was entrusted to the Agency for the Restructuring and Modernisation of Agriculture (ARMA). Detailed information about the SAPARD programme is presented on the Ministry of Agriculture and Rural Development website (www.minrol.gov.pl) and ARMA website (www.arimr.gov.pl). The following measures are the most important:

- Under measure 1 support will be provided for restructuring of the processing and marketing of animal products i.e. processing of milk, meat and fish as well as fruit and vegetables. Support will be provided for, among others, modernisation of manufacturing facilities, investments ensuring waste and by-product management and enabling the implementation of food production safety systems (HACCP), mitigation of the negative effect of discharged sewage, gases and liquids, implementation of veterinary, sanitary and animal welfare standards in compliance with EU requirements. Depending on the type of investment, the maximum amount of support from public funds will be equal to 30-50% of the investment costs
- Under measure 2 support will be aimed at improving the quality of production (milk, slaughter animals), restructuring and diversification of production according to the market needs and ensuring compliance of production with the conditions of the natural environment. The support will be provided for co-financing investments in construction, expansion and modernisation of farm buildings together with equipment and infrastructure, purchase of production machinery and equipment as well as environmental protection (particularly improvement of water and sewage management) as well as arrangement and management of pastures and purchase of animal foundation stocks
- Under measure 3, aimed at increasing the attractiveness of rural areas to investors and at improving the living standards, investment related water supply on farms, municipal sewage disposal and treatment, solid waste management as well as improvement of the local communication network and power supply will be supported. Public funds may account for 98% of the total eligible cost of investment, including 75% of the EU funds
- Currently measure 4 is being prepared for implementation: Diversification of economic activities in rural areas

The Polish Fine Food Programme

Since 2000 the Ministry of Agriculture and Rural Development has been running the Identification and Promotion Programme Polish Fine Food. The objective of the programme is to enable consumers to knowingly choose wholesome food products of the exquisite quality.
The programme is based on identification of food products of exceptional quality by assigning to them a Polish Fine Food logo and promoting the logo. The Polish Fine Food logo is awarded by the Minister of Agriculture and Rural Development. Manufacturers that produce food on the territory of the Republic of Poland, use only Polish raw materials in the production process and prove the highest quality of their products, may apply for the logo.

Detailed criteria of product quality evaluation and conditions of production are defined by the independent Scientific Council of the Programme comprising the greatest experts in food processing, veterinary issues and human nutrition.

One of the conditions for awarding the logo to food manufacturers is implementation of Good Manufacturing Practices (GMP) and Hazard Analysis and Critical Control Points (HACCP).

Products that were granted the Polish Fine Food logo are subjected to inspections conducted by inspection services reporting to the Minister of Agriculture and Rural Developmen i.e. Veterinary Inspection, General Inspectorate of Food Purchase and Processing (GISiPAR) and the Foreign Trade Inspection (CIS), and in the future following the merger of GISiPAR and CIS, Inspection Service of Agri-food Product Marketable Quality.

"Community Support Framework for Poland"

The strategy for utilising Structural funds in the period 2004-2006 will be defined by the National Development Plan (NDP) to be consulted with EU and later accepted as a document "Community Support Framework for Poland". SOP will be co-financed by EAGGF Fund - Guidance Section and at the end of 2002 Poland was obliged to provide EU with all programme documents (NDP, operational programmes together with supplements).

Photograph 5: Alternative crops in Opole Region

Source: K. Szoszkiewicz

Photograph 6: Integrated farm in Opole Region on the Farming Advisory Centre

Source: K. Szoszkiewicz

5.1.14. Agricultural Institutions

Agricultural Market Agency (AMA)

The Agricultural Market Agency (AMA), established in 1990, is a state institution pursuing intervention policy of the state. The main tasks of the Agricultural Market Agency comprise:

- intervention purchases of surpluses of major agricultural commodities and processed products thereof
- intervention sales of such products on the domestic and foreign markets
- subsidies to purchase prices and storage aid
- granting export subsidies
- collecting and managing state reserves of agricultural products
- granting credit guaranties, excluding investment credit, to businessmen implementing tasks commissioned by the Agency

The Annual Programme of Intervention Activities is consulted by the Minister of Agriculture and Rural Development, the Minister of Finance and the Agency Council. The dominating products covered by intervention programmes are cereals for human consumption, dairy products and meat. The Agency is by the Prime Minister. The Agency has started preparations to perform the role of paying agency, following Poland's accession to the EU, excluding direct payments and accompanying measures, for which Agency for Restructuring and Modernisation of Agriculture, will be responsible.

Agricultural Property Agency (APA)

The Agricultural Property Agency (APA) was established in 1991. It took over the property of state-owned farms that were wound up, the land of the National Land Fund and other agricultural property owned by the State Treasury. It performs following tasks:

- The rational use of the production potential of recources
- Restructuring and privatisation of the State Treasury property used for non- and agricultural purposes
- Land management on the State Treasury land and support for private farms newly established on this land
- Creation of jobs in connection with the restructuring
- Support of employees of state-owned farms and members of their families

The Agency operates on the self-financing basis. The main sources of Agency's income are revenues from property sales and lease.

Agency for Restructuring and Modernisation of Agriculture (ARMA)

The Agency for Restructuring and Modernisation of Agriculture (ARMA) is a leading governmental institution in Poland who support transformation in agriculture and rural areas. The Agency was set up in 1994. It supports:

- Investment in agriculture
- Creation of new, permanent jobs for the rural population in non-agricultural sectors
- Development of technical production and market infrastructure of rural areas
- Education

The Agency is appointed by the Prime Minister. The Agency's tasks are carried out in the form of subsidies to interest rate on granted to farmers by banks, loans, subsidies, guaranties and warranties for repayment of banking credit. Following accreditation of the European Commission, ARMA will perform the role of the SAPARD Agency. To deal with direct payments, Integrated Administration and Control System (IACS) will be applied. The preparation and implementation of the system was also entrusted to ARMA.

Agricultural chambers

Agricultural chambers are a form of common agricultural self-government with a legal status. Members are obligatorily all agricultural tax payers and payers of income tax on specific sectors of agricultural production as well as members of agricultural co-operatives. Particular chambers cover the territory of a voivodship. They consult and participate in:

- Drafting regulations by law
- Upgrading education and advisory services in the field of agriculture
- Development of processing and marketing of agricultural produce
- Modernisation of agriculture
- Support for creating additional sources of income

National Council of Agricultural Chambers

The representation of agricultural chambers at the national level is the National Council of Agricultural Chambers. Both the National Council and particular chambers co-operate with their counterparts in EU and candidate countries. Training and study missions are arranged abroad and farmers have an opportunity to familiarise themselves with European agriculture. Since the beginning of 1998, the National Council of Agricultural Chambers has been a member of the Confederation of European Agriculture (CEA).

Wholesale markets, agricultural producer groups and warehouses in Poland

Wholesale markets, agricultural producer groups and warehouses in Poland:
The objectives to create an effective and modern agricultural market, where agricultural producers will have a share. Resulting from programmes twenty wholesale markets, established in the form of joint stock companies, operate in Poland. Main shareholders of these companies are the Agricultural Market Agency, Agricultural Property Agency, Agency for Restructuring and Modernisation of Agriculture, traders, self-government organisations, agricultural producers and other bodies. The functioning of wholesale markets are:

- Stabilisation of prices
- Supply and demand equilibrium
- Introduction of norms and standards
- A reduced number of intermediaries within trade, in consequence an increase in agricultural producers' income
- Creation of the producer market (organisation of supply)

The wholesale markets offer services related to promotion and advertisement of agri-food products, quality control, standardisation, processing and packaging.

5.2. Rural Development and Regional Planning

Spatial cohesion has always been an important challenge

Before the restitution of the independent state in 1918 the territory of Poland belonged to three different state structures. Consequently, spatial cohesion was one of the most important challenges facing Polish government during the next twenty years. Until 1939 an efficient planning system was developed at national, regional and local level. In 1945 Poland lost its eastern regions but gained territory at the west, once again cohesion emerged as crucial issue. Social, economic and spatial planning played a very important role in the centrally planned economy after 1945. However, this planning system was very rigid and hierarchical. Social and economic transformation, which began in 1989 was accompanied by changes in the planning system. The main features of this system are defined in the Law on Spatial Development adopted in 1994. Establishment of new territorial division in 1998 as well as adoption of new Law on Support for Regional Development in 2000 considerably influenced the form of planning system.

Numerous reforms are under implementation in Poland

Poland is implementing a socio-economic policy which on one hand aims at the development of a fully effective and competitive economy, while on the other hand creating the opportunity to participate in the profits resulting from economic growth and integration with European structures for all its citizens. Currently, numerous systemic reforms are under implementation as well as many restructuring and development programmes which are to contribute to implementation of such a policy. One of the domains of public intervention gaining importance in Poland at the beginning of the 21st century, is the regional development policy. This results from various factors, including, first of all, the spatially concentrated problems of restructuring and development, the continuing process of state decentralisation and the European integration process.

Within the state regional policy there is the possibility as well as the necessity to commence actions which will establish permanent infrastructure and institutional foundations of the stimulating development of Poland.

NUTS regions have already been established

The whole country, with 38.6 million inhabitants, constitutes NUTS 1 region. At the regional level (NUTS 2) there are 16 voivodships with up to 5 million inhabitants. NUTS 3 level is used only for statistical purposes and is composed of 44 territorial units with 0.3 - 2 million inhabitants. At sub-regional NUTS 4 level there are 315 country districts and 65 city districts with 20 thousand - 1.6 million inhabitants. 2489 communes (3 thousand - 0.8 million inhabitants) constitute NUTS 5 level. The voivodships - as well as districts and communes - have selfgovernance. The boss of executive is the Marshal, who shares his authorities with the Voivod - the representant of the central government.

Map 4: Administrative Division of Poland

NUTS I - Poland
NUTS II - Voivodships (16)
NUTS III - Statistical territorial units (44)
NUTS IV - Country disticts (373)
NUTS V - Communities (2489)

Source: National Spatial Planning Document

Institutions responsible for the state regional policy

The key legislative acts related to regional policy implementation are: the support programme and the voivodschip contracts. Within their framework the following issues will be defined: method of coordination of institutions and forms of support offerd by the government for the undertakings in the field of restructuring and development presented in the voivodship programmes. The activity of government administration will be therefore concentrated on voivodships contracts.

The Council of Ministers and the Council of Ministers' Commitee for Regional Policy and Sustainable Development are responsible for the overall coordination of the state regional development policy.

Ministry of Development and Construction coordinates state regional development policy

The fundamental role in the system of regional development in Poland is played by the minister competent for the issues of regional development, who is serviced by the Ministry of Development and Construction. This minister coordinates all actions related directly to the state regional development policy implementation as well as regional development programmes co-financed by the EU. He entrusted Polish Agency for Regional Development with implementation of Phare - social and economic cohesion programme. Relying on the opinion of the voivods the minister evaluates applications, strategies and voivodschip programmes submitted by the territorial self-governments for financial assistance within the voivodschip contracts framework as well as regional development operational programmes prepared within the european programmes.

Structures of self-government

The structures of self-government at regional level include: regional parliament (Sejmik) elected in general elections and executive board with marshal as its president. Executive board of a district is accountable to the elected Council, the same structures can be found at communal level. In addition to decentralised structures of self-governments in each region there is a governor who represents central government. All the levels of government have different responsibilities in relation to spatial planning. The table below presents the review of planning documents which are prepared by different authorities:

Figure 11: Polish Documents for Spatial and Regional Planning

Source: Maciej Borsa - Centre for Stategic Studies, Katovice

National Strategy for Regional Development

The National Strategy for Regional Development constitutes a reference for planning the amount and direction of expenditures from the state budget, including foreign funds, for the implementation of the voivodship programmes as well as other tasks related to the regional development, advisory, information programmes as well as pilot undertakings.

Aiming at realisation of strategic objective of the state policy of regional development will be conductive to economic growth, decentralisation of state managment, structural transformation of the regions, urbanisation growth, increasing spatial mobility of population, increase the level of knowledge and access of the society and economic entities to the advanced technologies.

The priorities are:

Infrastructure

- Development and modernisation of infrastructure contributing to strengthening competition of the regions, specifically: trans-local infrastructure, metropolitan functions of the biggest cities, information society

Regions

- Restructuring of the economic base of the regions and creating conditions for its diversification, specifically: stimulation of investments localisation and support of small and medium enterprises, support in creation and absorption of innovations, development of tourism, leisure and cultural heritage protection

Human resources

- Human resources development, specifically: active labour market measures, promoting social inclusion, development of long life learning system, promoting adaptability, positive actions for women as well as enhancing capacities of public administration for programming and implementation of structural policies, development of partnership

Marginalized areas

- Support for the areas requiring activation and threatened with marginalisation, where the expected specific results include: growth of the small- and middle sized enterprises outside agriculture, reduction of social pathologies in particular in the areas of former state-owned farms and cities undergoing restructuring process, increasing standard of living of the inhabitants of rural areas and small cities, growth of attractiveness of enterprises´ localisation, increase of level of spatial mobility of the population

Cooperation between regions

- Development of cooperation between regions, in particular: cross-border cooperation, international cooperation in spatial planning and cooperations between regions and local units

EU-funds for regional development

The participation of the EU assistance funds, both pre-accession and structural is linked to the increase of the efficiency growth, mainly due to a rational distribution of the financial resources and involvement of the public in the programming process and implementation of the programmes.

Between 2004 and 2006 Poland could receive e.g. 15 Mrd. Euro from structural funds - this accounts 2.7% of the polish GDP. Until the end of 2002 the government should prepare a concrete investment plan with detailed measures for regional development.

Law on spatial development

The law on spatial development which was adopted 07.07.94 and modified several times constitutes the main legal basis in the field of spatial planning. "Balanced development" is considered in it as general principle. The law determines the scope of intervention and procedures with regard to appropriation of land for different purposes (zoning), it defines land use/building principles for particular sites, it also describes the principles and possible solutions in the case of conflict of interests between citizens, communities and the State. According to the spatial development law everybody is entitled to use the land which constitutes his property and protect his own legal interest with regard to use of land belonging to other persons. Spatial planning must respect:

- Requirements of spatial order and urban planning
- Architectural and landscape values
- Requirements of the environment protection, health and safety of people and goods (disabled persons)
- Requirements of the cultural heritage protection
- Economic values of the space and property law
- Needs of defensive system and security of the State

5.2.1. Local Level

Spatial planning at the local level

The authorities of a commune include Council and Executive board. At the head of the executives in big cities there are presidents, in urban municipalities and rural communes there are mayors (burmistrz and wojt accordingly). It is communal competence to define the appropriation of the land as well as the principles of land use. Two important planning documents are prepared at local level: "Study of spatial development conditions and directions" and "Local land use plan". The Study of spatial development conditions and directions refers to the whole territory of a commune, this document must be prepared by local authorities. The study is adopted by the resolution of communal council but does not constitute local law. In taking into consideration the assignments of the regional development strategy define spatial policy of a commune. The study must take into account several factors like: hitherto existing land use or its formal appropriation, existence of protected areas, state and functioning of natural and cultural environment (including agriculture), land property, quality of life as well as supralocal public tasks. The study of spatial development describes:

- Existing and proposed protected areas
- Local values and threats to the environment
- Agricultural areas and areas which cannot be built over
- Urbanised areas, including areas requiring revitalisation and areas which can potentially be built over
- Measures for the transport and technical infrastructure development
- Areas requiring preparation of land use plans

The local level plays very important role in the investment process. Communal authorities take decisions on the appropriation of the land and building conditions. However, it is up to state administration to give building permit.

5.2.2. Sub-regional and Regional Level

Spatial planning at the sub-regional and regional level

At the sub-regional/supra-local level the competences of the council and executive board (with starosta-mayor as a president) of the district with regard to spatial planning are optional, possible analysis and studies refer to the area of the district. Regional parliaments and executives boards, with marshals as its presidents, prepare or co-ordinate spatial development programmes of regional and supra-local character. It is the responsibility of the regional government to draft the Regional Development Strategy and the Spatial Development Plan. The Regional Spatial Development Plan has to be prepared, it covers the whole territory of a region. This plan does not constitute local law and can not interfere with the competence of communes. In drafting the plan regional bodies must take into account the tasks from the governor's register, these tasks can be determined at government or self-government level.
The Regional Spatial Development Plan defines:

- Basic elements of the settlement structure
- Arrangements of infrastructure
- Requirements in the field of environmental and cultural heritage protection

The National Strategy for Regional Development should cover assignments of regional development strategies and regional spatial development plans. The governor (wojewoda) as a representative of state is responsible for regional register of tasks determined by central government and self-government as well as for regional register of tasks concerning protected objects. The Governor takes part in the negotiations with communes concerning introduction of government tasks into local plans. The Marshal negotiates the regional tasks.

5.2.3. National Level

Ministry of Infrastructure, Ministry of Economy and Government Centre for Strategic Studies are dealing with spatial development issues

At national level there are three main central offices which deal with spatial development issues: Ministry of Infrastructure (and especially subordinate to this Ministry - State Office for Housing and Urban Planning), Ministry of Economy and Government Centre for Strategic Studies. Central government general competence is to formulate the state spatial policy. Regional strategies and regional development plans are co-ordinated at central level. The government is also responsible for regional policy. In the field of spatial policy government institutions prepare analysis and studies as well as sectoral and regional perspectives and programmes. Government programmes relate to public tasks defined in central register of task determined at government level, which is carried out by the State Office for Housing and Urban Development. The following documents are prepared by the government:

- National Development Strategy (long term)
- Perspective of National Spatial Development Policy (POLSKA 2000+)
- Regional development strategies:
  - Long term strategy for regional development
  - National strategy for regional development
- Sectoral strategies and programmes

National spatial development policy - Polska 2000+

The perspective of National Spatial Development Policy (POLSKA 2000+) contains the description of natural, cultural, social and economic conditions as well as goals of spatial policy. It constitutes the basis for the public sector programmes. Sectoral and regional programmes and plans are controlled in terms of conformity with the perspective. The implementation of perspective may cause some problems because of the general character of the document.
In this context the relationship between sectoral and integrated plans should be mentioned. The law on support for regional development, which was adopted in 2000, introduced new mechanism - regional contracts. The Support Programme for the years 2001-2002 (2003) defined limits of support for the specific regions. Regional contracts take into account all the supporting resources for the implementation of tasks resulting from regional policy as well as for the implementation of sectoral tasks.

5.3. Case Studies in Poland

5.3.1. The Development of Integrated Agricultural Production Systems on Farms in the Opole Region in Comparison to Other Regions of Poland

Integrated farming in Opole region since 1993

Integrated farming system is under implementation in Opole region since 1993. The frame of the system and detailed rules of farming were prepared by the Department of Ecology and Environmental Protection (Agricultural University in Poznań) and Provincial Extention Centre in Łosiowie (Opole Region). Much support and consultations during the whole implementation period were provided by MECCA Environment Consulting in Vienna (Austria).

Environmentally sound farming is aim of the project

The aim of the project was the development and implementation of the environmentally oriented forms of farming and providing standards for environmental protection and nature conservation in rural areas. The project included some supervisory and educational actions adopting farms into the European requirements supporting them in the process of integration. The additional objective was the increase of environmental consciousness among farmers.

The Opole region is a very agriculturally oriented region with a well developed level of farming. Implementation of the integrated farming system target for the group of intensive farms as the way of developing methods of limiting environmental impact of agriculture (air, freshwater, landscape and others). The additional aim was the spreading of knowledge about agricultural policy and environmental regulations in European Union as well as giving information about directions and forms of preparation actions. Farmers involved in the project had the opportunity to reach knowledge and experience preparing them for future participation in agro-environmental programmes and integration supportive findings.

Agro-environmental Programme for Poland

The Ministry of Agriculture and Rural Development is currently completing the Agro-environmental Programme for Poland. This programme is the measure meeting environmental requirements of so called "The Rural Development Regulation" - Council Regulation 1257/1999 on support for rural development from the European Guidance and Guarantee Fund (EAGGF) and amending and repealing certain regulations as Commission Regulation No 445/2002.

The principle of the prepared agro-environmental programme is environmental protection and nature conservation in rural areas. It is purposed to initiate multifunctional farm development. The main targets of the programme are:

- Development of environment-friendly forms of farming
- Biodiversity conservation by the semi-natural habitat protection and preserve the variety of genetic resources of Polish livestock and crops
- Landscape development displaying high scenic and natural values
- Environmental education between rural society
- Environmental awareness promotion between general public of the rural society

Agro-environmental measures

The agro-environmental measures include:

a) Implementation of environmentally-friendly technologies or organic farming systems
b) Environmentally valuable low-productive grasslands maintenance
c) Natural resources conservation by the habitat protection
d) Subsidies for less profitable forms of farming
e) Address problems of marginal land and set-aside management
f) Reduce nitrate leaching and soil conservation practices
g) Buffer zones advancement that separate potatoe farmland from woodlands and water reservoirs
h) Shelterbelt enhancement programme
i) Preserve the variety of genetic resources of Polish livestock and crops

More intensive farms are interested mainly in the measures included in the points "a" and -"f" whereas dealing with points "c, d, g, h" is not so attractive for them. The prepared Agro-environmental Programme for Poland comprises of four schemes (subprograms):

Four schemes of the Agro-environmental Programme for Poland

I) Diversity conservation of the rural area - will be implemented locally limited the geographically defined areas, so called environmentally sensitive areas. These are agricultural regions having valuable nature elements (Biebrza and Narew valley, Warta mouth, Barycz valley, Eastern Carpatian). This scheme makes measures protecting nature resources obligatory (natural grasslands, woodlands and ecological areas) and system schemes are optional (i.e. grassland renaturalisation).

II) Environmental protection and maintaining landscape values - horizontal scope, underlining actions designed priorities on the local level (up to 5% of agricultural area in every province). Approached for sustainable farming dispersion and to improve environmental protection on the regional scale (e.g. erosion control, reducing nitrogen water pollution, landscape development and eco-regulation improvement). The subprogram makes actions as eligible (like sustainable agriculture, organic farming, low-input farming) and as optional environmental measures (e.g. grassland renaturalisation, wind erosion control, forestation).

III) Organic farming - cover the whole country. Aimed in increase of organic farming production. This scheme oblige for basic agro-environmental measures and system package when other actions can be considered as optional.

IV) Conserving the genetic resources in agriculture - covers the whole country. Aimed in protection of the genetic resources gathered in traditional varietie of plants and animal breeds. This scheme obliges for basic agro-environmental measures, compulsory actions for genetic resources conservation and system actions as optional.

Action packages

Individual farmers will be allowed to participate in only one of the agro-environmental schemes. Each scheme includes a combination of different action packages, which are divided into four levels:

Level 0 - Proper agricultural practice - includes minimal agro-environmental requirements, being compulsory and financed.

Level I - Basic - includes system packages, which are compulsory or optional, involving whole farms and they are financed.

Level II - Conservatory - includes biological improvement packages and genetic conservation and part of agro-environmental requirements.

Level III - Structurally creative - includes environmental measures connected with landscape management.

Elements of financing

According to European regulations the individual packages will be financed according to flat-rate scheme considering following elements:

- Income loss when farmer introduce extensive production methods or discontinue intensification
- Additional costs of the package realisation
- Financial incentive for agricultural producer, not higher than 20% of the total sum of income decline and expenditure

5.3.2. The Extent of the Integrated Farming Elements Implementation in Selected Farms of Opole Region

Implementation of the project

The implementation of integrated agriculture was started in 1993 with the group of 9 farms. As in figure 12 shown, the number of farms was gradually growing: 15 in 1995, 18 in 1997, 52 in 2000, and 50 in 2001.

Figure 12: Development of integrated farms in Opole Region in the years 1993-2001

Specification; Wyszczególnienie	1993	1995	1997	2000	2001
Number of farms	9	15	18	52	50
Total area (ha)	198,2	322,43	442,48	2549,71	2753,88
Mean area of farm (ha)	22,02	21,49	27,65	49,03	55,08
Cropping pattern (%)	64,6	59,9	80,2	79,3	77,7
Roots	22,6	17,4	11,6	9,6	9,1
Rape	5,1	16,4	2,8	7,1	8,5
Leguminous	2,1	4,2	2,9	0,3	0,3
Fodder crops	5,6	2,1	2,5	3,7	4,4
Mean yealds per ha (t)	5,0	5,3	4,8	4,4	4,7
Sugar beet	47	51	46	53	45
Potato	33	23	25	27	21
Rape	3,2	2,8	1,8	2,9	2,7
Mineral fertilizing (kg NPK/ha)	225	233	205	217	229
Pesticides - active substance (kg/ha)	b.d.**	1,48	1,21	b.d.	1,43
Herbicides	b.d.	0,87	0,75	b.d.	0,91
Fungicides	b.d.	0,61	0,37	b.d.	0,34
Insecticides	b.d.	-	0,09	b.d.	0,02
Aftercrops (% of total area)	11	12	11	12	13
Balance of organic matter (t/ha)	+0,40	+0,16	-0,02	b.d.	+0,36
Livestock load (LU/ha)	b.d.	1,14	0,77	0,75	0,77

* b.d.- no data available;

Source: Zbierska et al, 2002

Close cooperation between farmers and local advisors

It included organisational actions, scientific research and a scope of trainings and seminars. The activity was carried out in close cooperation between farmers and local advisers with the control of the Farming Advisory Center in Łosiów coordinators and scientists. The project included, among others, the following components:

- Identification of the environmental conditions on the farms and the surrounding regions (soil quality and fertility, water and air quality)
- Development of the principles of rational rotations, including second cropping and theirs implementation into practice
- Sustainable fertilization (mineral and organic) suited to the needs of the crop and to the soil characteristics supported by fertilization advice
- Rational soil cultivation
- Limitation to the essential minimum the application of pesticides and general exploitation of integrated methods of plant protection

- Adjustment of the type and level of animal production to fodder potential of a farm and strict technological and control in animal husbandry
- Quality analysis of fodder and other crops (consumption quality, feeding value, technological quality)
- Environmental protection (mainly managing refuse and sewerage) as well as creating an ecological environment on farms (including manure pads and slurry and green plant matter retainers)
- Carrying out full documentation of farming activities (field diaries) and financial accounting
- Providing ongoing advise and systematically educating farmers

Results from the initial years of implementation of integrated farming system have been published in the number of reports and articles (SZOSZKIEWICZ J. et al. 1998, SZOSZKIEWICZ J. et al. 2000, ZBIERSKA J. & SZOSZKIEWICZ K. 2000, ZBIERSKA J et al. 2002). Detailed tasks realised in the period 2000-2002 included:

Detailed tasks in the research period 2000-2002

- Agro-technical activity recording (specially in case of fertilising and pesticide applications) and book-keeping
- Fertilising design basing on computer programmes and recent standards
- Introduction crops reducing negative impact of rotation simplification and improving physical and chemical soil conditions
- Increase of the cover crop rate in the autumn-winter season to reduce erosion and to immobilise excess nutrients
- Organic matter balance on the farm (attempts increasing organic matter content to maintain soil fertility)
- Nutrient turnover control on the farm - balance of components calculated by the "farm gate" method and by every field surface
- Fodder quality monitoring
- Product quality control (wheat, milk)
- Animal production efficiency (daily upgrow, meat efficiency of swine, milking efficiency of cattle)
- Environmentally safe methods of animal waste storage (manure heap and slurry containers) and proper application on fields
- New requirements in the pesticide use
- Grassland burning outlaw and trees and bushes conservation
- Neighbourhood improvement and beautification of the farmsteads

Evaluation of farming effectiveness

The farming effectiveness was evaluated by: farmland structure and crop structure; soil enrichment and fertilizing needs; quantities and quality of yields; amounts of pesticide application and pesticide consumption, structure and capacity of animal production; animal husbandry efficiency and animal products quality; organic matter balance (according to ASMUS et al. 1979); nutrient balance (according to OENEMA 1999); production effectiveness and agricultural income amount.

5.3.3. Results

Analysis of 47 farms in 2000

In the year 2000 as many as 52 farms participated in the project, and 47 of them were analysed - those with complete administrative record and book-keeping. Most of them were specialized in swine production (31) and cattle farming (11) and only five were multidirectionally oriented (unspecialised). In the year 2001 roku implementation was carried out by 50 farms, including 29 swine specialised, 13 focused on cattle ant the rest - 8 farms were unspecialised.

Land area

The **land area** of farms involved in the study in the years 2000-2001 varies between 13 to over 316 ha, with average 51.52 ha (figure 13).

The average acreage was typical for cattle producers whereas swine farms were significantly smaller and on the other side not specialised farms were the largest. The studied farms are much larger than average in Poland as well as average farm in Opole Region. It confirms that strong farms participated in the project.

Cropping structure

The **cropping structure** is dominated by cereals, taking up on average 77.2% of the area, reaching occasionally even 90% a even 100% in one case. It is very disadvantages, that as many as 44 farms grooved more than 66% of cereals, disturbing the proportions of rational rotation. It is result of current profitability and trading conditions as well as the specialisation in pig production, where animals are fed with own grown cereals. The share of tuber crops was quite low (average 9.6%), and it was just single farm where their acreage reached 65.9% in the year 2000. Among tuber crops the sugar beets dominate. The industrial plant grow is on the similar scale (average 8.2%), principally oil-rape. Fodder crops play much smaller role in the plant production (average was 4.7%), grown only on cattle farms. The smallest part in crop growing represent pulse crops (only 0.3%), and the reason of this fact is lack of demand on these products in the market. Only some pig farms were interested in growing significant amount of pulses.

Yields

High **yields** in plant production were recorded on the surveyed farms (figure 13) reaching per ha average 4.71 t of four cereals, 48.6 t sugar beets, 24.2 t potatoes and 2.88 t of oil-rape. The non-specialised farms indicated higher yielding in cereals and sugar beets whereas a cattle farm shown higher yields of potatoes and oil rape. The other yields were relative among groups of farms. Although big differences were observed between individual farms as the result of variable soil conditions, differentiated environmental circumstances as well as the result of other technologies and uneven inputs.

Figure 13: Structure of crops and plants yields in integrated farms of Opole Region - average from year 2000-2001

Farms	Average area	Structure of crops [%]					Yield [dt/ha]			
type	in ha	Cereals	Root plants	Industrial	Pulses	Feed	4 cereals	Sugar beet	Potatoes	Rape
Pigs farm	44,6 15,16-316,65	82,2 33,02-100	9,6 0-65,9	6,7 0-38,5	0,6 0-14,9	0,9 0-12,1	44,9 22,0-63,5	488 200-700	232 60-338	26,8 10,2-43,5
Cattle farm	50,55 13,00-149,0	70,2 50,06-95,2	7,4 0-26,9	9,0 0-33,5	0,3 0-3,3	13,2 0-37,4	45,8 27,5-58,3	469 246-700	268 160-550	31,3 18,8-43
Multidirectional farm	59,4 15,98-172,8	79,3 15,98-97,6	11,6 0-22,1	9,0 0-33,9	0,2 0-2,7	0,0 0,0	50,6 30,0-78,0	501 316-642	225 150-320	28,4 20-30
Average Range	51,52 13,00-316,65	77,2 15,98-100	9,6 0-65,9	8,2 0-38,5	0,3 0-14,9	4,7 0-37,4	47,1 22,0-78,0	486 200-700	242 60-550	28,8 10,2-43,5

Source: Zbierska et al, 2002

Four cereals yields varied from 22 to 28 dt/ha, sugar beets from 200 to 700 dt/ha, potatoes from 60 to 550 dt/ha and oil-rape from 10 to 43.5 dt/ha.

Mineral fertilizing

The main yield stimulator was **mineral fertilizing**, which vary from 106 to 375 kg NPK/ha, with the quite high average usage - 231 kg NPK/ha (figure 14). During the last 2 years the dose of fertilizers was varying widely and per 1 ha it was as average 101 kg N (variation between 42-168 kg N), 52 kg P2O5 (10-126 kg) and 72 K2O (15-126 kg). The fertilizer consumption was higher in case of unspecialised farms comparing with those oriented on animal production (when the animal production was the organic fertilizing was limited). As many as 34 farms consumed more than 200 kg NPK/ha, and 9 of them even 300 kg NPK/ha.

Figure 14: Average consumption of mineral fertilizers in integrated farms of Opole Region in years 2000-2001 [kg/ha]

Farms	Year 2000				Year 2001				Average			
	N	P2O5	K2O	total	N	P2O5	K2O	total	N	P2O5	K2O	total
Pigs farm	92 59-143	51 19-115	74 44-127	217 111-385	100 37-175	52 0-100	77 0-132	229 66-365	96 42-156	52 10-99	76 15-126	223 105-375
Cattle farm	96 46-160	56 31-90	31 32-96	224 151-320	87 67-110	58 37-76	72 48-103	217 165-253	92 58-134	57 39-73	52 43-97	220 164-272
Multidirectional farm	98 58-167	51 28-96	89 50-110	238 136-308	119 57-182	47 30-96	86 51-126	252 135-350	114 58-168	47 18-96	88 51-126	249 136-329
Average Range	95 46-167	53 19-115	65 32-127	226 111-385	102 37-182	52 0-100	78 0-132	233 66-365	101 42-168	52 10-99	72 15-126	231 106-375

Source: Zbierska et al, 2002

Production and income

High production and income was found among the analysed farms (figure 15). The level of particular indices well reflects the direction of specialisation. The animal stocking was on average 0.66 livestock units (LU)/ha (and varied from 0 to 1.9 LU/ha). The specialised animal farms indicated 73-79% animal stocking comparing with unspecialised farms. Very high efficiency was found among farms keeping cattle for milk. The commercial production shows that pig production is currently more profitable comparing with milk production.

Figure 15: Production and income of integrated farms of Opole Region (average from years 2000-2001)

Farm type	Stocking rate LU/ha	Milk from 1 cow per 1 year	Production of good in l/dt per ha agric. land.			Production of good corn unit/ha agr.l.	NPK corn unit/kg	Farm income zl/ha agr. l.
			milk	beef	pork			
Pigs farm	0,76 0,22-1,90	3891 2600-5200	48 0-1173	0,2 0-1,5	8,0 1,0-20,7	61,2 23,0-116,6	4,37 0,96-9,47	1773 251-2750
Cattle farm	0,79 0,24-1,27	5005 3364-6035	2097 524-4533	1,2 0,4-2,9	1,4 0-3,8	50,6 35,4-68,5	4,59 2,48-7,57	1420 183-2808
Multidirectional farm	0,44 0-0,96	3932 2908-5000	601 0-2396	0,6 0-2,2	2,0 0-7,3	53,8 34,8-70,1	3,94 2,35-7,52	1655 327-3485
Average Range	0,66 0-1,90	4276 2600-6035	915 0-4533	0,7 0-2,9	3,8 0-20,7	55,2 23,0-116,6	4,30 0,96-9,47	1616 183-3485

Source: Zbierska et al, 2002

Quality of products

The average income of this group of farms farms was higher comparing with all other groups. Advantageous effects of keeping pigs as well as cattle were shown by every farm in the project.

The quality control of agricultural products showed that studied farms delivered high **quality of products** (figure 16).

The average milk production delivered to diary for processing has given 83% of E class milk, when in some cases it was almost 100%. Among 17 farms delivering milk as many as 10 produced more than 90% of E class milk and in case of 7 it was 100%. All analysed consumption wheat achieved required norms. The high quality of products confirmes that appropriation of implemented technologies.

Figure 16: Quality of production of goods in 2000

Indicators	Share of milk in E class [%]	Flesh of pork [%]	Quality of consumption wheat				
			Protein [%]	Gluten [%]	Sediment index	Fall index	Rozpływalność
Average Range	83 30-100	50 42-62	12,4 11,0-14,2	28,0 25,5-35,1	55 41-67	230 220-239	6 3-10
Norm - no less as	x	x	11,5	26,0	25	230	No more as 10

Source: Zbierska et al, 2002

Quality of fodder

There has been much concern raised about the **quality of the fodder** since most of the farmers based on own produced components in feeding their animals. The accurate evaluation of the quality and nutrient value of fodder enables for suitable balancing feeding doses, covering animal requirements. Circuitously it also does have environmental impact, by reducing the fodder consumption, controlling nutrient migrations into water as well as reducing the ammonia emissions into atmosphere. Finally farmer can reduce production costs and increase proficiency. The fodder high quality of proper nutritious value was confirmed for the majority of analysed fodder (figure 17 and 18). Improvements of the silage quality was recommended in case of some farms. The need of hay improvement was indicated (reducing fibre content and increase energetic value) by early harvesting. When the sugar beets were grown, elimination of the beet-leaves silage was recommended taking into consideration environmental requirements and impact on milk quality.

Figure 17: Quality and value of fodders in integrated farms (average from year 2000-2001)

Kind of fodder	Dry matter [%]	pH	Content		
			Crude protein g/kg DM	Fiber g/kg DM	Energy MJ/DM
Grass silage	44,4	5,4	158	249	5,90
Corn silage	26,8	3,8	83	157	6,54
Leave of beet silage	22,6	4,2	147	137	5,00
Marc silage	12,7	3,9	122	227	6,24
Cereals mixed and pulses silage	28,6	3,9	90	277	5,77
Hay	86,8	-	129	275	4,99

Source: Zbierska et al, 2002

Figure 18: Quality of cereals in integrated farms in 2000

Kind of fodder	Content		
	Crude protein g/kg DM	Fibre g/kg DM	Energy MJ/kg DM
Wheat	129 (107 - 151)	30 (24 - 35)	11,04 (10,97 - 11,11)
Barley	130 (106 - 151)	50 (33 - 64)	10,34 (10,06 - 10,97)
Oats unaril	184	48	12,41
Oats aril	124	145	8,92
Triticale	126 (108 - 149)	27 (24 - 29)	10,71 (10,63 - 10,75)
Rye	123	28	10,79
Corn	80	28	11,62
Cereal mixed	169 (113 - 249)	56 (34 - 92)	9,37 (7,17 - 11,00)

Source: Zbierska et al, 2002

Marginal role of permanent grasslands

The important part of implementation actions was estimation and increase of environmentally friendly technologies in production and in the rural landscape (figure 19). The negative feature of the studied farms is the marginal role of the **permanent grasslands**. Especially drastic in case of swine specialised farms. Cattle farms held little bit larger area of grassland, especially when the milk production was approached. The increase of the area of **intercrop** was one of the main concerns as the beneficial element in the simple rotation (cereals domination) and enriching soils in organic substance.

They improve the farm sustainability protect the soil by reducing erosion and increasing water infiltration and can also immobilise excess nutrients, such as nitrogen, which reduces surface and ground water contamination. Intercrops were cultivated by 33 farms (out of 50 in the project). The index of plant cover in autumn-winter period is high on the majority of farms, exceeding 70% of total land area. Just only in some areas of Opole Region (Krapkowice, Olesno, Opole) all farmers were grown some intercrops. In the period 2000-2001 the average acreage of intercrops increased from 16% to 19.1%. The differentiation of intercrop cultivation between farms varied between 0 to over 63% of the ploughing land.

Figure 19: Agro-environmental measures of integrated farms in 2000-2001

Farms	Share agric. land. [%]	Aftercrops area[% arable land]		"Green field" [% arable land]		Balance organic matter [t/ha GO]
		2000	2001	2000	2001	
Pigs farm	5,7	18,3	18,0	55,2	67,5	+0,30
	0-29,3	0-66,1	0-63,5	0-98	0-100	-0,49 - +1,72
Cattle farm	18,5	15,8	18,4	54,7	61,1	+0,37
	0-34,6	0-44,0	0-45,3	0-89	0-87	-0,15 - + 0,76
Multidirectional farm	13,1	14,0	20,9	58,8	63,4	-0,05
	0-28,2	0-26,1	0-65,2	9-98	18-97	-0,64 - +0,42
Average	12,4	16,0	19,1	56,2	64,0	+0,21
Range	0-34,6	0-66,1	0-63,5	0-98	0-100	-0,64 - 1,72

Source: Zbierska et al, 2002

Extension of plant cover

The intensive agricultural production requires erosion control and nutrient migration limitation, especially when fertilizing is high. The autumn-winter period, when the vegetation is declined, is particularly risky. Therefore, for environmentally-friendly agriculture, it is recommended to extent the **plant cover** on fields, by involving "cover crops" in the rotation (winter crops, permanent and semi permanent crops, intercrops etc.). The application of cover crops was very differentiated between farms - from 0 to even 100%. The average in the year 2000 was 56.2%, and in 2001 raised up to 64% of the farm area. The cover crops in the year 2001 consisted of: 86% winter crops, 14% winter rape, 0.3% intercrops and 0.7% legumes.

Organic matter control

The **organic matter** control is a serious element of the project, as the option diminishing impact of uneven fertilizing and simplified rotation. Ploughing intercrops, permanent and semi permanent leguminous and fodder crops as well as regular manuring or straw plough is increasing organic matter content. The soil analysis carried on the analysed farms showed that the organic matter balance was varying from -0.64 to +1.72 t/ha of ploughing ground. Generally the surplus was observed and the average balance was +0.20 t/ha of ploughing area. The negative balance was observed in a group of 5 farms which joined the project recently (in the year 2000).

Calculation of the balance "on the farm gate"

To control the turnover of nutrients considering fertilizers and fodder the annual **balance "on the farm gate"** was calculated. It enables for estimation the biogen fluxes per area unit and per ecosystem and it may signal potential endangerment in case of surplus results. The negative balance warns about soil fertility deterioration. Calculations included from one side elements coming from purchased fertilizers, fodder, sowing material and animals and on the other side loss in the sold crops, animals, organic fertilizers and other products. The undertaken calculations showed that farms specialised in animal production gather nutrient surplus especially those focused on swine (figure 20). The main flux of nutrients comes with concentrated fodder and mineral fertilizers. The nutrient utilisation is not so efficient in specialised animal farm agro-ecosystem and significant amount of them is stored in a form of organic wastes. Farms which are multuidirectionally developed utilise nutrients more effectively, generating less risk of pollution (figure 14).

Figure 20: Balance of nutrients "in farm gates" in initiation farm in 2000-2001 [kg/ha]

Farms	Year 2000			Year 2001		
	N	P2O5	K2O	N	P2O5	K2O
Pigs farm	+44 -36 - +124	+34 -56 - +97	+35 -109 - +116	+86 -41 - +287	+36 -21 - +76	+70 -10 - +175
Cattle farms	+42 -25 - +98	+31 -3 - +66	+47 -8 - +88	+79 -11 - +159	+32 -31 - +121	+40 -39 - +117
Multidirectional farms	-60 -188 - +68	-13 -26 - +1	+81 +41 - +122	+57 +35 - +78	-22 -24 - -20	+53 +53 - +53
Average Range	+9 -188 - +124	+17 -56 - +97	+54 -109 - +122	+74 -41 - +287	+15 -31 - +121	+54 -10 - +175

Source: Zbierska et al, 2002

Slow development of environmental applications

In the result of highly positive biogenic elements balance calculated "on the farm gate" the new way of calculation was started in the year 2002, basing on the individual field turnover. The results will help in nutrient balancing in the farm management. The new method calculates also nutrients coming from the animal production and it may improve plant-animal interaction in the nutrient control. Results of this study will be ready in the beginning of 2003.

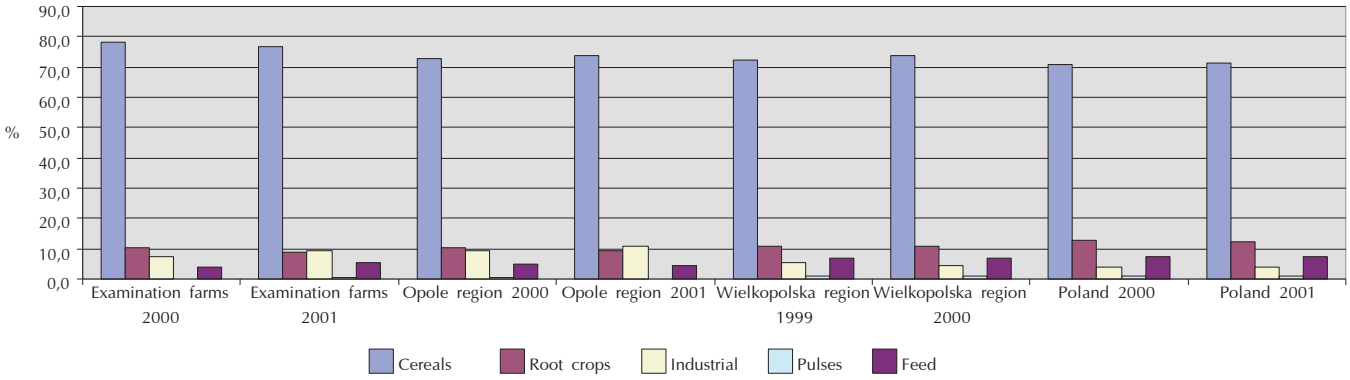
Most of the proposed agro-environmental measures in the Opole Region appeared as advantageous for farmers and environment. Excellent agricultural results makes production very effective. However the scale the implementations is still very limited. The development of environmental applications goes slowly. Nevertheless it might be assumed that expansion of the Agro-environmental Programme can go much faster when farmers can rely on the financial support whereas our study proved that it does not negatively impact agricultural production.

5.3.4. Comparison of Surveyed Farms with Others in the Region and in Poland

Comparison of integrated farming with other farms

The simplification in the plant production structure and cereals domination can be currently observed allover in Poland, especially on areas where agriculture is traditionally intensive and efficient (figure 21). The observed farms showed the domination of cereals even higher than average in regions of Opole and Wielkopolska, and greater than Poland's average. Undersized contribution of leguminous and fodder crops is ordinary not only among the studied farms but also typical in the whole region. It shows that the specialisation in is very advanced in this region, where cereals, sugar beets and rape considerably dominates in plant production and swine in animal production. It is very urgent to implement more widely elements of sustainable methods of farming important and introducing other ways of compensating rotation simplification (e.g. by intercrop grow, multidirectional farm development, introducing permanent and semi-permanent crops as well as growing winter crops).

Figure 21: Structure of crops in examination farms against a background country and regions

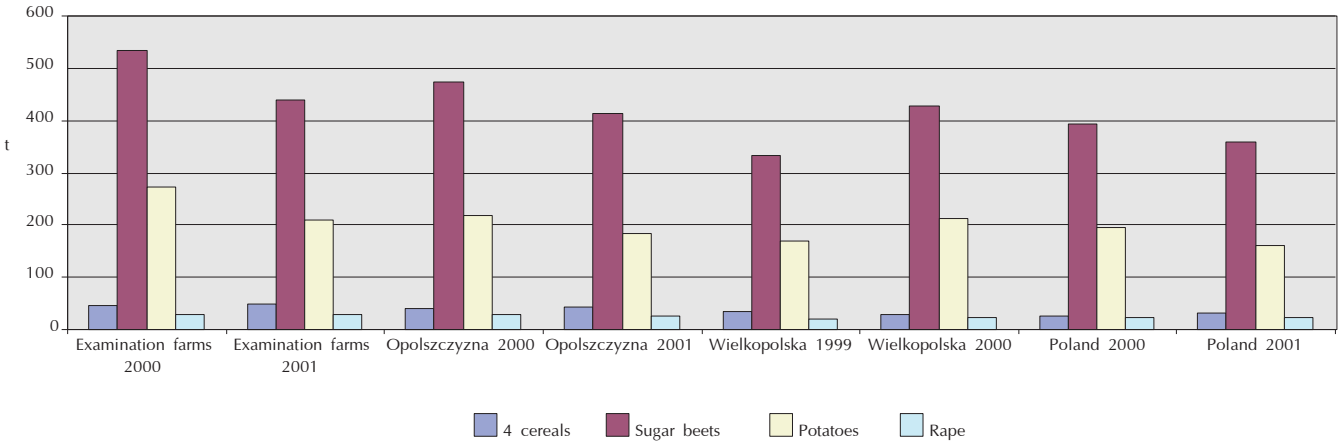


Source: Zbierska et al, 2002

Average yields are higher in integrated farms

The average yields produced by the studied integrated farms are higher than average in the Opole Region and much higher than in Wielkopolska Region as well as average for Poland (figure 22). Yields of four cereals and sugar beets grown on the evaluated farms were specially outstanding, belonging to the highest in Poland. The proposed integrated technology does not have negative impact for yields in plant production.

Figure 22: Yields per hectar in examination farms against a background country and regions



Source: Zbierska et al, 2002

Integrated farms use more fertilizers than other farms

The studied group of farms indicated higher fertilization than average in Opole Region - 30% more in case of nitrogen and 100% more for phosphorous and potassium (figure 23). Comparing with Wielkopolska Region and the rest of the country it is 2 or 3 times more. It shows that the surveyed farms as well as the whole Opole Region is endangered with nutrient pollution and any undertaking leading into the migration control is highly recommended.

Figure 23: Comparison of fertilization level in examination farms against a background country and regions

Specification	Year	Mean [kg/ha]			
		N	P_2O_5	K_2O	NPK
Examination farms	2000	95	53	65	226
	2001	102	52	78	233
Opole region	2000	69	21	37	127
	2001	70	24	38	132
Wielkopolska region	1999	72	19	26	117
	2000	68	17	24	109
Poland	2000	48	17	21	86
	2001	50	18	23	91

Source: Zbierska et al, 2002

Evaluated farms have a very high milk and meat productivity

The large level of production and high efficiency confirms also comparisons in animal husbandry (figure 24). Average animal stocking was 30% higher than average in Opole Region and average for Poland and comparable with Wielkopolska Region. Milk efficiency was relative to the average level in Opole Region. The mean yield per cow in Wielkopolska Region and mean in Poland is a little bit lower. The evaluated farms indicated very high achievements in milk and meat productivity per 1 ha of agricultural land. It was valuable to include agro-environmental measures in such types of production and it was successful to maintaining productivity.

Figure 24: Comparison of stocking rate and animal performances

	Production of milk	Production of beef	Production of pork	Stocking rate LU/ha	Milk from 1 cow litre per 1year
Examination farms 2000	969	0,7	3,8	0,67	4211
Examination farms 2001	861	0,6	3,7	0,66	3765
Opoleregion 2000	471	0,4	1,4	0,38	4414
Opole region 2001	475	0,4	1,4	0,39	4767
Wielkopolska region 1999	660	0,9	3,9	0,71	3809
Wielkopolska region 2000	672	0,7	3,5	0,69	4034
Poland 2000	627	0,5	1,4	0,41	3668
Poland 2001	627	0,4	1,3	0,39	3828

Source: Zbierska et al, 2002

5.3.5. Conclusions

Long-term study of integrated farming in the Opole Region

Long-term study of integrated farming implementation in the Opole Region proved suitability of the proposed measures and prospects of its common spread out in practice. The limited extension of certain agro-environmental measures shows that their spontaneous implementation will develop quite slowly although as a part of the Agro-environmental Programme, when supported financially, many elements of the project can be commonly adopted on the different types of farms.

Intensive and efficient farms participated in the project

Most of the studied elements of farm production were characteristic for the Opole Region as well as for many other agricultural regions in Poland where the farming is on the high level. Principally intensive and efficient farms participated in the project, specialising mainly in swine production and less focused on milk production. The unspecialised multidirectional farms, more valuable for sustainable development, were less frequent in the project.

Integrated farming reduced negative impact of intensive farming

The integrated farming implementation enabled to reduce the negative impact of intensive farming maintaining agricultural proficiency and farm income. The substantial element of the project was close cooperation between farmers and advisors. Farmers presented a lot of interest in farming improvements and much concerns in environmental protection. The environmental awareness rose between farmers and advisors as well as knowledge about environmental requirements in Poland and European Union. These experiences will be helpful in implementation recommendations of "The Code of Good Farming Practice" and the participation in the Agro-environmental Programmes will be easier. Several farmers are preparing for including agro-touristic developments or shifting into the organic production. Proposed rules and elements implemented in the model group of farms in the Opole Regions can be treated as a standard for most of farms in Poland and included in the Agro-environmental Programmes.

6. RURAL AREAS AND AGRICULTURE IN AUSTRIA

6.1. Agriculture

6.1.1. Agriculture and Environment

Cultivated landscape is a result of centuries

The cultivated landscape has developed as a result of centuries of agricultural cultivation and has a characteristic shape which is specific for the respective region, a shape in which culture, society, and the economy are deeply rooted. Even if the agricultural areas were once wrested from nature by means of land clearing, dehydration etc. the land was still cultivated in a way which was largely in harmony with nature and the forces of nature, in line with the principle of sustainability and marked by the close relation to the soil. However, agriculture - which has also been exposed to the forces of industrialisation, mechanisation, rationalisation and liberalisation - can lead to negative environmental effects when applying cultivation practices which are too intensive or inappropriate, such as:

- Over-fertilisation (in particular with the nutrients nitrogen, phosphorus, and potash) with mineral fertilisers but also with organic fertilisers (slurry) if the livestock number per utilised agricultural area is too high
- Nitrogen emission (due to inappropriate fertilisation, over-fertilisation, lack of greening in winter)
- Erosion caused by water (on sloping sites when they are used for arable farming such as silage maize cultivation, viticulture, and fruit growing)
- Erosion caused by wind (due to lack of wind-breaks, large unstructured crop areas, lack of ground cover)
- Overgrazing (the turf is damaged by biting and trampling of animals)
- Residues of plant protection products (in ground water and foodstuffs)
- Reduction of diversity of species (due to intensification and specialisation)
- Impoverishment of the landscape and loss of landscape elements
- Health damage to animals in the case of an intensive and not species-appropriate husbandry

6.1.2. Agri-environmental Programmes

What are Agri-environmental programmes?

The legal foundation for agricultural production methods compatible with the requirements of the protection of the environment and the maintenance of the countryside is an EU-Regulation which provides for the implementation at national level by means of "Agri-environmental Programmes" (EU-Regulation 1257/99, implementing regulation 1750/99). The decisions of Agenda 2000 made sure that the Agri-environmental Programmes will be continued and have provided a new legal foundation for these programmes together with the fields of regional subsidisation, subsidisation of mountain farmers, and investment subsidies ("Rural development programme").

Objectives of Agri-environmental programmes

Objectives of the Agri-environmental Programme

- Introduction or maintenance of production methods compatible with the protection and the improvement of the environment, the landscape and its elements, of natural resources, the soil and of genetic diversity to the benefit of the society as a whole (e.g. organic farming)
- Promotion of an environmentally-benign agriculture and low-intensity grassland farming
- Maintenance of endangered, particularly valuable agriculturally used cultivated landscapes
- Maintenance of the landscape and its historical features on agricultural areas
- Promotion and integration of environmental planning in agricultural practice
- Securing an appropriate income to farmers
- Contributing to an ecological balance and to the realisation of agricultural and agri-environmental policies at national and Community levels

The implementation is carried out by means of programmes of the Member States, which include national and regional characteristics and subsidisation priorities. The programmes have a duration of at least 5 years, but the participation of a farmer in a measure under the ÖPUL programme has to last also for at least 5 years.

6.1.3. The Austrian ÖPUL Programme

Austrian programme to promote agricultural production methods compatible with the requirements of the protection of the environment, extensive production, and the maintenance of the countryside

ÖPUL (Austrian programme to promote agricultural production methods compatible with the requirements of the protection of the environment, extensive production, and the maintenance of the countryside) is with the Austrian Agri-environmental Programme the most important subsidisation measure of the "Rural Development Plan", whose legal basis is the Special Directive of the Federal Minister for Agriculture, Forestry, Environment and Water Management, which is implemented on a private administration basis, and which includes general and special eligibility criteria which are specific for the respective measure.
Austria has become a pioneer within the EU with respect to programme development, but also with respect to participation and the volume of subsidies with its Agri-environmental Programme. 165.000 farms, that are 70% of all agricultural enterprises are participating in the ÖPUL Programme. The subsidized area covers 2.9 million ha. These are 85% of the utilized agricultural area.

Participation

As the measures are offered all over the entire Austrian territory and as there is a wide variety of measures every farmer can basically participate in ÖPUL provided that he complies with the eligibility criteria. The participation is on a voluntary basis.

Every farmer can participate in ÖPUL

Figure 25: Survey of measures under ÖPUL 2000

Survey of measures under ÖPUL 2000	
1	Basic subsidy
2	Organic farming
3	Renunciation of the use of yield-increasing inputs on grassland
4	Renunciation of yield-increasing inputs on arable land
5	Reduction of the use of yield-increasing inputs on grassland
6	Reduction of the use of yield-increasing inputs on arable land
7	Integrated fruit production
8	Renunciation of the use of herbicides in fruit growing
9	Integrated viticulture
10	Renunciation of the use of herbicides in viticulture
11	Integrated production in vegetable gardening as well as in field growing of medicinal and spice plants
12	Integrated production in field growing of ornamental plants
13	Integrated production in protected cultivation
14	Renunciation of the use of growth regulators
15	Renunciation of the use of fungicides
16	Renunciation of the use of silage in certain areas
17	Keeping the cultivated landscape on sloping sites open
18	Alpine pasturage and herding
19	Keeping and rearing of endangered animal species
20	Cultivation of rare agricultural crops
21	Maintenance of scattered fruit trees
22	Greening of arable areas in autumn and winter
23	Erosion control in arable farming
24	Erosion control in fruit growing
25	Erosion control in viticulture
26	Small-scaled structures worth being preserved
27	Tending of ecological valuable areas
28	Designing new landscape elements
29	Ecopoints
30	Regional project Salzburg: Groundwater protection and preservation of grass land
31	Projects in favour of preventive water protection

Source: Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft

Obligations

Obligations

If a farmer applies for a measure and meets all eligibility criteria, a legal obligation for the area or the animals applied for will become effective for a period of five years. He has to comply with this obligation for at least 5 years, but he can also count on the premium for this period.

Eligibility Criteria

Eligibility criteriea: Areas must be situated in Austria, obligation is for 5 years

A subsidy (in fact compensation for services rendered) can be applied for by farm managers (natural persons, legal persons, or association of persons) (= applicants). Enterprises owned by legal authorities are excluded from eligibility. The eligible areas must be situated in Austria. The obligation is applicable for a period of 5 years (exception 10 or 20 years for measures of nature preservation). Obligations can be expanded in the course of their period of application or replaced by new ones. If an obligation is for example reduced by a disposal of land, the premiums received for this area so far will have to be paid back, if the obligations are not complied with by the new farm manager on this area.
The minimum farm size for participation amounts to 2 ha of utilised agricultural area (UAA), however if 0.25 ha of it are special crops (wine, fruit, herbs) the minimum farm size is only 0.5 ha UAA. The premium ceiling per ha for arable land and grassland amounts to € 690.39/ha (ATS 9.500/ha). In the case of a participation in certain measures it will be increased to € 872.07 (ATS 12.000/ha). The fixed cost degression of large-scale enterprises is taken into consideration with the premium per hectare, from 100 hectares per measure on the premium per ha is being reduced. A double subsidisation for the fulfilment of the same requirement even in other fields of subsidisation is not permissible.

Measure-specific Eligibility Criteria

In ÖPUL, there are the following eligibility criteria:

Livestock

<u>Livestock</u>

Livestock

As far as the livestock per hectare is concerned we distinguish between livestock upper limits and livestock lower limits, in both cases the livestock number is related to the cultivated area. Whereas the former is to keep the intensity of management at a low level and to avoid intensive animal husbandry (e.g. 2 LU/ha at most LU = livestock unit = animal with 500 kg live weight, this includes all animals kept on a farm e.g. all cattle, sheep, goats, horses, pigs, chickens, turkeys, geese, ducks, wild animals surrounded by a fence), the latter ensures the management and an ecologically reasonable livestock number.

<u>Grassland farming</u>

Grassland farming

Grassland farming has in principle less negative effects on the environment (erosion caused by wind and water, nitrogen emission due to lack of greening) than arable farming, in particular on sloping sites. Moreover intensification is only possible to a limited degree on grassland.

Thus the preservation of grassland constitutes an important objective, by means of which the surplus production of cereals is reduced as well, and the grassland is used through the stomachs of ruminants. However, grassland is not only endangered by a transformation into arable land, but also by reforestation or abandonment of the management of extensive areas, which have a negative sustainable effect on the environment and the landscape.

Restriction of fertilisers

Fertiliser restriction

The input fertiliser, whether commercial or organic fertiliser, can be subject to various restrictions. The restrictions can range from "proper fertilisation" (minimal standard for fertilisation within the framework of the measure basic subsidy), limited fertilisation with respect to quantity and time, the renunciation of the use of easily soluble commercial fertilisers, to the renunciation of the use of all fertilisers (even farmyard manure). The purchase and storage of these inputs can also be impermissible. The restriction can also be confined to a certain period (e.g. no fertilisation from October 15 to March 28) or the distribution of the permissible total fertiliser quantity among several periods (maximum fertiliser applications).

Prohibition to apply sewage sludge

Sewage sludge

With some measure the application of sewage sludge on agricultural areas is impermissible. These residues of waste-water treatment can be loaded with pollutants or with substances whose effects are not yet sufficiently clarified, and result on the long run in an impairment of the sustainable, environmentally-compatible use, permitting pollutants to enter the food chain.

Provisions for fertilisation

Fertilisation

As far as the process of fertiliser application is concerned, certain provisions can contribute to meeting the objective. Thus the incorporation of slurry applied before the cultivation of the field crop immediately after the application or the "near-ground application of slurry" (e.g. by means of a hose-tow system) results in a reduction of odour nuisance and nitric oxide emissions.

Limitation of plant protection products

Plant protection

The input plant protection product can be subject to various restrictions. They can range from a restricted application with respect to the permissible product, quantity, concentration, pest infestation, number and time of application, to the renunciation of the use of chemical synthetic pesticides. The purchase and the storage of these products can be impermissible as well (e.g. organic farming and integrated production).

Proper state of the tools for the application of plant protection products

Tools for plant protection products

Regular inspections by competent authorities provided for make sure that these tools are in a proper state. Well-adjusted sprayer nozzles which don't drip reduce the consumption of plant protection products and by means of a well-aimed application a further treatment with plant protection products can become superfluous.

Integrated production of fruit, wine, vegetables, hops, potatoes, poppy, strawberries and ornamental plants etc.

Integrated production

By integrated production we mean production methods going in line with mechanical control of pests and focuses of infestations, support and active release of natural antagonists of the pests (e.g. predatory mites), biological control of harmful organisms (e.g. smell attractant traps), restricted fertilisation and plant protection (e.g. no substances which are dangerous for bees), promotion of useful organisms and establishment of green areas and ground cover.

Planting limitations

Planting limitation

They aim at preventing the farmers from growing to a large extent certain individual crops in the same year which means more diversity and crop rotation, fewer pests and plant diseases. There is for example a planting limitation for cereals and maize to a maximum share of 85% or 75%. This contributes also to a reduction of the surpluses in this sector.

Another factor related to it could be the renunciation of the cultivation of silage maize, which constitutes at regional level a problem with respect to erosion, in particular on sloping sites.

Expansion of grassland

Grassland expansion

The transformation of arable land (e.g. formerly under silage maize) into grassland can be subsidised. Arable land can also be transformed into extensive grassland within the framework of nature preservation projects.

Limitations of land-use

Land use limitation

They can range from predetermined cutting dates (protection of ground-nesting birds), prohibition to drive or step on this area during the breeding season, preservation of the reed and silting up zones of ecologically valuable parcels to the total prohibition of utilisation on individual areas.

Tending provisions

Tending provisions

Dry meadows, moist meadows, meadows with scattered fruit trees, rare plant populations, larch meadows, areas with transitional sodden fields and wet patches are of special interest for nature preservation. For these areas special tending provisions can be applied such as no freely soluble commercial fertilisers, no plant protection products etc.

Land-use provisions

Land use provisions

The cultivation of alpine pastures and grassland on marginal sites such as sloping areas and mountain meadows is in danger of being abandoned. This tendency goes hand in hand with reforestation or the overgrowing of these areas by forests (by bushes), the loss of biodiversity and cultivated landscape and a massive change of the landscape. This results also in an increase of the risks of avalanches in high-altitude areas. As to grassland areas mowing and harvesting on sloping areas annually and mowing of mountain meadows at least every 2 years is subsidised. The premium depends on the slope gradient (e.g. > 50%). As far as alpine pastures are concerned the mountain grazing of cattle, sheep, goats, and horses, which fulfil a tending function by grazing and save the alpine areas from weed infestation or overgrowing with bushes, is subsidised. The herding of animals grazing on alpine pastures is subsidised as well.

Greening of arable areas in autumn and winter

Greening in the cold Seasons

The open soil which is not covered by plants is unprotected from erosion caused by wind and water and cannot keep nutrients which are thus emitted into the ground water or into surface waters. Greening, in particular in the course of winter months can avert these disadvantages and brings about an improvement as to soil organisms and soil structure. The higher the share of areas subject to greening and the duration of greening, the higher will be the ecological effect, but also the premium per hectare.

20-years set-aside of arable land and grassland

Set-aside variations

Due to a long-term exclusion of these areas from agricultural use landscape elements and biotope development areas can be established on these areas within the framework of nature conservation projects; no fertilisers, no plant protection products, no sewage sludge, no utilisation, no burning down etc.

5- or 10-year set-aside of arable land and grassland areas

Due to a medium-term exclusion of these areas from agricultural use field boundary strips, cultivated deer pastures, fallow land etc. can be established on these areas within the framework of nature conservation projects; no fertilisers, no plant protection products, no sewage sludge, no utilisation, no burning down etc.

Reduced soil tillage

Reduced soil tillage

Every additional soil tillage (in particular ploughing) affects the soil by soil compaction (tractor weight), humus decomposition etc. Therefore methods such as mulch or direct drilling, which require fewer working procedures, because the soil is not ploughed before cropping, are subsidised.

Growing of extensive varieties and rare crops

Rare and extensive crops

Many crops which are valuable for the respective region are vulnerable to extinction due to the replacement by intensive varieties. The extinction can be averted and the genetic diversity can be preserved by means of a subsidised cultivation of these varieties.

Keeping and rearing of endangered animal species

Endangered animals

The keeping of pure bred animals (e.g. the species Carinthian Blond, Lipizzaner, Tiroler Steinschaf, Chamois Coloured Mountain Goat), which cannot compete with high-performance breeds as far as profitability is concerned, and are therefore replaced and vulnerable to extinction, is subsidised. This requires the keeping of a herd-book and an animal register, the confirmation of a breeding association, as well as the mating with pure-bred animals.

Conservation and tending of landscape elements

Landscape conservation

Landscape elements are to be preserved and tended e.g. no burning down of banks and field margins, no use of fertilisers and plant protection products. Landscape elements may by no means be irreversibly destroyed.

Organic farming

Organic farming

An organic farmer has to comply with the provisions of the EU Regulations concerning organic production of plant and animal products, is subject to control by an inspection association, has to proof the participation in a training course, and the farm has to be recognised as an organic farm by the competent authorities. ÖPUL includes further requirements for organic farming e.g. no fertilisers in the form of chloride.

Greening or ground covering in fruit and vegetable growing

Greening by fruit and vegetable growing

By means of a greening or ground covering with straw, mulch etc. in particular in the course of the winter months, the soil erosion in orchards and vineyards can be considerably reduced. However, this means also a competitor for the crop with respect to water and can also result in a yield reduction.

Renunciation of silage processing and feeding

Renunciation of silage

Silage is feed-stuff made non-perishable by natural fermentation (fermented feed). The production of silage-free milk constitutes in many grassland areas a traditional form of agricultural production. The renunciation of processing and feeding of silage means an extensive production, losses in hay production, risk of weather, renunciation of high yields in silage maize production.

Records

Many measures require to keep records concerning fertilisation, plant protection, varieties, soil tillage, and harvesting, which serve as a basis for control, but also as a basis for decisions for the farmer.

Establishment of a nature conservation plan

Nature conservation plan

The nature conservation authority establishes together with the farmer plans, laying down which areas shall be included in which measures and under which conditions in order to reach the set goal in an optimal way.

Nitrogen balance at farm level

Nitrogen balance

On the basis of records of the farmer and of fertilising value tables a farm-based nitrogen balance is established in order to identify the specific requirements of the individual farm.

Management plan for organic fertilisers

Management of fertilising

Excess quantities of organic fertilisers produced on a subsidised farm, are, subject to prior control with respect to the compliance with the objectives of water protection, applied by partner farms. In this way farms with a higher stocking rate are also in a position to manage in a more environmentally compatible way. The way of the organic fertiliser from its production, storage, processing, to application is subject to control.

Control

Control mechanisms

Compliance with the eligibility criteria, proper application, and correct implementation of measures are subject to control. On the one hand on the basis of applications, documents and vouchers, on the other hand on the farm, in the stables, in the farm buildings, and on the farm area. Thus soil and plant samples are drawn in order to control the compliance with the prohibition to apply plant protection products.

Whereas the applications are controlled at 100% the on-farm inspections take place according to a random sample plan (at least 5% annually).

Sanctions

Sanctions are strict

If an obligation is not complied with sanctions may range, depending on kind and extent of the violation of the provisions, from a warning, a reduction of the premium, an exclusion from a measure under ÖPUL and the obligation to pay back all premiums received so far - even up to 5 years retroactively - to a ban from ÖPUL as a whole.

Reasons for Success

Austria has a long history of environmental awareness

The long tradition of Austria as regards environmental awareness, environmental subsidisation, and subsidisation philosophy have laid a good foundation for the acceptance of ÖPUL from 1995 on.

A national provision on organic production has existed since 1983, socio-ecological agricultural policy as a independent Austrian way since 1986, environmental protection as an objective in the Austrian Farm Act since 1988. There is a general environmental awareness and people have been sensitised on environmental affairs. There is a social consensus to compensate for services rendered in favour of the society as a whole (such as landscape tending), following the principle: Prevention before cure. Not only the extensification of intensive farms, but also the maintenance of extensive production is to be subsidised. ÖPUL offers the opportunity to many farms (mainly small-scaled family farms) not having to follow the way of intensification and specialisation. They make a part of their income from the fulfilment of contractual obligations in the environmental sector.

6.2. Rural Development and Regional Planning

80% of the Austrians live in rural areas

The rural area is of above-average importance in Austria. In contrast to other European countries, around 80% of the Austrian population live in the rural regions. The rural area thus assumes an important role in Austria's economic, social and cultural development. Questions of settlement patterns, a labour market of sufficient size, a functioning infrastructure and the quality of life are of central importance to people in the rural areas.

Successful Austrian agriculture

The implementation of a suitable European agricultural reform and the realisation of positive perspectives for the rural areas were, and therefore still are the core of the successful Austrian agricultural strategy, the focus of which is on country-wide, sustainable, multifunctional and ecologically oriented agriculture.

Agriculture with small and medium scale farming structures

Austrian agriculture is characterised by small- and medium-scale, i.e. limited-area farming structures. According to the latest agricultural structure data, there are some 252.000 agricultural and forestry enterprises farming 80% of the federal territory. The average farm size is 15,2 hectares of agriculturally utilised area. Some two third of the farms are operated on a part-time basis; about 4% of the working population are employed in farming. Nevertheless, agriculture is one of the most important contractors for other branches of the economy. One job in agriculture creates and supports a further three jobs in other enterprises.

Alternative Sources of Income for Agriculture

"Grow or give way"?

Specialisation, overproduction and falling market prices have exacerbated the income situation of Austrian farmers in recent decades. Agricultural incomes are falling steadily.

Search for alternative sources of income

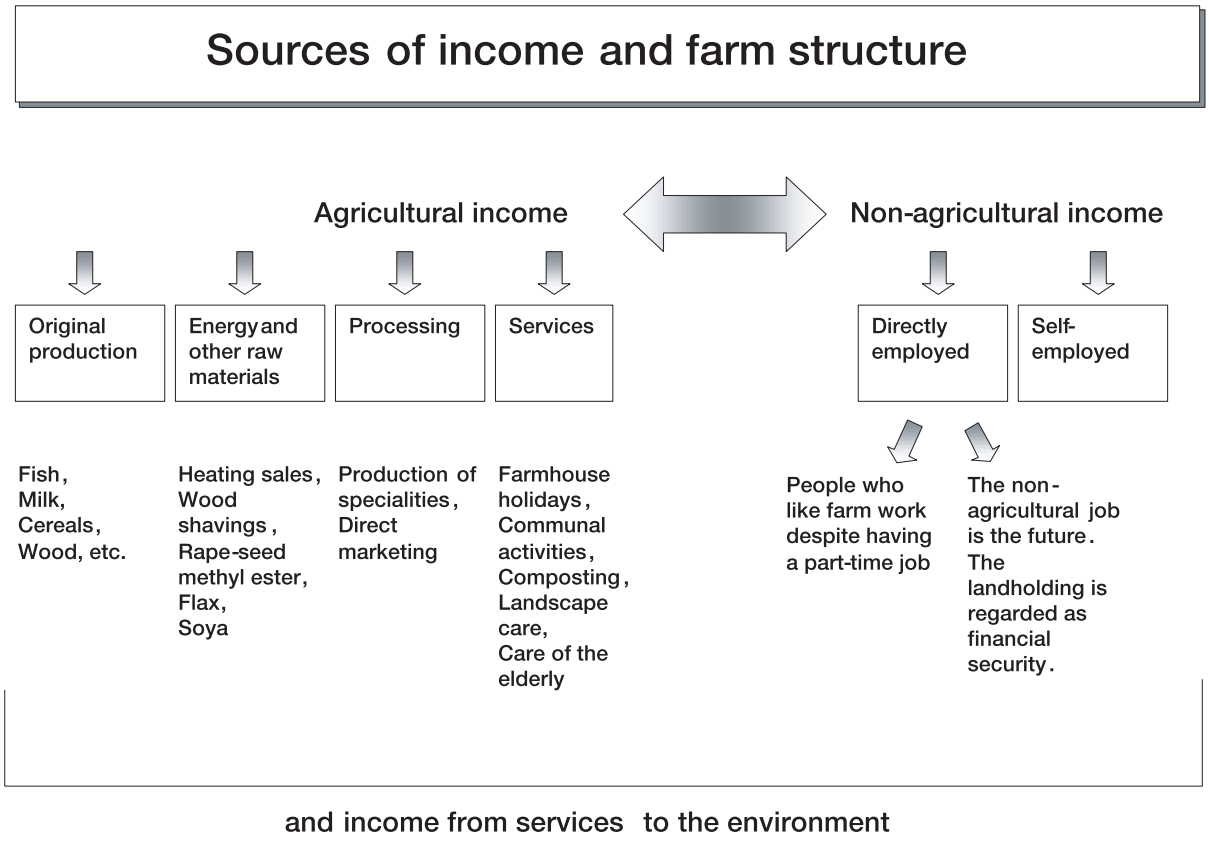
With membership of the EU, a new picture faced Austria's farmers: the small-scale agriculture cannot compete with EU farms ("70 ha. farms are fit for the EU"). Motto: "grow or give way". At the same time, however, the number of jobs outside agriculture is shrinking. So, in the course of the 80s, possibilities of higher added value through processing and direct marketing of the products on the farm were reintroduced.

This was made possible by a tenet of Austrian agricultural policy, which has also not changed since accession to the EU: "the maintenance of a country-wide, sustainable, multifunctional, ecologically oriented agriculture with rural features."

Additional incomes in agriculture

What forms of income combination are there in Austria today?
At the centre of all the endeavours to ensure the future of agriculture is the human being with all his abilities and needs. Motivation, education, acceptance of and readiness for innovation are increasingly becoming decisive factors for development in the rural area.

Figure 26: Various opportunities for alternative sources of income



Source: MECCA

Rural development is also becoming established as an important cornerstone of European Union Agricultural Policy. With the model of the eco-social market economy, Austria has made an important contribution to this. For agriculture, the development of the rural area has the following significance:

Rural development as cornerstone of EU-Agricultural Policy

- Strengthening of a multifunctional agriculture that is not solely oriented on production but also takes ecological tasks, catastrophe protection and its function as the cultural and social basis of life in the rural area seriously

  Multifunctional agriculture
- Increased decentralisation of agricultural policy, with more opportunities for autonomous decision-making in the EU member states

  Decentralisation
- The rural area does not consist solely of farmers. Other initiatives from the fields of tourism, industry, handicrafts and culture as well as nature protection are being promoted

  Rural areas
- The development of regional managements with the task of acting as multifunctional hubs for the rural area is the success story of Austrian regional development. Regional managements offer information on the EU structural funds and the provincial supports; they offer advice and consultancy on regional initiatives, help in the development of new products and services and link regional networks of people and initiatives which work together for the general public good

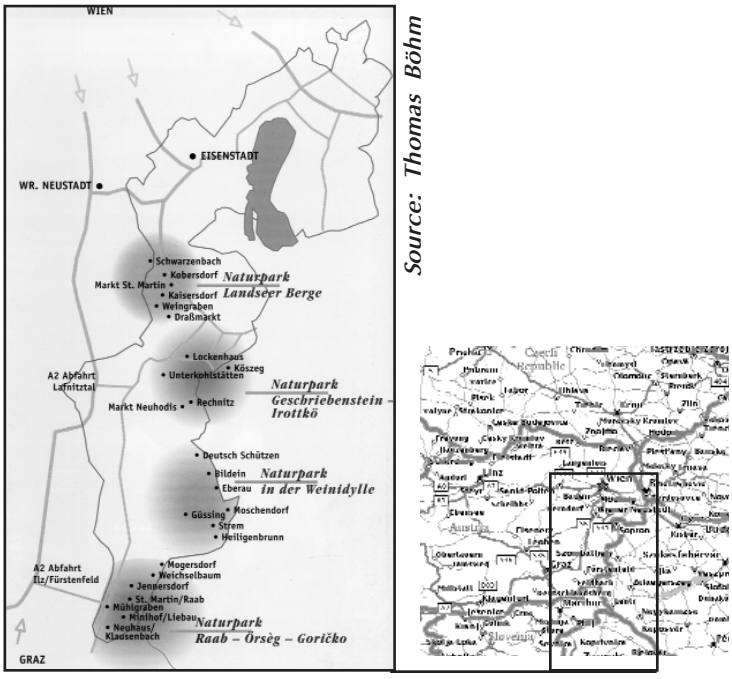
  Regional managements
- The new is not always better. Precisely in the rural areas it is better to rely on established structures and to give these new content than continuously setting up new structures

  Established structures
- A slow but solid development is better than grand individual projects that flare up and burn out again just as quickly

  Solid development

6.3. Case Studies in Austria
6.3.1. Nature Park Development in Burgenland

Map 5: Nature parks in the Burgenland - Hungary border Region



Source: Thomas Böhm

The Nature parks in the province of Burgenland are cultural landscapes worthy of protection that serve the protection of nature, recreation and education, and to an increasing extent regional development. The Nature parks combine the interests of agriculture, nature conservation, tourism and rural culture. Their tasks lie in the field of an eco-social tourism that is close to nature, in the independent marketing of rural products, environmental education, the experience of nature and in the recognition of the importance of the rural population not only for the production of healthy foodstuffs but above all for the care of the natural and cultural landscape. For many branches of the economy, and in particular for agriculture, the title and

image of a Nature park is that it should confer a clear location advantage. The "Nature park" name is intended to establish itself as a mark of quality. The local population and those involved in agriculture and industry recognise perspectives for themselves in this, produce their own initiatives and thus are kept in the region.

Four Nature parks have been established

In recent years, four Nature parks have been established in various regions of the province, each with a different focus. A range of projects has already been put in place and a wealth of project ideas is currently being prepared for implementation. On a nation-wide comparison the Burgenland Nature parks have a relatively young development history. The first Nature park set up in the nowadays form was the cross-border Geschriebenstein - Irottkö Nature Park in 1996. This was followed in 1998 by the trilateral Raab - Örsčg - Goricko Nature park. Originally, the Clusius Nature Park was the first such park to be declared in Burgenland (1978), and was extended in 1999 as the "Nature park in the Weinidylle". In 2001 the Landseer Mountains Nature Park was declared. The four Nature parks have a total area of 36.281 ha or 9,2% of the province's area, with 23 Burgenland municipalities having a share of the Nature parks. In recent years in the Nature parks cycle and hiking trails, various nature trails and special theme routes have been established. In addition to this basic infrastructure of any Nature park, there are many other different projects in the Nature park regions.

Geschriebenstein - Irottkö Nature Park

Nature park between Austria and Hungary

The first cross-border Nature park between Austria and Hungary covers the area around the 884 m high Geschriebenstein, the highest elevation in Burgenland and western Hungary. From the lookout point on the Geschriebenstein, through the middle of which runs the state border between Austria and Hungary, one enjoys a wonderful panorama from the Alps to the Pannonian plain.

On the Austrian side the Nature park covers 8.500 ha, with the municipalities of Lockenhaus, Markt Neuhodis, Rechnitz and Unterkohlstätten. In Hungary 4.500 ha around the town of Köszeg are part of the Nature park. More than 100 km of marked hiking trails on both sides of the state border invite the rambler. Various nature trails - such as a hunting and wine nature trail in Rechnitz, a woodland experience trail and a cereal nature trail in Lockenhaus - illustrate interesting facts about nature and the countryside in an easily understandable way. A particular attraction in the Nature park is a renovated watermill in Markt Neuhodis, in which visitors can see the way from the milling of the corn to homemade bread. Many other sights, such as a birds-of-prey station, a rock-climbing wall, sculpture park, swimming lake, boot-makers' museum, wine collection and an extensive programme of events are on offer to get to know this unique cultural landscape.

Raab - Örsčg - Goricko Nature Park

Trilateral Nature park: Austria, Hungary and Slovenia

The Raab Nature Park is in the southernmost corner of Burgenland between Lafnitz to the north and Stadelberg on the Slovenian border in the south. It is the Austrian part of the trilateral Raab-Örsčg-Goricko Nature Park in the triangle where Austria, Hungary and Slovenia meet. The landscape along the course of the river Raab and in the gently rolling hills displays a mosaic of nature: long narrow fields as well as meadows and woods provide a varied spectacle as a setting for out-of-the-way farms and scattered settlements.

Special features and interesting facts about the Raab area are presented for Nature park visitors in an entertaining way on a number of special theme trails. The Old-Border theme trail at Neuhaus am Klausenbach features the thousand-years-old border in this region. After its renovation, Tabor castle will house a museum and information centre. Also in Neuhaus, fruit growers have set up an apple trail. On the life trail in Mühlgraben, visitors not only learn interesting facts about water ecology, they can also learn the art of water divining. The corn trail at Minihof Liebau takes one into the historical world of cereal farming. In St. Martin visitors can view burial mounds from the Roman era. The Pannonian burial mounds in Rax/Jennersdorf also give visitors an insight into the time of the Romans. At Maria Bild one can walk along the pilgrim's way; at Mogersdorf the peace trail leads from the Raab valley to the Schlößlberg and with a cross forms a memorial for the 1664 battle with the Ottoman army. A Nature park guide also takes visitors on adventure tours of the partner regions of Örsčg and Goricko.

Nature Park in the Weinidylle

Nature park declaration 25 years ago

The Nature park in the Weinidylle ["wine idyll"] is in the eastern half of the south Burgenland district of Güssing. Even 25 years ago this had been declared as protected area. It includes the small-scale vineyards and romantic cellar quarters as well as valleys with a rich diversity of flora and fauna in the riverine forests and water meadows.

Around the reservoir in Ubersdorf there is a nature trail dedicated to the great botanist and humanist Carolus Clusius. Numerous "natural memorials" such as the enormous old oaks line the trail and invite the rambler to rest in their shadows. In the bordering game park, wild boar and various species of deer as well as rare old breeds of domesticated animals can be seen. In the Heiligenbrunn cellar quarter, one feels transported back into the past. The small cellars are made of wood and lime. The thatched roofs give the ensemble of protected buildings an incomparable ambience. The Moschendorf wine museum is one of the focal points in the visitor programme. Here one finds lovingly restored wine cellars and pressing houses as well as the south Burgenland wine collection and the Uhudla wine collection. A further attraction for wine-lovers is the wine collection at the foot of the Eisenberg.

Landseer Mountains Nature Park

Most recent Nature park in Burgenland

Lying across the border of two provinces (Burgenland and Lower Austria), the Nature park is situated in the transition area from the Alps to the Pannonian plain and is Burgenland's newest Nature park. As an ancient border region, the Landseer mountains are rich in excavations, ruins and other witnesses of a turbulent era.

The programme/main themes are:

- The Celts: excavations, guided tours and the Schwarzenbach museum tower
- Open-air events on the Landsee ruin (the biggest castle ruin in central Europe) and a wonderful view from the castle
- Discovery site of 13 millon-years-old fossils
- Concerts, readings, castle games, theatre and an advent market in Kobersdorf castle
- Charming, varied landscape
- Honey, schnapps, must, juices and local dishes from the farmers in the nature park. All of the regions direct-marketing enterprises are listed in the brochure "Der Naturpark Landseer Berge zum Essen und Trinken"

Very positive development of Nature parks

In the middle of the Landseer Mountains Nature Park is an extinct volcano, the Pauliberg. In a few years time, it will be possible to experience and feel the "volcano" phenomenon with all the senses. The development of the Burgenland Nature parks over the last five years has been very positive:

- Creation of new jobs
- Emergence of a new job profile: adventure guide

In Burgenland a regional variation of the Nature park adventure-guide training has been carried out twice. Teachers, students, housewives and farmers were trained in looking after visitors. The training of adventure guides and the development of various new features also made it possible to revive the infrastructure of the Nature parks:

- Ongoing coordination discussions and joint efforts in the development of the programme
- Increased direct marketing since the establishment of the Nature parks

Here it should be taken a closer look at some of the direct marketing projects, which show the important cooperation between agriculture and Nature parks and have opened up new sources of income to the very committed rural enterprises in the Nature parks:

Nature park wine

Idea of "Welschriesling Nature Park Wine"

In the south of the Geschriebenstein - Irottkö Nature Park is the Rechnitz wine growing municipality, in which most farms practice wine growing as part-time work. Because of this, in the past it was also not possible to advertise Rechnitz Welschriesling effectively, as the low quantities meant there were no sales opportunities on a broader scale.

After the establishment of the Geschriebenstein Nature Park, some wine growers had the idea of producing a "Welschriesling Nature Park Wine" together. For its production, the producers subjected themselves to certain guidelines.

The time of the grape harvest is by unanimous agreement (min. 15° KMW [scale for measuring the sugar content of grape must]); further processing of the grapes is carried out cooperatively. At the moment, the marketing cooperative consists of eight wine growers and the amount of Nature park wine produced is around 4.000 bottles. The wine is marketed at various presentation events, through the stronger positioning in the nature park catering trade and through the individual marketing of the wine growers themselves.

The marketing cooperative consists of 8 wine growers

Rechnitz village store

In Rechnitz the Nature park association bought the old milk storage buildings and converted them into not only the nature park offices but also a village store. The "Rechnitzer Dorfladen" marketing association operates as a directing cooperative representing a loose association of farmers. The village store had 16 members when it was set up. Every Saturday, meat, sausages, eggs, fresh farmhouse bread and many other delicacies are on offer. In normal office hours, products such as honey, muesli, schnapps, liqueurs, tea, corn-oil and rural handicrafts are sold. In this project, a combination of the exploitation of diverse opportunities has been particularly successful.

Good use for old milk storage buildings

Organic farming shop in Hochstrass

In the Hochstraß organic farming village, part of the Lockenhaus Nature park municipality, an organic farming shop was opened on 11 June 1999 on the initiative of the DIREKT cooperative. The aims of the ARGE DIREKT are, among others, to increase the regional content in the shopping basket, to support the direct marketing of controlled organic products, cooperation with the region's organic farmers, and if possible also an increase in the number of organic producers.

Direct marketing of organic products is supported

The organic-farm shop sells milk products (cheese, quark, cow's and sheep's milk yoghurt), sausages, bread and rolls (farmhouse bread, wholemeal bread, sunflower-seed bread, potato bread), vegetables (lettuce, carrots, potatoes), cooking oil (corn oil, rape-seed oil, thistle oil), fruit juices, wine and much more. Thanks to the great success, three years after the start of the project the premises have become too small and a new location was needed. Along the lines of the Styrian "grocery trade - agriculture network" model, Burgenland's first organic farmers' corner has been opened at the Adeg supermarket cooperation partner in Piringsdorf.

In this model, a farmers' shop-in-shop is established in grocers' shops, where regional products are on offer. The advantage for the farmers is in the development of new business areas, the utilisation of existing infrastructure, the ability to reach new customers and in the longer opening hours compared with self-marketing.

"Shop in shop model" was established

Further projects, such as the St. Martin farmers' store, the travelling farmers' shop and the development of new products such as nature-park apple juice from windfall fruit show the successful direction of direct marketing in the Nature park regions.

Tourism in Nature parks

Tourism is gaining importance

Alongside direct marketing, tourism is regarded as an important development approach in Nature parks. The desire to spend one's leisure time in an unspoilt environment has recently grown into a massive trend. The city population above all want to spend their spare time, as short a time as possible, with as much of nature as possible - and experience it as intensively as possible. Alongside the classical forms of recreation, the acquisition of new knowledge and information, culture and experience of the countryside is becoming increasingly important.

In 2001 more than 275 guided tours were organised

As a result of this development, the Burgenland Nature parks are seeking to offer a new and innovative programme in the field of the experience of nature. Guided tours are one of the most important ways of bringing people - visitors as well as locals - closer to nature, to the cultural landscape and to the regional specialities of a Nature park. Adventure guides are indispensable staff in the Nature park, if the park wishes to make what it has to offer exciting and graphic. This includes guided adventure tours, special theme trails and natural history walks, seminars on old handicraft techniques, bread-baking courses, visits to farms and wine cellars, and canoe tours on the Raab. Last year the Burgenland Nature parks summarised their programmes for the first time in a joint brochure. In 2001 there were over 275 guided tours with 6.300 visitors.

The Nature park associations are working energetically to extend and improve their programmes in the individual regions in order to be able to welcome significantly more visitors in the coming years under the motto "experience nature - understand nature".

6.3.2. Naturpark Grebenzen

The Nature park covers 8.000 ha and was proposed by the provincial government of Styria in 1983. It includes the eight Nature park municipalities and is defined as protected landscape zone. The region's typical mountain-pass landscape was formed by the ice-age glaciers. The Nature park is in the foothills of the Styrian-Carinthian Central Alps and is bordered in the east by the Seetal Alps with the 2.396 m Zirbitzkogel. It is hidden from the Murtal and is accessible from here over two passes, the Neumarkt and the Perchau saddles. Towards Carinthia, the nature park is bordered by the Kalkstock of Grebenzen.

In agriculture and forestry, the most important branches of enterprise are forestry and dairy farming. Over 60% of the total area of the nature park is woodland. The remaining areas are primarily used as grassland and the few arable areas for fodder.

Networking through the eco-model

Orientation on ecological and sustainable farming

The basic idea of the "Grebenzen Nature Park Eco-model" is the networking and further development of all the projects and initiatives in the Nature park that are oriented on ecological and sustainable farming. Cooperation projects between agriculture, tourism and catering, cultural landscape research programmes, educational programmes providing information about nature, the countryside and ecological farming, and care of the protected areas are the most important pillars of the "Eco-model".

Alongside the theoretical work, a wide range of further specific projects are being initiated and pursued. Such as:

School project days on the farm

Lots of projects are offered to students

Alongside natural history project days, Grebenzen Nature Park also offers schools projects on the farm. The topics here are bread baking, bee-keeping or dairy processing in connection with the environment and cultural landscape. For 1999 there was a new programme: alongside practical teaching in the areas of "organic products, organic farming, creative use of leisure time, product processing and local shops", expert family members (agronomy teachers and agricultural science masters) pass on specialist knowledge in the newly constructed class and seminar room.

Nature park restaurants

Cooperation project between agriculture and catering

In the framework of this exemplary cooperation project between agriculture and catering, farmer's products from the Grebenzen Nature Park are increasingly used in the preparation of dishes in a number of the park's restaurants. On a separate Nature park menu card, the "Nature park restaurants" offer dishes whose ingredients are produced by suppliers from the Grebenzen Nature Park, with an accompanying list of the suppliers. Alongside the caterers, above all 20 agricultural enterprises profit from the use of the Nature park recipes, through the direct marketing to the caterers and also through the promotion of "sales from the farmhouse" as a result of the producer's name appearing on the menu.

Nature park exchange

"List of products" was prepared

Since 1998, the Nature park association has produced a list of products available from the participating farmers. The list is regularly updated and makes it easier for the restaurants to plan in advance which Nature park products appear on the menu. The caterers themselves pass on their requirements to the Nature park association. The list goes to a managing committee made up of eight farmers who act as intermediaries between the caterers and the farmers.

Nature trails incorporating agriculture ("refreshment points")

In future more farmhouse products should be offered

A number of nature trails have been set up over the last three years. In future, on the pattern of the "Perchau farmhouse trail", it should be increasingly possible to consume farmhouse products at the various farms along the nature trails. These farmhouses with refreshment points were already being introduced in the 1999 Nature park summer programme. The summer programme brochure thus not only includes programme details, but also the "eco-model" giving details of the eco-model folder and the naming of the refreshment points.

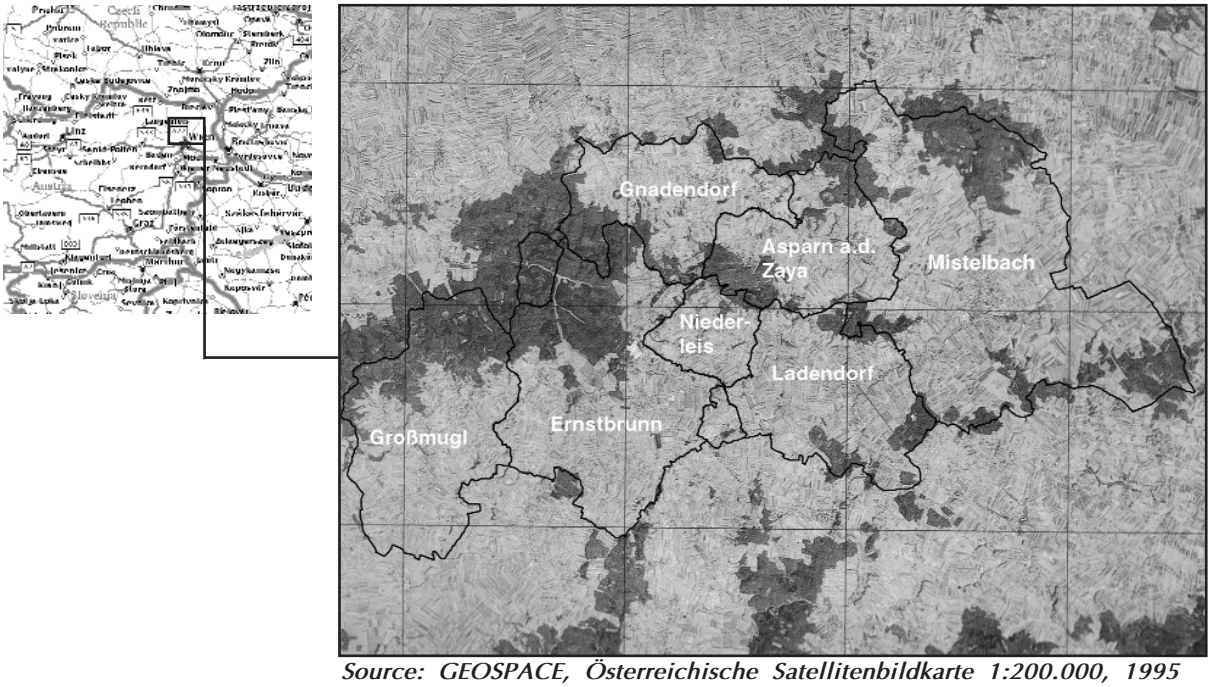
The results/success factors of the Grebenzen Nature Park Eco-model are of particular importance for rural development as follows:

- Awareness-raising in the region has been successfully taken up
- A sense of a new era in the nature park municipalities with regard to an ecologically oriented regional development
- High motivation in rural enterprises with regard to the further development of new perspectives

- Rise in agricultural income through increased adoption of the farmhouse holiday and direct marketing income combination. This has ensured the continuance of the small-scale farming structure and with it the maintenance of our cultural landscape for the immediate future
- There has been a good take-up of the "farmhouse adventure" project
- The school projects and farmhouse adventure projects have meant a corresponding extension of the skills of rural enterprise managers
- The direct sales of rural specialities has continually risen as a result of the project
- "Nature park restaurants" are being increasingly frequented by locals and visitors

6.3.3. Naturpark Leiser Berge - Mistelbach

Map 6: Satellite view of the Region "Leiser Berge - Mistelbach"



Source: GEOSPACE, Österreichische Satellitenbildkarte 1:200.000, 1995

Nature park is traditionally very agricultural

The Leiser Mountains - Mistelbach region is some 35 km north of Vienna. The region has a small-scale structure and is traditionally very agricultural. The area has been continuously settled for 6.000 years, as is evidenced by the impressive archaeological excavations. Today, some 21.000 people live here. In the heart of the region there is an approximately 4.000 ha nature park, which among other things is utilised for recreation and tourism. Activities concerning wild flowers, wild fruit, moths, pasturing, prehistory etc. and establishments such as game parks and hiking trails are attractive both for the local population and visitors. Mistelbach, the main centre, is widely known as the cultural metropolis of the Weinviertel [wine quarter] and for a successful provincial development project (the Arbeitsgemeinschaft Landentwicklung Mistelbach, ALM [the Mistelbach provincial development cooperative]). Above and beyond this, there is a major rural cultural asset in the village structures.

In the framework of Mistelbach provincial development, the most diverse projects have been carried out in the field of landscape design and rural direct marketing. There is, for example, a processing and finishing centre in the Mistelbach agricultural college.

Small-scale regional cooperation on agriculture and landscape in the Leiser Mountains from 1975 to the present day:

- The Simonsfeld Farmers' Market has existed here for 25 years. Every weekend (except in winter) eight farmers pool their efforts to directly market pig, sheep and goat products, schnapps, fine spirits and wine, millet, potatoes, eggs, wholemeal bread, pastries and honey. The market attracts some 200-300 visitors every weekend, predominantly from the Vienna area

Eight farmers sell their products every weekend

- Some years ago these direct marketers united to present a joint Nature park brand. This brand of products is recognisable by the logo (photo: corn-cockle). Using the "Leiser Mountains Nature Park Partners for Nature Protection" logo, the Nature park partners commit themselves to an active contribution to the maintenance and guarantee of the rural cultural landscape in the nature park region. This declaration of intent includes active landscape protection methods as well as experimenting with alternative production methods

A joint nature park brand was established

- In Mistelbach, the district capital, in the course of a provincial development project the necessity of developing a marketing and processing centre for the region's farmers was recognised. Because of the strict food laws, it was no longer possible to process farmhouse products in a simple kitchen, as had previously been the case. Rather, strict hygiene regulations, above all for meat and sausage products, had to be adhered to. As many farms were not in a position to raise the investment need for such measures, there is now the possibility of renting processing rooms, equipped according to the latest hygiene guidelines, from Farmer Arnt. The farmers can themselves market their products directly, sell them from the farmhouse or from the adjoining farmhouse produce shop. The collaboration between the farmers takes place together with the agricultural college and its lecturers, so there is an exchange of expertise and experience between the farmers and students. Activities are offered in cooperation with the Heurige (wine tavern), which can be rented by the wine growers on a weekly basis in the process, school classes and visitors from the city can watch and try out the processing of meat, cereals, fruit and vegetables. Free-range pigs and other animals can be viewed in husbandry conditions appropriate to animal welfare. Tours of the orchards and vineyards provide information on agriculture and the landscape.

A marketing and processing centre is developed

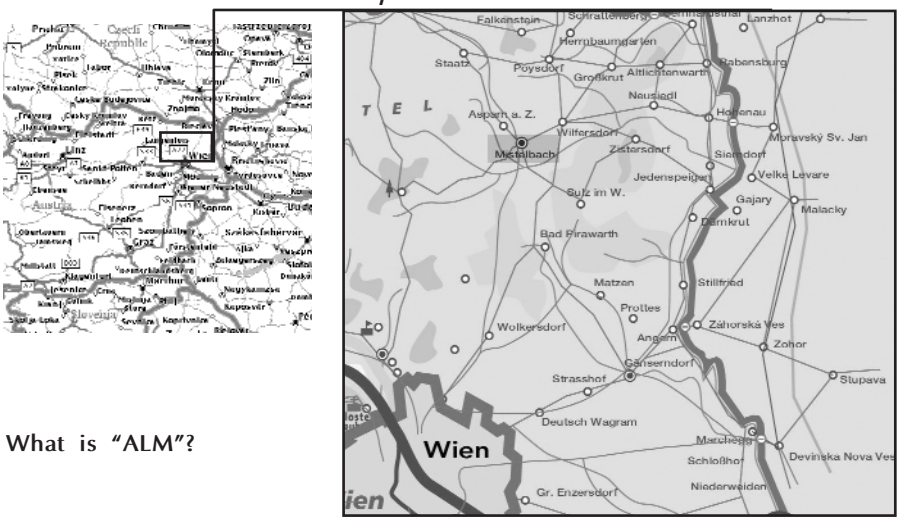
What are the opportunities for the region?

The Leiser Mountains - Mistelbach region's inhabitants are running a range of workshops on their future. They see the region's development opportunities in the following issues:

- Diverse and small-scale landscape structure
- Extending the Nature park brand
- Improving the existing network of direct marketers
- More ecological and alternative production
- Increased use of the Vienna area as a sales market
- Increased alternative energy production

6.3.4. ALM Mistelbach

Map 7: Site of the ALM Mistelbach



What is "ALM"?

The Arbeitsgemeinschaft Landentwicklung Mistelbach [Mistelbach provincial development cooperative] was founded in 1997 and consists of representatives of the municipality such as local mayors, heads of associations, farmers and people involved in landscape and ecology. The ALM was founded in order to improve the quality of life and the economic situation in Mistelbach, to support regional initiatives, to develop an ecologically intact cultural landscape and to strengthen and revive cultural and social identity.

The project has one full-time worker. Meetings with the members take place as required. The project area covers the municipality of Mistelbach, 50 km north of Vienna with a total area of approximately 13.000 ha and 11.000 inhabitants. The municipality consists of the town of Mistelbach and nine villages with an average of 600 inhabitants each.

The most jobs are in agriculture

The area is heavily agricultural and has a shortage of non-agricultural jobs. The falling price of agricultural produce has led to a drastic drop in incomes and increased the tendency to give up farming. The change in farming structure has had some serious effects on the landscape picture and the landscape household. Water and wind erosion damage the soil structure and lead to nutrient permeation of the ground water. To some extent there is an absence of the landscape-forming structures such as hedges, boundary strips and trees that are necessary for the development of existing tourism and the recreation needs of the resident population, and there are often conflicts of interest in the transition areas from population settlements to the agricultural lands.

The main points of the ALM are landscape design and provincial development:

Landscape design

Landscape design and provincial development

Three landscape planning teams have analysed the municipality's landscape and drawn up concepts together with farmers local authority representatives. Some examples are:

- Consultancy on fallow areas and supports in the framework of agri-environmental measures with over-sowing of old farmland vegetation or development of herbal vegetation
- Construction of wetland biotopes, protective reservoirs against erosion as secondary locations, and stream widening with retaining areas
- Planting of hedges, alleys, windbreaks, fruit fields etc., incorporating works of art into the landscape
- Management plans for dry areas, wetlands, gravel pits, former waste dumps and pasture projects together with farmers
- Establishment of a historical park on the town's church mountain
- Regeneration of wine-cellar roads and their surroundings and of dried up springs with the incorporation of works of art
- Orchard planting with old, indigenous fruit-tree species
- Creation of ramblers' trails in all areas

Provincial development

Covers measures contributing to the better marketing of rural products, to improving awareness and creating a connection to research and science.

Examples are:

- Processing and marketing centre in the agricultural college for local farmers' products
- Old milk room; a marketing room for organic products with an alternative school
- Guided walks with information on landscape design, ecology, agriculture and rural culture
- Symposia with academics on current agricultural issues
- Student research studies on wine-cellar roads, climate agreement, erosion protection, green-belt land, with presentation of the results
- Mobile exhibition for events
- Excursions to medicinal plant and spice growers and processors
- Training wine growers as wine-cellar-road guides
- Tree-planting activity with school children, first communion children etc.
- Meadow and pond nature trail
- Fruit-tree pruning course and ecological fruit-tree care

Particularly successful and media-effective ALM projects are:

Treeplanting activity with school children

- Tree-planting activity with 94 school children. Because of heavy sedimentation, a run-off basin to protect against erosion had to be dredged too often. A thick line of bushes and trees was therefore to be planted on the slope side of the basin as a buffer strip. As the number of volunteers for planting actions is not very high in the urban area, and as awareness-building measures had to be initiated in the area, 1.200 bushes and 350 trees were planted with the help of school children.

Each class received a theory lesson from the ALM where the planting was prepared (root cutting, planting-hole depth, distance between plantings . . .). The planting areas for the bushes and trees were carefully marked and gardeners were on site to answer any questions. It was great fun for the school children and also an experience in how trees are planted. Parents continually report how they have to visit this area with their children, because the children want to see how the plants are growing. They proudly report on "their" trees and bushes, which would otherwise remain unnoticed.

Guided ALM walks with a natural-history programme

- Guided ALM walks with a natural-history programme for children. As the number of people engaged in agriculture has fallen greatly, people are largely unfamiliar with the fields and meadows. Field names, agricultural crops and the history of path signs have been forgotten. Many people certainly know about Greece and the Tyrol, but not about the landscape in their neighbouring area. In the framework of the ALM guided walks, there is a three-hour ramble through fields and woodland of every village once a year on a Sunday afternoon. Farmers, older school teachers, landscape planners etc. show the approximately 100 ramblers special features of the landscape and familiarise them with the crops, stages of agricultural work and the farmers' services to the environment. These walks have contributed to a better understanding of agriculture and a sensitisation to interventions in the landscape. Afterwards, the walkers find a place in a wine-cellar road to sit and drink wine and eat the local rural specialties. The children go on walks through the countryside with natural-history teachers. These show them the special features of the flora and fauna and raise their understanding of ecological relationships. The children are fascinated by nature-experience games and the multi-sensory discovery of the countryside.

Creation of a wetland biotope

- Revitalisation of the previous village ice-skating pond. On the initiative of the people in the village, a wetland biotope was established in the place of an earlier ice-skating pond. Natural meadows with a twice-yearly mowing and an orchard meadow and fields and bush areas were part of the project. The people were well pleased with the beautiful pond when it was ceremonially opened and blessed, and the plants freshly planted. Some people's extreme need for cleanliness, and confusion of this natural area with a park led to conflict with the conservationists in the village. Many discussions and an info nature trail calmed the situation. The process contributed to a much increased awareness of ecological relationships, also as regards private gardens and open spaces in the area.

Celtic tree ring in Kettlasbrunn

- Kettlasbrunn tree circle with tree-circle wine. Kettlasbrunn is a village that produces excellent wine, which, however, is marketed below its true value. Since the planting of 22 trees, a Celtic tree ring behind the wine-cellar road has reinvigorated the village, in addition to a showpiece vineyard and a natural meadow with a wonderful view of the area. Like star signs, each tree is allocated to people according to their birthdays. A person's character can be told from the characteristics of the tree.

There are information plates on the trees giving their mythical, ecological, botanical and industrial significance. Anyone interested can visit the tree circle, where celebrations such as the harvest festival, New Year's Eve and sporting events are regularly held. Three wine growers have created a tree-circle wine, with a wine for each tree - an ideal present after an excursion. Guided tours through the wine-cellar road and the tree circle are on offer, which have improved the marketing of the wine. Information on viniculture and agriculture are provided and the first agro-tourism activities have been initiated.

- The Bauernarnt rural marketing and processing centre. In the agricultural college, processing rooms for meat and sausage-meat products, a bread baking room, a wine collection, a farmhouse shop and a cooperative wine tavern have been developed in cooperation with farmers from the region in order to enable smaller farmers also to achieve higher added value through processing. Visitors are offered natural rural products from the region and various festivals invite people to try their hands at home-made bread baking, sausage-making and distilling schnapps. Children and city dwellers are shown the animals in the stalls, the cereals in the yard and grapes and fruit in the garden, as well as having the development from plant or animal to finished foodstuff explained and demonstrated. The cooperation has led to an exchange between teachers, school students and practicing, innovative farmers which has given rise to numerous synergy effects.

The Bauernarnt rural marketing and processing centre

- Public art - artistic and ecological design. Landscape planners and artists see a landscape that on one side of the road has a small-scale structure, and on the other side has been completely cleared and consists of large fields. Thus, in the framework of the "Paasdorf Cultural Landscape", artworks have been created dealing with the problems of ecology, technology, species loss, agriculture and landscape. Together with the farmers, fallow areas and fruit trees have been laid out to improve the ecology of the landscape. Owing to these modern artworks, the landscape and the way it is shaped have become an issue in the region for the first time. Now people interested in art come from far away to see this interaction with the landscape. In the process, the wine growers find new customers and are able to market their wine better.

"Paasdorf Cultural Landscape"

- The people of Frättingsdorf wanted to have the bubbling source of the Mistelbach river again. As this desire did not coincide with the ecological objectives of the ALM, it was decided to use artistic design to make the source area more attractive and highlight the problem of the falling water table caused by drainage and river regulation. With the involvement of the local population, an artwork called the Tausammler [dew gatherer] was created, which makes the power points and subterranean source areas visible. Information plates point out the ecological care of the ditch and the problems of drainage.

"Tausammler"

- Wine growers as wine-cellar-road guides. In the framework of the revitalisation of the wine-cellar roads, it became clear how little these roads were understood as a special architectural feature of the region and how little importance was attached to them. To change this, a training course was held in the region so that wine growers could give guided tours through the wine-cellars.

Wine-cellar-road guides

7. RESULTS AND RECOMMENDATIONS

The aim of the research project was to assist Poland in developing appropriate long-term strategies for restructuring of the agricultural sector and rural development. Over the last 10 years a close co-operation between MECCA and the Agricultural University in Poznan and two provincial Agricultural Advisory Centres (ODR's) has been established. This co-operation has been intensified and extended to NACARDs (National Advisory Centres for Agriculture and Rural Development) in the year 1999. In the years 1998-2000 a pilot project (Promotion of Sustainable Agriculture and Rural Development in Poland) on successful co-operation took place, where a know-how-exchange in the field of sustainable agriculture and regional development between Austrian and Polish experts took place. In total, about 250 interested persons, including representatives of universities, Polish Agricultural Advisory Services, scientists and farmers together with 25 Austrian experts participated in a training programme. An important outcome was the conclusion, that in a next step joint efforts should be put on the examination of specific measures having been successful in Austria under Polish conditions, in order to identify suitable and useful strategies fitting to local needs in Polish rural areas.

The Polish situation

Modernising Poland's agricultural system is an enormous challenge because of the number of people such changes will affect. Although the number of people working in the agricultural sector has fallen since 1989, agriculture represents 26.9% of total employment in Poland. This percentage is quite high compared to the EU average. According to one estimate, an additional 600.000 will lose their jobs as a result of Polish accession to the EU. With more than a quarter of the workforce employed in agriculture, reforms to comply with the acquis in this area will be among the most difficult.

Since the transition in 1989, agricultural production in Poland has declined substantially. In addition to dealing with the prices of agricultural products, Poland must confront the structural employment issues. For example, the largest share of the agricultural budget is spent on the farmers' social security system, which is a pervasive problem because of the aging population. The major agricultural problems include:

- Excessive employment in the agricultural sector. Unofficial (hidden) unemployment in farming (labourers whose work is totally or partly redundant at farms) is estimated at 900 thousand workers
- The acreage and scale of production are too low in many of the farms, which results in disproportionately high costs and lack of profitability to implement new technologies, particularly those which result in improved sanitary conditions and better quality of products
- Very low, and declining, farmer's incomes (not compensated by subsidies, as in the EU countries) to be shared amongst a large number of people living on a farm (the average is over 4 persons)

- Lack of stabilised supply and demand resulting from inadequate links between agricultural producers and food processing plants and wholesalers
- Increasing competitive pressure of foreign products, many of which are subsidised in the country of origin, also in the form of export subsidies
- Lack of alternative sources of additional income for farmers. Only 1.5% of those involved in farming are self-employed in their own businesses other than farms, whereas 15.2% have jobs in non-agricultural sectors

Similar conditions in Austrian and Polish regions

Austria is a very different country from Poland but the rural situation does have several parallels and a lot of Austrian experiences can be transferred to Poland. Among Austrian achievements the especially values seems to be those linked with the sustainable rural development. The following measures are eligible to be implemented in Poland:

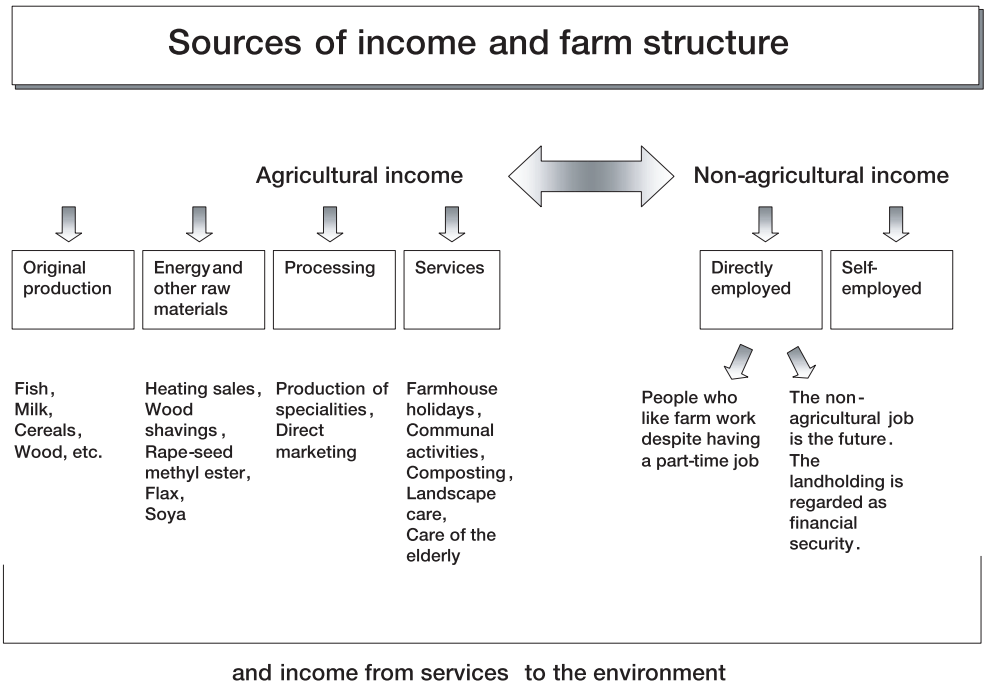
- Agri-environmental measures including extensification, preserving landscapes and traditional farming methods, soil and water protection
- Modification of present agricultural and food production systems, based on the exploitation of non-renewable resources and having a negative impact on the environment, in favour of models based on agro-ecological principles. Conversion to organic farming as the most important environment-friendly practice; Creation of standards for organic production and processing
- Increasing of quality and health standards of agricultural products
- Improvement of rural development including:
  1. Activities encouraging local economic development regarding sustainable and multifunctional principles including: modernisation in agricultural undertakings; strengthening of capacities of small food producers - including indigenous peoples, women and young people; jobs conservation and creation, direct marketing, development of local tourism and eco-tourism
  2. Activities encouraging social development of rural area including: development of small-scale farming and gardening in urban and rural areas; social and ecological necessity of gardens
  3. Village restoration (Dorferneuerung)
- Getting experiences in dealing with "Less Favoured Areas"
- Getting experiences in integration with EU - in the process of accession Austria showed that perfect adaptation of the candidate countries to the present CAP it shouldn't be insisted, but specific conditions and needs of these countries should be taken into account
- Promotion of consulting institutions in rural areas
- Strengthening of associations, organisations, cooperatives and clubs e.g working in the field of sustainable agriculture and rural development

Possibilities to maintain sustainable, multifunctional agriculture with rural features

The maintainance of a country-wide sustainable, multifunctional and ecologically oriented agriculture with rural features is also in the interest of the Polish research partners. Austrian scientific and practical experiences in the field of environmental sound farming and rural development strategies are highly recognised and can serve as examples for future members of the European Union. Therefore Austrian experts could play an important future role in the consultation of Polish rural areas concerning project implementation.

In various common seminars and expert conferences, organisided by MECCA during the last years, the following figure about alternative sources of income was identified, discussed and filled with appropriate examples for the Polish side:

Figure 26: Various opportunities for alternative sources of income



Source: MECCA

Integrated farming as solution for small scaled farms in Poland

Structural changes in Poland's agriculture are taking place under strong demographic pressure. Until 2010, Poland's population in productive age will grow by over 1.5 million, while in the EU Member States the number of population in productive age will fall by approximately one million.

Because the process of collectivization of individual farms was never completed in Poland, the nation has over two million farms. Despite the efforts of communism in the 1950s to collectivize farming, the Polish peasantry resisted. As a result, Poland has too many small farms that produce very little that is sold to market. This problem is illustrated by estimates that of Poland's two million farms, only about 160.000 are ready to compete within the EU. In addition, the agricultural area of Poland represents 60% of the total area. According to rough estimates, agriculture absorbed no less than 500 thousand persons. Economisation of Poland's business processes and high birth rate resulted in very high unemployment rate. At the moment, over 1.1 million persons are registered as unemployed in rural areas, with concealed unemployment estimated at another 500 thousand persons in private farms and 300 thousand persons rural households without land.

The Polish family farms fight for their survival. They hardly use fertilisers and pesticides and are mostly situated in areas with natural beauty. Like in Austria the "Naturpark Label" with combination of ecological farming practices and tourism could be a chance for some Polish regions.

Since 1993 the Department of Ecology and Environmental Protection/University of Poznan together with the Provincial Extension Centre in Losiow is engaged in a project called: "The Development of Integrated Agricultural Production Systems on Farms in the Opole Region in Comparison to Other Regions of Poland". The project was started in 1993 and has the aim to develop and implement environmental orientated forms of farming and to provide standards for environmental protection and nature conservation in rural areas. The project included some supervisory and educational actions adopting farms into the European requirements supporting them in the process of integration. The additional objective was to increase environmental consciousness among farmers.

Prospects and directions for a future cooperation between Austria and Poland

Poland's agriculture is and will remain private farm-based. Other sectors will continue to develop but will not assume a dominating role. However, it is important that private farms and their direct environment will change, thus creating a new structural quality. The market supply-oriented farming sector will grow stronger, while on the other end the number of units losing the status of a farm will grow. The latter will be transformed into hobby farms, growing food for families with weak market bonds. The launching of market mechanisms and growing competition with foreign producers revealed the structural and effectiveness-oriented deficiencies of Poland's agriculture.

Within the EU Austria brought in an agricultural and rural policy emphasising more the social and environmental sound aspects than the EU agricultural policy did ever before. Austria's agricultural structures are comparable to structures of the private agricultural sector in Poland, which is mainly small family farms depending on income sources outside farming activities. Therefore Austrian expertise could promote its approach to multifunctional agriculture which is more concentrated on regional markets also in Eastern Europe. The following forms of cooperation should be implemented in the course of future activities:

1. Governments, inter-parliamentary and inter-ministry contacts have the primary importance for defining and enforcing a policy framework of the agriculture and rural development
2. Local authorities have still much potential in political initiatives, concrete programmes could be established. The regional initiatives should integrate partners, which are much more comparable and more balanced co-operation could be established
3. Partnerships of the academic and scientific communities (including students), joint research projects, implementations of study results
4. Networking and sharing of information and experience
5. Creating an Austrian-Polish platform for know-how-transfer in agriculture and rural development in order to conduct further EU-funded cooperation
6. Education and training programmes for farmers, "extensionists", agricultural experts on rural development, new environment-friendly technologies, organic farming practices e.g.
7. Dissemination of information for farmers as well as consumers and schools

8. Development of co-operation of NGOs. NGOs have an important role to play in articulating and defending the interests of farmers and consumers in the formulation of agriculture and food policies, in providing services to rural producers and in promoting the growth of strong, effective and representative peoples' organizations. They are often in the forefront of experimentation with new approaches to sustainable development like organic farming
9. Organising of international, national and regional workshops and conferences on sustainable agriculture and rural development
10. Fostering sustainable rural development in Poland
11. Exchange of publications

The benefits of the project for Austria

- Austrian scientific and practical experiences in the field of environmental sound farming and rural development strategies have prooved to be highly recognised and they are able to serve as examples for future members of the European Union. Therefore Austrian experts can play an important future role in the consultation of Polish rural areas concerning project implementation
- The project has lead to a stronger co-operation between Austrian and Polish experts and institutions in agriculture and regional development and could on the long run enforce the capability of Austrian experts and institutions to conduct international projects in Eastern European Countries financed within the framework of SAPARD
- It is in the interest of Austria as a small member of the European Union to support a sustainable approach in agricultural and rural sector of a future EU member in order to strengthen this approach within the European Union
- By conducting an expert conference the project has raisen awareness of specific research needs in the fields of sustainable agriculture and rural development among scientists especially in Poland

Photograph 7: Landscape of large area farms in Opole Region

Source: K. Szoszkiewicz

8. WYNIKI I ZALECENIA (Results and Recommendations - Polish Version)

Wyniki i zalecenia

Celem projektu była pomoc w rozwoju odpowiedniej długoterminowej strategii w dziedzinie restrukturyzacji sektora rolniczego i rozwoju terenów wiejskich. W czasie ostatnich 10 lat rozwinęła się ścisła współpraca z Akademią Rolniczą w Poznaniu i dwoma Wojewódzkimi Ośrodkami Doradztwa Rolniczego (Opole i Wielkopolska). Ta współpraca została wydatnie wzbogacona w 1999 roku kontaktami z Krajowym Centrum Doradztwa Rozwoju Rolnictwa i Obszarów Wiejskich w Krakowie. W latach 1999-2000 realizowano projekt pilotażowy pt. Upowszechnianie Zrównoważonego Rolnictwa i Rozwój Terenów Wiejskich w Polsce (Promotion of Sustainable Agriculture and Rural Development in Poland), w ramach którego ustanowiono wzajemną współpracę, rozwinięto wymianę wiedzy w zakresie zrównoważonego rolnictwa i rozwoju regionalnego pomiędzy austriackimi i polskimi specjalistami. W sumie w tym projekcie ze strony polskiej uczestniczyło około 250 osób, w tym liczni pracownicy różnych uczelni wyższych, specjaliści Ośrodków Doradztwa Rolniczego oraz rolnicy a ze strony austriackiej zaangażowanych było w sumie 25 specjalistów. Istotnym efektem projektu było określenie kierunku dalszych wspólnych działań. Zaproponowano, aby w naszym kraju poddać weryfikacji elementy modelu zrównoważonego rozwoju terenów wiejskich zastosowanego w Austrii. pod kątem ich wprowadzenia w warunkach Polski. Uzyskane wyniki byłyby użyteczne w propozycjach adaptacji zachodnich strategii do lokalnych potrzeb na terenach wiejskich w Polsce.

Sytuacja w Polsce

Restrukturyzacja i modernizacja rolnictwa w Polsce wymaga szczególnej odpowiedzialności, gdyż wszelkie zmiany mają wpływ na ogromną część społeczeństwa. Choć liczba ludności pracującej w sektorze rolnym wyraźnie maleje od 1989 roku, liczba zatrudnionych w rolnictwie nadal wynosi aż 26,9% wszystkich zatrudnionych. Liczba ta jest bardzo wysoka w porównaniu z innymi krajami Unii Europejskiej. Według wielu prognoz integracja z Unią Europejską może zagrażać nawet 600 tysiącom dotychczasowych miejsc pracy. W sytuacji, gdy jedna czwarta zatrudnionych związana jest z rolnictwem zmiany systemowe w tym sektorze wydają się być szczególnie skomplikowane.
Od przełomowego roku 1989 produkcja rolnicza w Polsce maleje systematycznie. Dodatkowo zmiany na rynku produktów rolniczych kształtują się często niekorzystnie dla producentów, a strukturalne bezrobocie szczególnie dotkliwe jest na terenach wiejskich. Ogromnym obciążeniem dla budżetu są wydatki na system ubezpieczeń rolniczych, a problem ten będzie się jeszcze nasilał w związku ze starzeniem się populacji wiejskiej. Wśród głównych problemów rolnictwa w Polsce należy wymienić:

- Nadmierne zatrudnienie w sektorze rolniczym. Nieoficjalne, tzw. ukryte bezrobocie w rolnictwie (obejmujące częściowo lub całkowicie zbędnych pracowników gospodarstw) szacowane jest na blisko 900 tysięcy zatrudnionych oficjalnie w gospodarstwach
- Powierzchnia i poziom produkcji jest zbyt niski w wielu gospodarstwach, powodując nieproporcjonalnie wysokie koszty i brak opłacalności wielu inwestycji. Rozwój gospodarstw jest ograniczony zastojem technologicznym, a w wielu przypadkach barierami okazują się nawet przepisy sanitarne czy wymagania jakościowe dla produktów
- Bardzo niska opłacalność produkcji rolniczej i obniżające się dochody rolników. Brak systemu subsydiów porównywalnego z Unią Europejską.
  źBrak stabilizacji w zakresie popytu i podaży na rynku oraz ułomność układu producenci rolnicy, przetwórcy i handlowcy
- Rosnąca konkurencja ze strony zagranicznych towarów, które w wielu przypadkach były subsydiowane na etapie ich produkcji i dodatkowo w formie dopłat eksportowych
- Brak alternatywnych źródeł dodatkowych dochodów dla rolników. Jedynie 1,5% rolników wykazuje samo-zatrudnienie w działalności nierolniczej a 15,2% pracuje poza gospodarstwem w sektorze pozarolniczym

Podobieństwo warunków Austrii i Polski

Austria jest krajem ogromnie różniącym się od Polski, jednak na terenach wiejskich wykazuje szereg analogii, które powodują, że austriackie doświadczenia mogą być wykorzystywane w Polsce. Wśród najcenniejszych osiągnięć austriackiej drogi rozwoju gospodarczego, szczególnie cenne wydają się działania związane ze zrównoważonym rozwojem terenów wiejskich. Wśród elementów austriackiego sytemu, które mogą być wprowadzone w Polsce należałoby zwrócić uwagę na następujące zaadnienia:

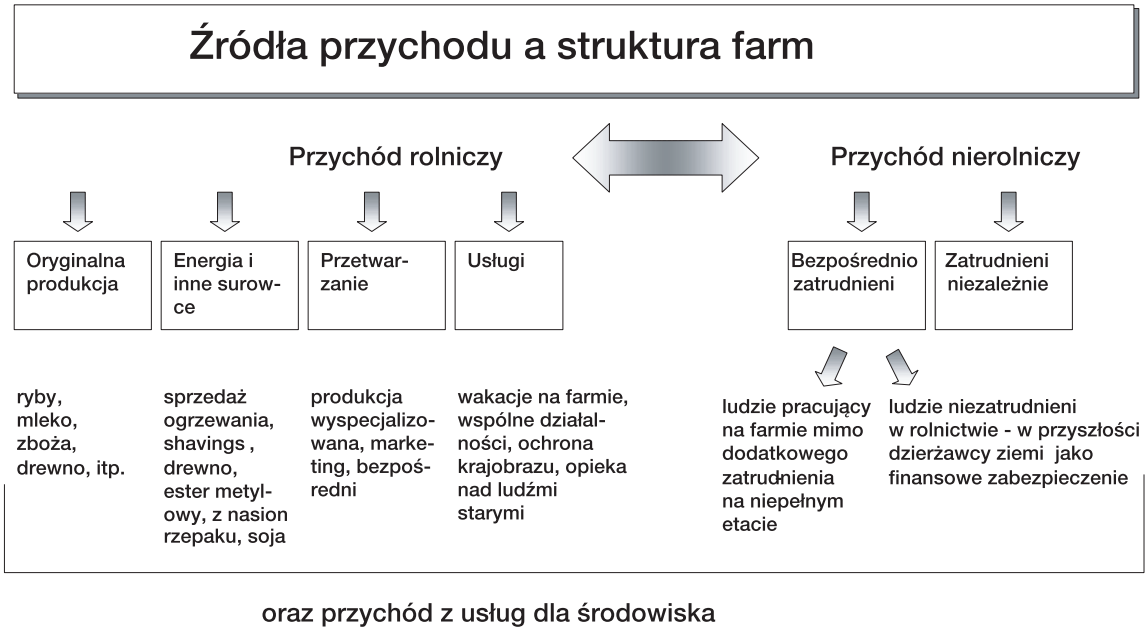
- Działania agrośrodowiskowe obejmujące ekstensyfikację, ochronę krajobrazu, zachowanie tradycyjnych metod gospodarowania, ochrona gleb i wód
- Przekształcenie rolnictwa i całego sektora produkcji żywności, opartego na wykorzystaniu nieodnawialnych zasobów i negatywnie oddziałującego na środowisko, na rzecz modelu opartego na zasadach agroekologii. Przestawianie się na rolnictwo ekologiczne jako środek szczególnie korzystny dla środowiska; Wypracowanie standardów produkcji i przetwórstwa w rolnictwie ekologicznym
- Podniesienie wymagań związanych z jakością i zdrowotnością produktów rolniczych
- Rozwój terenów wiejskich uwzględniający:
  1. Działalność stymulującą lokalne przedsięwzięcia gospodarcze uwzględniające zasady zrównoważonego i wielofunkcyjnego rozwoju wsi: modernizacja przedsiebiorstw rolniczych, umacnianie potencjału małej przedsiębiorczości w rolnictwie - w tym pomoc społeczności lokalnej, wsparcie dla kobiet i ludzi młodych, ochrona i tworzenie nowych stanowisk pracy, bezpośrednia sprzedaż, rozwój lokalnej turystyki i eko-turystyki

2. Działalność stymulująca rozwój socjalny terenów wiejskich, obejmująca: rozwijanie drobnego rolnictwa i ogrodnictwa na terenach wiejskich i zurbanizowanych, socjalna i ekologiczna rola ogrodów
3. Odnowa wsi

- Wykorzystanie doświadczeń w zakresie gospodarki na terenach trudnych i mniej rozwiniętych
- Wykorzystanie doświadczeń związanych z procesem integracji z Unią Europejską - w trakcie integracji Austria pokazała doskonałe dostosowanie się do Wspólnej Polityki Rolnej, która uwzględniła specyfikę warunków austriackich
- Rozwój instytucji doradczych w rolnictwie
- Wzmocnienie związków i organizacji oraz rozwój spółdzielczości, które realizują program zrównoważonego rolnictwa i rozwoju regionalnego

Tworzenie na znacznych obszarach zrównoważonego, wielofunkcyjnego i proekologicznego sektora rolniczego odgrywającego znaczącą rolę na terenach wiejskich, jest także przedmiotem zainteresowań partnerów reprezentujące środowisko naukowe w Polsce. Austriacki dorobek naukowy w dziedzinie proekologicznego rolnictwa i strategii rozwoju obszarów wiejskich jest bardzo ceniony i może służyć przykładem dla przyszłych członków Unii Europejskiej. Austriaccy eksperci mogliby odgrywać ważną rolę jako konsultanci w rozwiązywaniu problemów związanych z rozwojem terenów wiejskich włącznie w zagadnieniami wdrażania do praktyki.
Podczas ostatnich lat MECCA zorganizowała wiele wspólnych seminariów i konferencji naukowych, na których dyskutowano i rozważano możliwości alternatywnych źródeł przychodu w rolnictwie. Stosowne przykłady dla Polski pokazane są w diagramie 28.

Diagramie 28: Możliwości alternatywnych źródeł przychodu



Source: MECCA

Gospodarstwa zintegrowane jako rozwiązanie dla małych obszarowo gospodarstw rolnych

Zmiany strukturalne, które mają miejsce w Polskim rolnictwie związane są z silnym napięciem demograficznym. Do 2010 roku ponad 1,5 mln osób w Polsce osiągnie wiek produktywny, podczas gdy liczba osób w tym wieku w Unii Europejskiej spadnie do ok. 1 mln.

Ponieważ proces kolektywizacji indywidualnych gospodarstw nie został poprawnie przeprowadzony w związku z tym w Polsce istnieje duże rozdrobnienie. Pomimo prób komunistów w 1950 roku do komasacji małych gospodarstw plany te zakończyły się niepowodzeniem z powodu niechęci polskich rolników. W rezultacie Polska posiada ponad 2 mln farm produkujących i sprzedających do sklepów bardzo małe ilości produktów. Ten problem jest zilustrowany w szacunkowych danych dotyczących powyższych gospodarstw.

Zaledwie ok. 160 tys. polskich farm jest gotowa konkurować z farmami Unii Europejskiej. W dodatku obszar użytków rolnych w Polsce wynosi 60% całkowitej powierzchni kraju. Według przybliżonych danych rolnictwo wchłonie nie mniej niż 500 tys. osób. Ekonomika polskiego procesu biznesu i wysoki wskaźnik rozrodczości jest spowodowane wysokim wzrostem bezrobocia. Obecnie ponad 1,1 mln osób z obszarów wiejskich jest zarejestrowanych jako bezrobotni. Nie rejestrowani bezrobotni to następne 500 tys. osób oraz 300 tys. z gospodarstw domowych nie posiadających gruntów.

Polskie gospodarstwa rodzinne walczą o przetrwanie. Niewielkie zużycie nawozów mineralnych i pestycydów oraz usytuowanie na obszarach ciekawych przyrodniczo mogą stanowić dodatkowy atut. "Naturpark Label" w Austrii kooperuje z miejscowymi farmami ekologicznymi oraz praktykującymi turystykę i może być przykładem dla niektórych regionów w Polsce.

Od 1993 roku Katedra Ekologii i Ochrony Srodowiska Akademii Rolniczej w Poznaniu razem z Ośrodkiem Doradztwa Rolniczego w Losiowie są zaangażowane w projekt pod hasłem: **Rozwój i integracja systemu produkcji rolniczej gospodarstw na Opolszczyźnie w porównaniu z innymi regionami w Polsce**. Projekt ma na celu zapoczątkowanie rozwoju i upowszechnienie świadomości ekologicznej wśród rolników jak i wprowadzenie standardów dla ochrony środowiska i utrzymania naturalnych regionów wiejskich. Dodatkowo projekt włącza akcje edukacyjne i nadzorcze dla dostosowania gospodarstw do wymogów Unii Europejskiej.

Perspektywy i kierunki przyszłej współpracy między Austrią a Polska

Polskie rolnictwo jest i będzie zachowywać i bazować na prywatnej formie własności. Inne sektory będą się rozwijały ale nie będą odgrywać dominującej roli. Jakkolwiek ważne jest aby prywatne gospodarstwa i ich otoczenie zmieniały się tworząc nową strukturalną jakość. Rynek zorientowany na zaopatrzenie rolniczego sektora będzie stawał się silniejszy ale też duża ilość jednostek straci swój status gospodarstw rozwijających się. Ostatnim etapem będzie przemiana w gospodarstwa hobbistyczne, produkujące żywność dla małych sklepów rodzinnych z tradycjami. Mechanizmy napędzające rynek oraz współzawodnictwo z obcymi producentami ujawniły skuteczność i braki w Polskim rolnictwie. Austria, jeżeli chodzi o politykę rolną, kładzie większy nacisk na rozsądne rozwiązania socjalne i środowiskowe aniżeli Unia Europejska kiedykolwiek przedtem. Struktura farm w Austrii jest podobna do struktury sektora prywatnych gospodarstw rolnych w Polsce. Są to głównie farmy małe, rodzinne, zależne od przychodu mającego swoje źródło poza działalnością rolniczą.

Dlatego wiedza zdobyta przez ekspertów w Austrii może promować takie podejście dla wielokierunkowego rolnictwa, które jest bardziej skoncentrowane na rynku regionalnym również we Wschodniej Europie. Na polu przyszłych zadań powinny być prowadzone następujące formy współpracy:

- Na poziomie rządów; międzyparlamentarne i ministerialne kontakty mają znaczenie dla wprowadzenia ramowej polityki w rolnictwie dla rozwoju rejonów wiejskich
- Lokalne autorytety mają wciąż potencjalne możliwości rozwijania inicjatyw politycznych i ustanawiania konkretnych programów. Regionalne inicjatywy powinny jednoczyć partnerów oraz być pomocne przy nawiązywaniu kontaktów w celu osiągnięcia wyważonych i porównywalnych wyników
- Partnerstwo akademickie i wspólnoty naukowe (włączając studentów), wspólne projekty badawcze, wprowadzanie wyników studiów
- Sieci i akcje informujące
- Tworzenie austriacko - polskich pomostów przekazywania wiedzy w dziedzinie rolnictwa i rozwoju wiejskich obszarów oraz dalszej współpracy po przyłączeniu do Europejskiej Wspólnoty Gospodarczej
- Edukacja i praktyka organizowana dla rolników i ekspertów ds. rolnictwa i rozwoju regionów, nowoczesne technologie przyjazne środowisku, istota farm organicznych
- Rozpowszechnianie informacji dla rolników, konsumentów a także w szkołach
- Rozwój i współpraca z NGOs, które reprezentuje interesy rolników i konsumentów w takich dziedzinach jak polityka żywnościowa, wprowadzanie usług na obszarach wiejskich, produkcji i promowaniu silnego rozwoju, popierania i usprawniania działalności organizacji rolniczych. NGOs proponuje nowe podejścia dla rozwoju farm organicznych
- Organizowanie międzynarodowych, krajowych i regionalnych warsztatów i konferencji o zrównoważonym rolnictwie i rozwoju obszarów wiejskich w Polsce
- Wymiana publikacji

Korzyści płynące z projektu dla Austrii

- Austriacka wiedza i doświadczenie na polu rozsądnego gospodarowania i strategii rozwoju terenów wiejskich dowiodły, że są dobrze rozpoznane i mogą posłużyć jako przykłady dla przyszłych członków Unii Europejskiej. Austriaccy eksperci mogą więc w przyszłości odegrać ważną rolę w konsultacjach dotyczących rozwoju regionów rolniczych w Polsce
- Projekt prowadzi do zacieśnienia współpracy pomiędzy austriackimi i polskimi ekspertami i instytucjami w dziedzinie rolnictwa i rozwoju regionalnego, które mogłyby doprowadzić do długoterminowej współpracy austriackich ekspertów i instytucji i realizacji wspólnych międzynarodowych projektów w krajach Wschodniej Europy finansowanych przez SAPARD
- W interesie Austrii jest aby nowi członkowie Wspólnoty wzmocnili zrównoważone podejście w rolnictwie i sektorach wiejskich w stosunku do wymagań stawianych przez Unię Europejskiej
- Poprzez organizowanie konferencji naukowych projekt przyczynią się do wzrostu świadomości potrzeby badań naukowych na polu rolnictwa zrównoważonego i rozwoju regionów wiejskich szczególnie w Polsce

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10. ANNEXES
10.1. Women in Rural Areas

Women's status

The situation of women in rural areas is not longer only affected by agriculture. Influenced by structural chances, the enforcement of the labour market in rural areas and the technological modernisation lead to a migration from the remote regions to cities in general. This development has consequences especially on women. But rural women are not a homogenous group. Their needs and interests differ and they have different roles and occupations on farms and in family business. Therefore these economic and social changes do not affect all women in the same way: offering opportunities to some, to others they bring difficult challenges.

Women in rural areas are related to different conditions

Unequality still prevails in many societies because of women's diverse activities, including their responsibilities for the home and children, stereotyped ways of thinking, restrict living, working and learning conditions for women. Therefore the role of women in rural areas are related to socio-cultural, infrastructural and economic conditions.

As a fact of that women extremely depend on the local labour market. The infrastructural conditions are as follows: division of domestic work, supply of child care, the regional distances and, of course, the quality of the local labour market. If all these conditions occur and women are gainfully employed, their income is normally seen as an additional income, but not to secure the standard of living. Because of this conditions women often resign from the labour market and a personal income.

High unemployment rates in rural regions

Unemployment rates are generally high in most rural regions, unemployment levels are often higher for women than for men. These figures, anyway, do not reveal the full number of women seeking work, but only those who are registered unemployed. Many women who have no right to benefits, or who do not register because there are no job opportunities, fall outside the statistics.

"Typical women's work"

The "typical" women's work like for example assistance in family enterprises, community services, child care, domestic household, service for the elderly and the sick etc. are often done in the background and not paid or even notified by the society. One part of women's multifunctional role that the society in general and women themselves have greatly undervalued and often completely ignored is the role of women in maintaining and consolidating the living countryside with its heritage and traditions. As a fact of that women are still not or too less involved into the regional development and it's strategies.

Women are still seeking a better balance in the division of labour in the domestic household, need encouragement for their personal and professional development and more support in their bid to achieve financial independence, and to participate fully in decision-making.

Agriculture focussing on women

Rural economies have been affected by the reconstruction and decline of the agricultural sector. Roles in farm and family businesses are often strictly defined, with the administration, accounts and orders being mainly women's tasks. The share of female managers is much smaller than in the total proportion of women employed.

Growing number of farms owned by women

The family ownership has gone from one generation to the next mostly through the male line. That has made farming mainly a male-dominated industry. Women are invisible work force, in spite of this invisibility of women their effect on rural economy is really essential. They do much unpaid work for their families or for the rural community or they work in the informal sector. In the southern countries of the European Union another development has become particularly in the recent years: a growing number of farms are owned by women. This is a result mostly from recent developments: their partners seeks off-farms employment to supplement the income from the farm, and its ownership is transferred to the woman.

For women in agriculture family and professional work merge together. Women often are responsible for defined activities on the farms. Especially in Austria women, especially in part-time farms, are often responsible for the economic management of the family farms. The farms lead by women are usually small - or middle scale farms and that means that they need income from other sources. The diversification of farms has opened up new possibilities, many women farmers are engaged in e.g. organic farming or non-agricultural work, like agro-tourism. So they get more and more competencies and responsibilities without having the chance to delegate the unacknowledged domestic and voluntary work that contributes families and communities to survive.

It is necessary to strengthen the position of women employed on farms and to enable them to successfully cope with management tasks on various levels trough further education in management. More and more often the women in Austrian agriculture come from non-agricultural professions. Farm women have one of the longest working time per day. Therefore the temporary or long-term combination of training and employment with everyday responsibilities is so difficult to realise.

Women active in regional development

Women's contribution to the regional development is significant, but they are a minority in decision-making and planning. A frequently given reason for women not being more involved is a lack of spare time. Therefore every effort should be made to eradicate obstacles and ensure their participation. So it may be necessary to provide transport and childcare facilities, and men may need to encouraging to take more responsibilities for family tasks.

Information about the respective roles and tasks and, thus, the different needs and priorities of rural women and men are an important part of the development planning process. Yet too often this kind of information is not available to planners and decision-makers.

Traditionally women are family orientated

From their traditional role women are family oriented. The only take part in special fields of the public life. As a fact of that they often are not integrated or take part in the decision making progress of their communities or regions. Public life in rural areas is still traditional dominated by men like the community politic or clubs, regular's tables, festivities and many more. On the one hand men are very well organised and anchored into the structures and on the other hand women still are not organised propably. Therefore it's much easier for men to protect their interests and to participate in the decision making progress.

The female point of view does not exist in the traditional decision-making progress, caused by the absence in the public life. Therefore a better balance between women and men has to be achieved in making decisions that affect the life and economy of rural society, through the active encouragement and involvement of women's associations and networks and the promotion of women into planning and managerial posts.

Especially local and regional authorities as well as development organisations and associations can actively encourage and support women in planning and decision-making. With an eye to gender mainstreaming special steps could be taken:

- Establishment of associations and networks of rural women
- Involvement of existing women's associations in committees and partnerships
- Encouraging women's groups to apply for funding for development initiatives
- Enhancing gender mainstreaming projects in regional organisations
- Information for women's associations and networks about rural development programmes and projects

European Community support - equality, a guiding principle

Equality of opportunities for women and men

Ensuring that women and men have the equality of opportunities is one priority of the European Union. As a fact of that gender mainstreaming must be systematically integrated in the design and implementation of rural development programs and projects, just to ensure that women and men can participate and benefit on equal terms.

Integration of equal opportunities is no longer a choice, but an obligation to receive Community support for rural development in future. The Member States - and also the candidate countries - have to ensure that all the supported programmes contribute to greater equality, particularly in employment, enterprise, education and training, and the reconciliation of professional and family life.

European Union programmes

European Union programmes have already provided significant backing to developments in rural areas that have benefited women. For example the LEADER initiatives have helped many women to develop activities in the fields of tourism, crafts and regional products. The European Social and Regional Development Funds have been used for co-financing training and economic development initiatives.

The Treaty of Amsterdam establishes equality between women and men as a specific task and activity of the European Community. Therefore equality between women and men is incorporated into all Community policies and programmes. It provides a strong legal base and incentive for all Member States and the European institutions to further strengthen attention to equal opportunities issues.

Principle of "mainstreaming"

The principle of "mainstreaming", which consists of taking systematic account of the differences between the conditions, situations and needs of women and men, is applied in all Community policies and actions. This has important and immediate implications on regional development and projects, particularly on those financed through the Structural Funds, the European Agricultural Guidance and Guarantee Fund and Community Initiatives.

Mainstreaming equal opportunities must ensure, that during planning, implementation, monitoring and evaluation the effects of the policies and measures on the situations of women and men is taken into account. There is a strong synergy between the objectives of equal opportunities and Communities support for regional and rural development. The community initiatives 2000 to 2006 supporting equal opportunities and rural development are:

- INTERREG
- EQUAL
- LEADER+

The way forward

Rural women often want to stay in their communities

Survey show that rural women often have a strong desire to stay in their communities and are willing to contribute to its development, provided certain requirements are met:

- Employment opportunities in the local area, including part-time jobs
- Local facilities for education and training
- Services supportive to women's projects and enterprises
- Public transport services compatible with working hours
- Local children facilities and social services for the elderly and the sick
- Supportive public and professional organisations

There should be done more to fully recognise women's role on farms and in rural communities - legally - economically, technically and in statistics. Women's local knowledge on production, processing and storing as well as on social interaction should be integrated into regional development strategies and teaching concepts. Their self-esteem as productive actors in rural development has to be recognised in extension. An essential goal for the empowerment of women is their equal share in all spheres of production and reproduction, resource control, knowledge and decision making. Gender sensible and specific further education remains a focal issue in rural areas.

Achieving equality for women and men in rural development will take some effort. The society should continue to initiate activities to empower rural women to become active in the socio-economic development of the country and in activities to stimulate rural development.

A sustained effort by all actors in all fields to integrate equal opportunities into rural development will bring major benefits not only to lives of individual women, men and children in rural areas, but also to the viability and sustainability of rural economies and communities throughout Europe.

10.2. Participating Institutions

Over the last ten years MECCA has been very active in the field of east-west co-operation and in the organisation of know how transfer. Several excursions and seminars about the implementation of organic farming in Poland have been organised. A feasibility study about ecological agriculture has been conducted in Poland together with the Agricultural University of Poznan and EKOLAND (Polish association of organic farmers). MECCA has established links and contacts with agricultural extension centres, the Institute for Ecology and Agricultural Environment at the Agricultural University of Poznan, EKOLAND and several individual farmers. Moreover MECCA has established contacts to the most important representatives of agriculture in Austria and is conducting projects in the field of organic farming. MECCA is also active in the field of regional development. Several projects in this field have been conducted in co-operation with different Czech institutions.

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Poznan University of Agriculture: Department of Ecology and Environmental Protection

The activities of the Polish side were be co-ordinated by the Department of Ecology and Environmental Protection, Agricultural University of Poznań. The Department activity combines research, teaching as well as consultancy stancy. The research activity concerns:

- Environmental effects of land reclamation and intensive farming
- Alternative farming systems
- Influence of industrial pollution and vehicle traffic on agro-ecosystems
- Metamorphosis of grasslands, wetlands and freshwater phytocenosis under the different ecological condition.

Teaching concerns environmental sciences of agriculture, rural area and freshwater for undergraduate and postgraduate students. The MSc and PhD thesis are prepared regularly in the Department. The Department serves consulting work for number of institution linked with agriculture and environmental protection (see target group). The Department co-operates with the number of agricultural and environmental institutions in Poland and other countries (UK, Netherlands, Austria, Switzerland, Hungary).

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The agricultural advisory centers played an important role in the project. Their task was:

Wojewódzki Ośrodek Doradztwa Rolniczego w Łosiowie (Provinical Agricultural Advisory Centre Łosiow)

Osrodek Doradztwa Rolniczego - Marszew (Provinical Agricultural Advisory Centre Marszew)

- Develop qualification programmes for unemployed rural dwellers
- Develop programmes and projects which fulfill EU structural funds criteria for rural areas
- Promote and support rural development projects - stimulate decision makers in local communities to take the initiative
- Prepare rural communities (farmers and local decision makers) for the integration process with EU
- Develop new approaches in extension services and co-operate closly with decision makers in local communities who shall stimulate and implement rural development projects
- Planning and implementation of programmes and projects which fulfil EU structural funds criteria for rural areas

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10.3. Calendar of Activities

Activities	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
3.1. Scientific Research																			
Agri - environmental measures																			
Literature study	■	■	■	■															
Case study					■	■	■	■											
Comparative study							■	■	■	■									
Rural development																			
Literature study	■	■	■	■															
Case study					■	■	■	■											
Comparative study							■	■	■	■									
3.2. Transformation of results																			
Facilitation of know - how exchange										■	■	■	■	■	■	■			
Transformation of Results in Polish Pilote Regions											■	■	■	■	■	■	■		
Layout, translation and publishing																		■	■

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10.5. Related Links

Established institutions, large amount of useful data on websites (also in English)		
http://www.minrol.gov.pl/	**Ministry of Agriculture and Rural Development** Ministerstwo Rolnictwa i Rozwoju Wsi	A variety of data related with rural development in Poland, useful links. General informations as well as detailed documents.
http://www.fapa.com.pl/	**Foundation of Assistance Programmes for Agriculture Fundacja** Programów Pomocy dla Rolnictwa	A lot of data related with rural development in Poland, useful links. Professional.
http://www.infoport.pl/	**Infoport**	Large variety of data related with rural development in Poland, useful links. A big part of the data is very general and not very deep.
http://www.psgw.logonet.pl/ http://www.psgw.logonet.pl/bruksela	**The Pomeranian Association of Rural Municipalities** Pomorskie Stowarzyszenie Gmin Wiejskich	Local organisation (Pomerania - North - West) Useful links – sources of financing for the local organisations
http://www.zgwrp.org.pl/	**The Union of Rural Communes of the Republic of Poland** Związek Gmin Wiejskich Rzeczypospolitej Polskiej	Some data about rural development in Poland, restricted access for the part of the data.

Established institutions, limited amount of useful documents		
http://www.haslo.pl/	**Hasło Ogrodnice**	The horticulture journal. Very focused on technology but sometime interesting articles available.
http://www.icppc.sfo.pl/	**International Coalition to Protect the Polish Countryside** Międzynarodowa Koalicja Na Rzecz Ochrony Polskiej Wsi	Very small organisation. Some interesting papers.
http://www.frdl.org.pl/	**Foundation in Support of Local Democracy** Fundacja Rozwoju Demokracji Lokalnej	Very small organisation. Some interesting papers and links.
http://www.zb.eco.pl/	**Green Brigades** Zielone Brygady	The radical environmental journal. Sometimes interesting articles about environmental protection available.
http://www.zgl.pl/	**The Union of Lublin Communities** Związek Gmin Lubelszczyzny	Local organisation. Very few data.
http://www.eceat.sfo.pl/	**ECEAT - Poland** European Centre for Ecological Agriculture and Tourism - Poland Europejskie Centrum Rolnictwa Ekologicznego i Turystyki	Agrortourism only, local organisation. Very few data.
http://www.edudemo.org.pl/	**The Education for Democracy Foundation** (FED) Fundacja Edukacja dla Demokracji	Small organisation focused on education. Very few data.
http://www.jura.info.pl/	**Związek Gmin Jurajskich**	Local organisation. Very few data.

11. Index of Maps, Figures and Photographs