

Agricultural Situation and Prospects in the Central and Eastern European Countries



Poland



European Commission

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**Agricultural situation and prospects in the
Central and Eastern European Countries**

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FOREWORD

The European Union has expressed its intention to offer membership to those countries in central and eastern Europe with which it has an association agreement (see box below). Agriculture has been identified as an important issue for future accession, due to its relative size in some of the Central and Eastern European Countries (CEECs) and to the difficulties there might be in extending the Common Agricultural Policy in its current form to these countries.

A series of ten country reports on the agricultural situation and prospects in the CEECs has been prepared by the services of the European Commission in collaboration with national experts and with the help of scientific advisers. The ten countries covered are Bulgaria, the Czech Republic, Hungary, Poland, Romania and Slovakia, which are associated to the European Union through the Europe Agreements, and Estonia, Latvia, Lithuania and Slovenia, which are in the process of being associated.

The country reports attempt to provide an objective analysis of the current situation in agriculture and the agro-food sector in the CEECs and an assessment of the developments to be expected in the medium term.

Extract conclusions Copenhagen summit of 22-23 June 1993

"The European Council today agreed that the associated countries in Central and Eastern Europe that so desire shall become members of the European Union. Accession will take place as soon as an associated country is able to assume the obligations of membership by satisfying the economic and political conditions required.

Membership requires that the candidate country has achieved stability of institutions guaranteeing democracy, the rule of law, human rights and respect for and protection of minorities, the existence of a functioning market economy as well as the capacity to cope with competitive pressure and market forces within the Union. Membership presupposes the candidate's ability to take on the obligations of membership including adherence to the aims of political, economic and monetary union."

About the data...

The data used in the country reports are derived from a **CEEC dataset** established by DG VI in cooperation with other services of the European Commission and with national experts. Data have been selected after a number of analyses, carried out by both external research institutes (**Steinle, 1994; Jackson and Swinnen, 1995**) and DG VI services. They originate from various sources: FAO, OECD, World Bank, United Nations, USDA, national statistics, economic institutes and the European Commission (DG II, Eurostat).

The main objective was to obtain a dataset which was as coherent as possible, offering a good comparability of the data.

For the agricultural data, the starting point of the analysis was the work carried out by Prof. Jackson (Institute for Central and East European Studies, Katholieke Universiteit Leuven, Belgium) who compared figures from OECD, FAO and the national statistics of Poland, Hungary, the Czech Republic, Slovakia, Bulgaria and Romania. The conclusion of this study was that the FAO was the most reliable source because these data were standardized, which was not the case for the two other sources.

Moreover, DG VI services compared FAO and USDA data and although for the crop sector there were no important differences, this was not the case for the animal sector where big discrepancies were apparent. This is due to different methodological approaches and also to different coefficients used to transform live animal weight in carcass weight.

In general, the FAO data for agriculture were used, but for certain countries and/or for certain products, and in particular for the most recent years, the figures were adjusted or replaced by data from other sources, after discussion with country specialists and with FAO statisticians. In such cases, FAO coefficients and standards were used to avoid a break in the time series.

Despite all efforts to create a coherent, reliable and up to date dataset, all figures presented in this report should be interpreted with care. Significant changes in data collection and processing methods have sometimes led to major breaks in historical series as the countries concerned have moved from centrally planned to market economies. One general impression is, according to some experts (**Tangermann and Josling, 1994; Steinle, 1994; Jackson and Swinnen, 1995**), that these problems may have led to overestimate the decline in economic activity in general and of agricultural production in particular in first years of transition, data from 1989 and before being somewhat inflated, and data after 1989 underrecording the increase in private sector activity.

EXECUTIVE SUMMARY

The **Republic of Poland** covers an area of 312 685 km², the 9th largest country in Europe. The population amounts to 38.5 mio (123 per km²) with an average annual rate of growth of 0.35%. Traditionally, the vast majority of the Polish population is Roman Catholic (97%) and fairly homogenous, showing no significant minorities, ethnic or lingual groups.

After the 2nd World War, large sections of the population moved from rural areas to the urban centres which developed their industrial base. Over the years the percentage of the population living in rural districts has decreased steadily to roughly 38% in 1992.

The largest city and a major centre for industrial production and services is the capital city Warsaw. Other important cities are Łódz (textile), Kraków (historical capital and university), Gdansk (shipbuilding) and Katowice (mining, steel).

The **farm sector** contributes roughly 6% to Gross Domestic Product (GDP) but total labour force employed in agriculture, fishery and forestry amounts to 25%. Part-time farming is traditionally important in Poland. Non-agricultural incomes are in general inversely proportional to farm size. On a full-time basis, agricultural incomes only reach on average around 80% (1993-94) of the employee's income in other sectors. Incentives to leave the farm sector are rather low due to the lack of new jobs in rural areas in the non-farm sector and to the high unemployment (16%) in the overall economy.

As for all CEECs, **agricultural production** in Poland has declined substantially since transformation. The cut was caused by drastic shifts in the input-output price relations, with the adjustments being even bigger in the livestock sector than for crops. Consumption patterns changed from higher value processed animal products (e.g. meat and dairy products) to cereals and other crops. Within gross agricultural output, the most important products are milk, pigmeat, cereals and potatoes. Certain fruits and vegetables are of importance, in particular for exports and in relation to their competitive advantages in production (soft fruit, apples for juices).

The **farm structure** in Poland is characterized by two main farm types. By far the most important group are the private farms. During the communist period several attempts were made to impose collectivization, which finally failed. Therefore, unlike other COMECON countries, the persistence of individual farm holdings was finally accepted. Consequently, Poland still has 2 mio private farm holdings out of which roughly 20% are considered to earn their income exclusively from farming activities. All the others can be described as either part time farmers having mainly an agricultural income (40%) or hobby or subsistence farmers with a small share of agricultural income. For all private farms together, the average farm size is 6.7 ha. Due to demographic and labour market impacts it is expected that the polarisation between smaller and larger farms will be more pronounced in the year 2000. The proportion of farms in the lowest size class (<2ha) is estimated to increase to 25% (475 000 farms) of the total number of private farms (1.9 mio) in the year 2000. At the same time, the share of farms in the size class ">20ha" may increase to 9% and the average farm area may rise to 7.4 ha of agricultural land.

The second group of farms are the state-owned farms¹ and co-operatives. The two together occupy approximately 20% of the land resources but they employ only 10% of the agricultural labour force. Recent statistics recorded 1720 cooperatives with an average size of around 400 ha and 1563 state-owned farms with an average size of just over 2000 ha.

Private farms dominate the centre, the south and the east of the country where their share of land use varies between 85 and 95%. State-owned farms are concentrated in the northern and western part of Poland where they dominate land use. The very small size of Polish private farms constitutes a major handicap for international competition.

Settlement of ownership rights and the establishment of legal titles has made some progress in recent years. However, restructuring and privatisation of the state-owned enterprises and the processing industry is not completed by far, neither politically nor technically. Unsettled ownership rights are hampering the necessary structural change and are delaying important investments.

The **food-processing industry** is very important in the Polish economy, contributing 21% to total industrial output in 1993. According to food-processing sales, the most important subsectors are spirits production, meat-processing, dairy, tobacco, sugar and confectionery. Privatisation lags behind particularly in the sugar industry, milling, potato processing, spirits and tobacco. Due to high interest rates and low utilisation of capacity, the financial situation of this sector has worsened in recent years. More and more enterprises, even privatised ones face bankruptcy. Labour productivity is considerably lower than in western Europe which indicates that technical adjustments will be necessary in the coming years. Hence, the widespread expectation that the food processing industry might absorb some of the labour force leaving the agricultural sector may be too optimistic.

Agricultural **market support policies** focus mainly on cereals (wheat and rye), dairy (butter) and pigmeat. These are the major products in the entire sector. Border protection was significantly reduced in the first two years of transition (1990-91) but thereafter steadily increased so that market price support measures have become more important in recent years. However, the share of expenditure for agricultural price support on total agricultural budget expenditure (around 2.3 bio ECU in 1994) still remains relatively low, at around 4% (96 mio ECU). Most of it is spent on social security, in particular, on pensions.

Structural policy instruments are still not very well developed in Poland. The internal conflict of the desired "farm model" is not yet settled and does not appear likely to be resolved soon. A policy mixture which takes account of the interest of the 2 mio private farms on the one hand without hampering the development of the large scale privatized state-owned farms and co-operatives on the other hand may be possible. Nonetheless, these processes require time and financial resources to cushion the negative effects of transformation and structural changes.

¹ If not otherwise stated, in this report the term "state-owned farms" refers to the whole group of former state-owned farms, i.e. non-privatised plus already privatised ones.

Agricultural trade was more or less in balance at the beginning of the 1990s. Poland's exports grew slowly, but steadily until 1991, decreased in 1992 and 1993 as a consequence of drought impacts and veterinary problems, and then increased by 25% in 1994 to almost 1.8 bio ECU. Imports have increased significantly since 1992, as a result, the agricultural trade balance has deteriorated, particularly in 1992 and 1993, but recovered slightly thereafter with a deficit of 255 mio ECU in 1994. The EU is by far the most important trading partner (50% of imports and 55% of exports), followed by the former EFTA countries then Russia, the latter growing in importance for Polish agricultural exports. Up to now, trade with the CEFTA countries is only of limited importance.

The **Uruguay Round Agreement (URA)** limits the possibilities of developments in Polish support policies, but does not raise great constraints until 2000.

Outlook for 2000

As for the other CEECs, assumptions on prospects have a very high degree of uncertainty. However, a scenario relying on **reasonably optimistic** assumptions has been built up assuming a successful continuation of the reform towards market economy. Under this scenario, annual GDP growth would continue at the 5% level until 2000 which would take the Polish economy significantly above its pre-transition level. Income growth in general would be less than the GDP growth, e.g. 2 to 3%. Polish agriculture would also recover, driven by an estimated 2% annual growth of domestic food demand. Agricultural trade would stabilize with exports roughly balancing imports. In this context, Gross Agricultural Product (GAP) is expected to grow by 2% annually over the period 1995-2000, which would more than offset the recession that has occurred since 1990. Projections for the main commodities (cereals, potatoes, oilseeds, sugar, milk, beef, pigmeat, poultrymeat) over the period 1994-2000 are summarized in qualitative terms in the following tables:

Crop outlook for 2000

	Area	Yield	Production	Export capacity
Cereals	+	+	+	+
Potatoes	-	=	-	=
Oilseeds	+	+	++	++
Sugar	--	++	-	-

Livestock outlook for 2000

	Animal number	Production	Per capita consumption	Export capacity
Milk	+	+	+	+
Beef	+	+	+	-
Pigmeat	+	+	=	-
Poultrymeat	++	++	++	-

TABLE 1 : Poland in comparison with other CEECs and EU-15

	Population (mio)	GDP (bio ECU)	GDP pc (ECU)	Total area (mio ha)	Agricultural area		Arable area		Agricultural production		Agricultural employment (000) (% tot. empl.)	Rainfall (mm/year)	
					(mio ha)	(% total)	(mio ha)	(ha pc)	(bio ECU)	(% GDP)			
Bulgaria	8.5	9.4	1110	11.1	6.2	55.9	4.0	0.47	1.131	12.0	694	21.2	550
Czech. Rep.	10.3	26.7	2586	7.9	4.3	54.3	3.2	0.31	0.871	3.3	271	5.6	491
Estonia	1.6	1.5	938	4.5	1.4	30.6	1.0	0.63	0.266	10.4	89	8.2	600
Hungary	10.3	32.5	3150	9.3	6.1	65.8	4.7	0.46	2.068	6.4	392	10.1	600
Latvia	2.6	2.2	850	6.5	2.5	39.2	1.7	0.65	0.232	10.6	229	18.4	680
Lithuania	3.8	2.3	627	6.5	3.5	54.0	2.3	0.62	0.259	11.0	399	22.4	625
Poland	38.5	73.4	1907	31.3	18.6	59.5	14.3	0.37	4.648	6.3	3661	25.5	550
Romania	22.7	21.8	961	23.8	14.7	61.9	9.3	0.41	4.500	20.2	3537	35.2	635
Slovakia	5.3	8.7	1643	4.9	2.4	49.0	1.5	0.28	0.512	5.8	178	8.4	611
Slovenia	1.9	9.8	5018	2.0	0.9	42.7	0.2	0.13	0.250	4.9	90	10.7	1350
CEEC-10	105.4	188.3	1786	107.7	60.6	56.2	42.3	0.40	14.7	7.8	9540	26.7	
EU-15	369.7	5905.1	15972	323.4	138.1	42.7	77.1	0.21	208.8	2.5	8190	5.7	

All figures are for 1993. Rainfall long term average.
Source : DGV1 CEEC dataset.

1. GENERAL OVERVIEW

With a total area of 312 685 km², Poland ranks as the ninth largest country in Europe. Most of the country is flat with generally low lying land; more than 75% of the land lies below 200m. From north to south there are several major types of landscape and around 10 000 lakes. In the South, the Tatra mountains exceed 2000m. 28% of Poland's total area is afforested. Poland has seven countries as neighbours: Russia, Lithuania, Belarus, Ukraine, the Slovak Republic, the Czech Republic and Germany. In addition, Poland has traditional relations with other countries in the Baltic sea region such as Sweden and Denmark.

The climate in Poland represents the transition between continental Europe (fairly dry summers and cold winters) and the Atlantic-influenced moderate climate of western Europe. In summer, the average monthly temperature ranges from 16°C to 22°C and from -2°C to +1°C in winter (Warsaw). Average precipitation for the majority of the territory varies between 500 and 600 mm per year showing a strong continental European characteristic where rainfall is concentrated in the summer. Precipitation is lowest in the central part of Poland and somewhat higher in the southern mountain area and in the northern coastal regions.

The utilized agricultural area (UAA) is approximately 18.7 mio ha. The soil quality is rather poor which together with low levels of precipitation, especially in the central plains, lead to relatively low yields. The share of good quality soil is only 11% of UAA, medium and low quality soils ranging from 54% to 35% respectively.

In 1994, the population amounted to 38.5 mio with an average density of 123 persons per km². The rate of natural population increase declined from nearly 1% in 1980 to 0.3% in 1992 so that total population is expected to increase by 1 mio by the year 2000. About 62% of the population lives in urban areas (cities, towns, local centres) and 38% in rural areas. In 1992, the average life expectancy at birth was 67 years for men and 76 years for women. With over 95% of the population having a Polish nationality, Poland shows an unusually low rate of foreign inhabitants.

Since the administrative reform in the seventies, the territory is organized in 49 *voivodships*, each of them representing between 0.5 to 1 mio inhabitants. 2465 *gminas* (communes) are the basic units of the territorial division of the country with an elected Council which supervises local authorities. Normally, the *gminas* cover some 20 villages and a local centre. The *voivodship* is then the regional administrative unit which combines about 40 to 60 *gminas*.

Unlike most of the other countries in the eastern block, the farm structure in Poland was dominated by private farms (around 77% of the arable land in 1991), whereas the state-owned farms and the co-operatives only held a share of 19% and 4% respectively. The state-owned farms were formed during the post-war years as a result of a land reform initiated in 1944 and a settlement of areas under former German property. The process of collectivisation which started in 1949 was, however, finally stopped in 1956. The political reorientations of 1956, 1970 and 1980 also had their impact on the farm sector. Producer prices were set at higher levels and access to variable inputs improved. Globally, private farming contributed positively to the economic development of the country.

Main historical developments (since the 18th century)

In the 17th and 18th centuries the power and influence of the Polish kingdom declined. In 1772, 1793 and 1795 Poland was divided into three major parts, Russia occupying around 2/3, the Prussian and Austrian empire each around 1/6 of the country. The "question of Poland" remained a major policy issue for the former European empires and between 1795 and 1918 Poland was ruled by foreign powers.

After the First World War, on the 11 November 1918, the Republic of Poland was founded and Marshal Jozef Pilsudski was proclaimed as provisional head of State. The extent of the economic crisis during the following interwar period is interpreted controversially. Although on December 1922 Pilsudski was replaced as head of State, the ongoing serious party disputes gave him the opportunity to undertake the *coup d'etat* of May 1926. Even though Moscicki was elected as State President, Pilsudski retained the power. The military which ruled Poland in the late 1920s and throughout the 1930s ensured some stability, but was unable to push the country forward towards either democracy or to economic development.

Polish independence ended at the outbreak of the Second World War on September 1, 1939, when the German attack destroyed the Polish army. Poland was devastated in the war. Around 6 million inhabitants died in the 1939-45 period, 20% of the population.

At the Yalta conference in February 1945, Churchill, Roosevelt and Stalin agreed on the map of post-war Europe. Poland would be entirely in the Soviet zone of influence. The Polish frontiers were shifted about 240 km to the west, losing territory to the USSR and gaining territory from Germany. Some 4.4 million Poles were resettled and 3.5 million Germans deported.

In the immediate post-war years the political situation in the country was unsettled. Under Polish Stalinism in the late 1940s and early 1950s the government pursued a policy of gradual collectivization of the entire agricultural sector, but this met with considerable resistance from the farmers. Under the Law of 1946 on the nationalization of large and medium-sized industrial firms, more than 2000 industrial units were nationalized. After Stalin's death in 1953, the Stalinist period in Poland came to an end and reforms were promised. Wladyslaw Gomulka, the rehabilitated leader of the Polish United Worker's Party (PZPR; effectively the communist party) managed to abandon the plan for total agricultural collectivization. Nevertheless, around 10,000 production cooperatives were set up by 1956 of which the majority was smaller than 200 ha.

In contradiction to the original promises made by Gomulka, economic reforms were reversed and central planning along conventional east European lines was the predominant rule from the late 1950s and throughout the 1960s. During this period the Polish economy did not show any sign of becoming more efficient and, as real wage growth was held down, a potentially explosive social situation was created. Due to continuing difficulties and rioting workers, Gomulka had to resign and was replaced by E. Gierek who allowed increases in real wages and relatively abundant imports of consumer goods. This policy led to an undesirable trade development with uncontrolled imports of investment goods from the West. Therefore, at the end of the 1970s, the government aimed for balanced trade with the West. A cut in investment spending and moderate wage growth led among other things to damaging import cuts which made production more difficult.

1980 and 1981 were years of economic and political crises when Poland was de facto ungoverned until, on December 13, 1981, General Wojciech Jaruzelski declared martial law (until June 1983). Solidarity leaders and activists were interned and the trade union was "suspended". Military commissars were installed in major industrial plants and central planning of the former type began to operate. Despite this reorientation, certain reform steps were introduced allowing some management decentralisation, but the policy failed to improve financial discipline either in firms or in the State budget. In the agricultural sector the policy changed as a consequence of a food-supply crisis at the beginning of the 1980s; improvement of the conditions of agricultural production was the declared priority of this policy change. The State guaranteed equal treatment for all forms of ownership in agriculture, and the private holding was constitutionally confirmed as an essential factor in the Polish economy.

In the mid-1980s the Polish economy was in a fragile state. Growth slowed sharply in 1985 and increasing external pressure arising from the debt burden led to a broad discussion in 1986-87 about the need for a "second stage" of economic reform. During that time, the trade union Solidarity regained influence and, on September 12, 1989, it became the dominant force in a government formed by Tadeusz Mazowiecki. The immediate task for the new government was to control accelerating inflation. Therefore, a radical plan, the so called "Balcerowicz plan", for the transformation of the economy to a Western-style system was elaborated and supported by IMF-assistance.

The **rural infrastructure** is generally poor and shows considerable regional differences; a generally higher degree of development in the South as compared to the North and the North-East of the country. This applies to the density of hard surface roads, telephone services, electrification, water supply and sewage disposal. The need to improve the rural infrastructure has been identified as a key objective by the government.

Recent growth tendencies in the economy have had a stabilising effect on the **labour market** where the number of unemployed declined slightly for the first time since the beginning of the transformation process. At the end of 1994, 2.84 million people were registered as unemployed which equates a decrease of 51 000 individuals compared to the end of 1993. The rate of overall unemployment climbed from 6% in 1990, over 12% in 1991 to around 16% in 1992 and 1993 decreasing slightly since 1994 in line with economic growth.¹ Nevertheless, Poland's unemployment rate is still the highest in Central and Eastern Europe. Due to relatively low inter-regional labour mobility and high housing costs, the degree of unemployment varies greatly among regions. The highest unemployment rates around 30% can be observed in the northern part of Poland (the provinces of Koszalin, Suwalki, Olsztyn, Elblag and Slupsk) which is dominated by agriculture and forestry and where prevailing state-owned farms collapsed and some factories closed down. Unemployment rates are also very high in the south-western coal-mining Walbrzych region whereas in the fast restructuring big cities (Warsaw, Krakow, Poznan) the unemployment rates range between 7% and 12%. In this context it should be mentioned that a certain number of the officially unemployed are working in the shadow economy, particularly in the big cities.

Employment² in the national economy fell from 16.7 mio individuals in 1989 to 14.3 mio in 1993. Agriculture (incl. fishery and forestry) is an important sector employing around 3.7 mio people (26% of total employment) in 1993. Between 1989 and 1993 the number of people **employed in agriculture** and industry fell by around 0.7 mio (-17%) and 1.7 mio (-28%), respectively, whereas the trade sector gained importance, increasing its employment by around 0.5 mio people (+33%).

Since the **constitutional reform** of 7 April 1989, Poland is a parliamentary republic with a lower chamber (Sejm), an upper house (Senate) and a President of the Republic. The *Sejm* is the supreme legislative body of the State consisting of 460 deputies elected for 4 years. Legislation and bills can be initiated by the parliament, the government or the President. All bills should be signed by the President who has a right of veto. A *veto* can be rejected by qualified majority (2/3) of the *Sejm*.

¹ The relatively sharp increase of unemployment since 1990 is partly a result of hidden unemployment in the pre-transition period.

² Data on employment have to be treated cautiously. There is a considerable difference between FAO-data and those carried out in official Polish statistics. The latter data, based on a yearly average are used to guarantee a certain level of consistency with reference to the sectorial breakdown.

The **President** of the republic is elected by direct vote for 5 years. He guarantees the Constitution, the country's sovereignty and is responsible for international cooperation and military alliances. The President also proposes the Prime Minister for approval by the Sejm who will then form his government.

The **parliamentary elections** to the Sejm of September 1993 resulted in a new government formed by the Democratic Left Alliance (SLD 171 seats) and the Polish Peasant Party (PSL 132 seats). It should be noted that the two parties together account for only 36% of the votes but they gained a majority in the Sejm as a result of several single parties which could not pass the 5% votes threshold (altogether accounting also for 35% of the votes). This government reconfirmed the strategic objectives (privatization, market economy, continuation of reforms) but it claimed to consider the social costs of the transition process to a greater extent. Currently, Jozef Oleksy (SLD) is Prime Minister, taking over this key position from Waldemar Pawlak (PSL) in March 1995.

Like its central and east European neighbours, Poland is in **transition** from a centrally-planned to a market-based economy. The key elements of this transition are the assignment of private property rights over the resources of production, and the establishment of markets as the major mechanisms guiding the allocation of productive resources and the distribution of goods and services. This transition also implies an opening of the domestic economy to external markets, to integrate the Polish economy with that of its trading partners and to exploit sectors of comparative advantage.

Table 1.1: Main Economic Indicators

		1990	1991	1992	1993	1994	1995(f)	1996(f)
GDP	%-change	-11.6	-7.0	2.6	3.8	5.0	5.0	5.0
Sectorial Products	%-change							
- Agriculture		-0.3	6.8	-12.3	3.0	-3.0	4.0	2.0
- Industry		-22.1	-17.1	2.8	3.9	7.0	8.0	5.0
Consumer price	%-change	618	71.1	42.4	34.6	32.2	25.0	25.0
Unemployment	%	6.3	11.8	13.6	16.4	16.1	16.0	15.3
Budget balance	% GDP	0.2	-3.8	-6.0	-3.5	-2.6	-3.1	-2.7
Government debt	% GDP	89.9	79.9	85.7	86.0	70.4	63.5	
Exchange rate	Zl/ECU	12055	13070	17668	21218	26896		
<i>for information:</i>								
Exchange rate	ECU/\$	0.790	0.809	0.772	0.853	0.845	0.80	0.80
Current account	mio ECU	566	-1099	-208	-1987	-798		
Trade balance	mio ECU	4293	-499	-2105	-4000	-3667		
Foreign debt	bio ECU	37.6	39.3	35.5	38.7	37.3		

(f) = forecast

Sources: GUS, OECD, National Bank of Poland and European Commission (DG II)-forecasts.

The Polish economy experienced a severe recession in 1990 and 1991. Although it recovered afterwards with increasing growth rates, the **GDP**-level in 1994 was still 8 % below the level in 1989. Prospects for 1995 are fairly good and a possible further growth rate of 5 % can be expected. The industrial sector is expected to maintain its recovery trend and the construction sector will contribute to the overall positive growth in 1994. Gross agricultural product (GAP) lags behind after having peaked in 1991. The private sector has become the most dynamic factor in the economy. Most of the new jobs have been created here employing more than 60% of the total labour force. In 1994, the private sector advanced strongly in transport, retailing, construction and industry.

Real wages have fallen by around 30% since 1990.³ Thanks to sustained productivity gains, this trend was reversed in 1994 with an increase of the average wage and salary in real terms of 1.7%. The importance of non wage-income (property income, pensions and social transfers) has risen as a result of the transformation process. Consumption growth, which was one of the driving factors of Polish economic recovery in 1993 and 1994, has been financed by reduced savings.

The **budget deficit** gives cause for concern although Poland has overcome the fiscal crisis of 1991 and 1992. In 1993 and 1994, the budget deficit was lower than expected amounting to 3.5% and 2.6% of GDP. However, this good fiscal performance was mainly related to the higher - than expected - fiscal revenues generated by recovery. Public debt is growing and interest payments on the debt increased from virtually 0% in 1990 to 5% of GDP in 1994.

Poland has a heavy **external debt** which is not only public. For a long period, starting in 1981, Poland did not fully service its external debt. An agreement was reached with the Paris Club in March 1991 which provided for a 50% reduction of the net present value of the 26 bio ECU debt to government creditors. In September 1994, the Polish government finalized a similar deal on 12 bio ECU owed to commercial banks (London Club). Total debt stood at 37.3 bio ECU at the end of 1994, i.e. close to 46% of GDP, and the debt service ratio is now stabilizing at 12 to 13% of exports. Having normalized its relationships with the international financial community, Poland hopes to see an expansion of foreign direct investment, which has been lagging behind in comparison to neighbouring countries.

The **exchange rate** of the zloty against main hard currencies was adjusted several times until it became current account convertible on 1 January 1990. In May 1992, the zloty was linked to a basket of 5 international currencies (45% US-\$, 35% DM, 10% Sterling, 5% French Franc and 5% Swiss Franc), subject to a maximum monthly devaluation coefficient of 1.8%. Since then, the zloty was again devalued in August 1993 and the devaluation coefficient was set to 1.6%. Since mid-1994, the Central bank slowed down the devaluation of the zloty in response to the inflow of liquidity which was generated by improvements in the balance of payments. In February 1995, the devaluation coefficient was reduced to 1.2% a month. Despite successive devaluations, the zloty is generally considered as overvalued.

³ For the interpretation of the decrease in real wages it has to be mentioned that nominal wages under the centrally planned economy overstated purchasing ability. The economy was characterised by shortages. Thus the apparent decline in real wages of 30% probably overstates the worsening of real incomes.

In January 1995, the government realigned the value of the zloty such that 10 000 zloty in the present currency is equal to one new zloty. For a transitional period of ten years, the old zloty will officially be accepted in banks.

Polish trade has experienced considerable change since the beginning of the transformation process in 1989. The major structural changes in Poland's trading relationship are due to the collapse of the COMECON-trading block and its successive substitution by trading partners in western Europe. Poland had begun to shift its trade flows towards Western industrialized countries by the mid 1980s. After a steady increase in its surplus from 0.9 bio ECU to 4.3 bio ECU between 1986 and 1990, Poland's **trade balance** turned to a deficit of almost 500 mio ECU in 1991, 2.1 bio ECU in 1992 and 4.0 bio ECU in 1993. In 1994 however, due to a relatively high export growth of 19%, the trade deficit decreased by around 8% reaching a level of 3.7 bio ECU. However, this deficit should be regarded as an overestimate in view of non-recorded Polish exports within the "small border trade" with Germany which is estimated to amount to approximately 2 bio ECU in 1993. This fact and - to a lesser extent - the small border trade with other neighbouring countries have also to be kept in mind regarding the Polish exports per capita which amount to 372 ECU (1994), well below the corresponding figure for Hungary (875 ECU) and Spain (1357 ECU), which has the lowest figure in the EU.

In 1993, **total exports** amounted to around 12 bio ECU from which almost two third (63%) were directed to EU member States, particularly to Germany (36.4% of total exports) which is the most important destination of Polish exports, followed by the Netherlands (5.9%), Italy (5.2%), Russia (4.5%), the UK (4.3%) and France (4.2%). The most important commodity groups exported from Poland have been: basic manufacturing goods (26.5%) and machines/transport equipment (21%). Food and live animals including beverages and tobacco contributed around 11% to total Polish export revenue.

Total imports reached 16 bio ECU (1993) of which 57% came from the EU. Germany is the main country of origin covering around 28% of Polish imports. Further behind follow Italy (7.8%), Russia (6.8%), the UK (5.8%) and the United States (5.1%). The major imported products are machines and transport equipment (29.6%) such as electrical machinery and road vehicles, as well as mineral fuels and textile fibres.

2. AGRICULTURE AND FORESTRY

A clear trend in gross agricultural product (GAP) is not visible since 1989 due to the impacts of drought in 1992 and 1994. Nevertheless, in the period 1989 - 1994 cumulative GAP decreased by "only" 6% whereas the corresponding decline in GDP amounted to 8%.¹ The **contribution of agriculture** to total GDP is still relatively important, reaching 6.3% in 1994. Since the beginning of the transition, agricultural recession has been caused by an unfavorable development of the terms of trade and reduced production, mainly in the livestock sector. The agricultural labour force still holds a 25% share of the total employment. This important difference between GDP contribution and persons employed in agriculture indicates very low labour productivity and reflects the importance of part-time farming (cf chapter 3).

Table 2.1: Agriculture in the overall economy

	Unit	1989	1990	1991	1992	1993	1994
Products							
Gross Domestic Product (GDP)	%var	0.2	-11.6	-7.0	2.6	3.8	5.0
Gross Agricultural Product (GAP)	%var	0.9	-0.3	6.8	-12.3	3.0	-3.0
Share of Agriculture on GDP ¹⁾	(%)	12.9	8.4	6.9	6.9	6.8	6.3
Share of Food Processing on GDP	(%)	6.8	8.2	9.6	9.2	7.2	
Employment							
Share of Agriculture on total employment	(%)	26.7	25.8	26.0	25.5	25.5	25.4
Share of Food Processing on total empl. ²⁾	(%)	n.a.	2.4	2.9	3.3	3.3	3.4
Gross Agricultural Output (GAO)							
of which:							
- Crops	%var	5.9	-4.9	-4.6	-24.8	18.0	-16.5
- Livestock	%var	-0.5	-5.8	-0.1	-4.2	-12.6	3.5
Shares of Subsectors							
- Crops	(%)	57.4	50.4	47.2	51.7	58.1	
- Livestock	(%)	42.6	49.6	52.8	48.3	41.9	
Share of Agric. on Exports							
	(%)	14.0	14.1	16.6	14.6	11.6	12.2
Share of Agric. on Imports							
	(%)	13.9	8.2	13.5	12.4	12.0	11.1

1) incl. forestry

2) only enterprises employing more than 50 employees are included.

Sources: GUS, OECD, European Commission DG II

The **nutritional situation** in Poland is on average close to the levels in western economies. In line with the macro economic stabilisation programme, subsidies for agricultural products have been substantially cut back and at the same time, prices for other consumption items like gas, rents, water etc. increased considerably. Therefore household expenditure on food (excl. alcohol) declined from 38% in 1986 to around 30% in 1994. The structure in food consumption has also changed since transition. Per capita consumption has increased for fruit and vegetables, vegetable oils, bread and other grain products, but declined for meat, milk, butter and eggs. Relatively stable consumption can be observed for potatoes and, since 1992,

¹ In general, figures must be taken rather cautiously because classification changed over time. For example, the abrupt cut in the share of agriculture on GDP between 1989 and 1990 is not reflected in the sectorial growth rates, which indicates a statistical shift from agriculture to other sectors.

for sugar. On average, food consumption in Poland is still high, but there has been a visible trend for differentiated food consumption patterns in which quality aspects and processed food products are gaining importance.

As in 1992, in 1994 **agricultural production** was strongly affected by a summer drought which resulted in a 7% decline in Gross Agricultural Output (GAO). Plant production, except rapeseed, was mainly affected, decreasing by 17% while animal production increased by around 4% mainly due to an increase in pig numbers in the second half of the year.

Despite this general downward trend in production in 1994, the **degree of self sufficiency** for main products is still close to 100% which is partly due to reduced consumption levels as a consequence of decreasing real incomes over the last five years. Some goods like fresh and processed fruit and vegetables, live animals and sugar are also destined for export markets, whereas for others like grain maize, durum wheat, protein feed, raw tobacco and food preparations Poland's trade balance shows a structural deficit. In 1994, agricultural exports represented around 12% of all Polish exports and 11% of total imports.

In 1993 (which could be regarded as a "normal" crop year for cereals), the share of the crop sector in GAO is clearly higher than the share of the livestock sector. This is partly a result of the contraction in livestock numbers due to problems of structural adjustment since transformation affecting animal production more than crop production.

Table 2.2: Importance of selected products on gross agricultural output

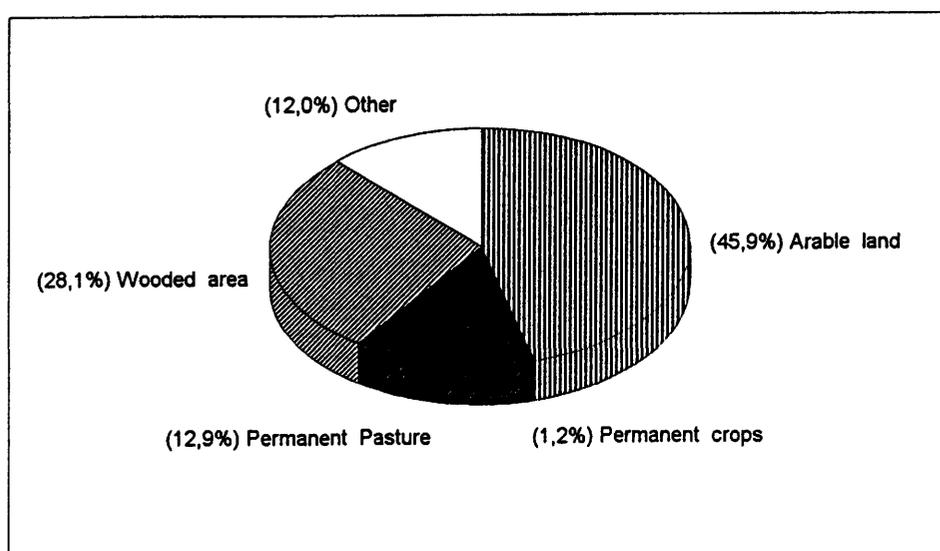
	Poland		EU 12
	1992	1993	1992
Crop products	51.7	58.1	48.4
Wheat	6.8	7.9	6.2
Potatoes	14.8	10.8	1.8
Sugar beets	2.5	2.8	2.4
Fruit & Vegetables	10.7	11.8	16.1
Livestock products	48.3	41.9	51.6
Milk	14.0	12.2	16.6
Pigs	20.0	17.2	11.7
Eggs & Poultry	6.7	6.5	7.2
Beef & Veal	5.1	4.8	12.0
Total GAO	100.0	100.0	100.0

Sources: Statistical Yearbook 1994, p. 368, GUS, Warsaw 1994; OECD 1995 and European Commission

Land use

Out of 31.3 mio ha total area in Poland, UAA in 1994 is recorded at a level of 18.7 mio ha (59.7%); wooded area accounts for around 8.8 mio ha (28.1%) and other areas cover 12.3% of Poland's surface. Within the UAA, arable land is the most important at 14.3 mio ha, followed by meadows (2.4 mio ha), permanent pastures (1.6 mio ha) and permanent crops (0.3 mio ha). The share of arable land in relation to UAA approaches 77% whereas the corresponding figure for the EU-15 represents 56%. Since the beginning of the 1980s arable land has been in slight but continuous decline by around 0.3 mio ha (2.2%) whereas in the same period the area for permanent crops increased by 4.5% and for permanent pastures by 5.6%.

Figure 2.1: Distribution of total land use in Poland in 1994



Source: Results of the agricultural census 1994 - Land use and plant area, Information and statistical reports; GUS, Warsaw 1995

2.1 Crops

Total crop value accounted for 58% of gross agricultural output in 1993 (EU 48% in 1992). In more detail, fruit & vegetables contributed 11.8%, wheat 7.9%, potatoes 10.8% and sugar beet 2.8%. In 1994, arable land reached 14.3 mio ha with cereals accounting for 8.5 mio ha (59% of arable land). Other important arable crops are potatoes (1.7 mio ha), fodder crops (1.3 mio ha), rapeseed and other products for industrial use (0.9 mio ha) and pulses (0.4 mio ha). Around 1.1 mio ha (7.7%) of arable land was not planted in 1994. This fallow land was mainly in north-western regions where the state-owned farms are concentrated indicating certain problems connected with privatisation and management of these farm units.

Table 2.3: Arable land use in 1000 ha

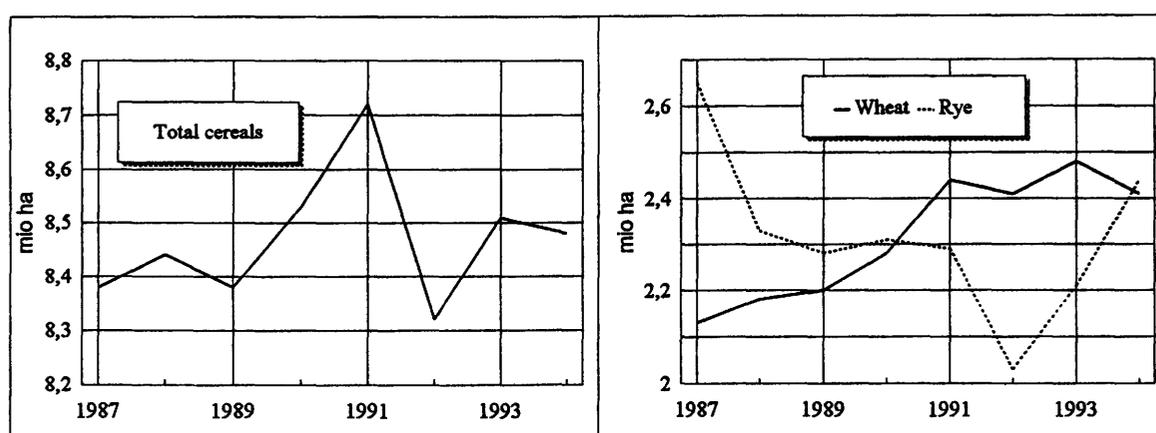
	1989	1990	1991	1992	1993	1994	%var 94/89
Arable land	14414	14388	14360	14337	14305	14300	-0.8
of which:							
- Cereals	8377	8531	8716	8321	8506	8481	+2.1
- Sugarbeet	423	440	361	376	399	401	-5.2
- Rapeseed	570	500	468	417	348	370	-35.1
- Potatoes	1859	1835	1733	1757	1761	1697	-8.7
- Pulses	386	318	330	335	333	394	+2.1

Source: FAO and own calculations

2.1.1 Cereals (*Annex II.1*)

Cereals are grown on around 8.5 mio ha with an average yield of 2.6 t/ha in the period 1992 to 1994. Wheat is planted on 29% of the cereal area, followed by rye (26%), barley (14%), triticale (8%) and oats (8%). Almost 1.3 mio ha are planted to mixed grains which are mainly used as animal feed. Total area planted to cereals has remained relatively stable over recent years. Wheat has increased at the expense of rye and oats. The displacement of rye is expected to remain rather limited however, since this crop is less sensitive to weather changes and it is the most favourable for light and sandy soils which predominate in the central plains where precipitation is lowest. Barley shows a very stable evolution. In the period before transition, yields increased with an annual rate of slightly more than 2%. Since transition, yields have dropped below the historical trend but regained momentum in 1993 reaching 3.3 t/ha for wheat, 2.8 t/ha for barley and around 2.3 t/ha for rye and oats. Cereal yields dropped again by an average of 7% in 1994 due to the summer drought.

Figure 2.2: Development of Cereal Area from 1987 to 1994



Total cereal production varies between 20 and 27 mio t, which under normal conditions is roughly in balance with total consumption. After the second world war, Poland was a net importer of cereals. Since transition and in line with a substantial drop of cereals used for animal feeding, import requirements are down (nearly 0.5 mio t in 1994).

2.1.2 Potatoes (*Annex II.2*)

Potatoes are an important arable crop in Poland. For a large proportion of the rural population, potatoes are a semi-subsistence crop used mainly for animal feed and home consumption with only a small marketable surplus generated. Although in the last 10 years there has been a significant shift away from potatoes and rye to wheat and partly rapeseed, potatoes are still Poland's third largest crop after rye and wheat reaching 1.7 mio ha (20% above the corresponding area in the EU) in 1994. Yields are however, relatively low and do not exceed 20t/ha (EU 30t/ha). The reasons for these low yields can be found in the farm structure and regional distribution of potato production which is dominant in those voivodships characterized by small farms with poor quality soils located in the central and eastern part of the country.

In 1994, 24% of potato production came from farms of less than 1 ha and a further 25% from farms with 1-5 ha of potatoes. In general, as farm size increases, the proportion of the area planted to potatoes declines. It should be noted that 97.5% of total potato production is produced on private farms and 2.5% on state-owned farms. Almost half (47%) of potato production is used as animal feed. The average distribution of potato use in 1991-1993 reveals the following pattern (see PHARE - potato strategy project, April 1995):

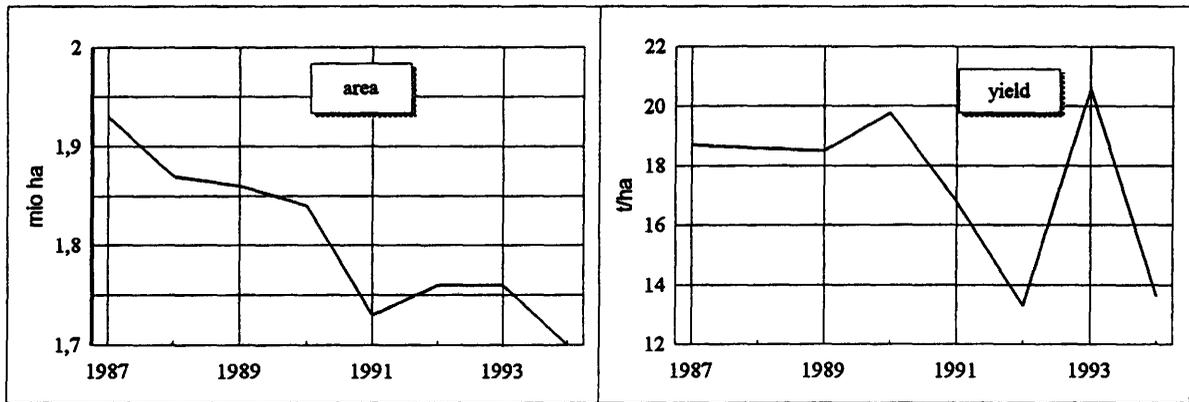
Total potato production 100%			
of which:			
I. On farm use	84.6%	II. Market production	15.4%
- Animal fodder	47.1%	a) Processing	5.7%
- Seed	15.6%	- Starch	2.7%
- Waste	13.0%	- Alcohol	2.3%
- Own consumption	8.9%	- Crisps & Fries	0.5%
		- Exports	0.2%
		b) Table potatoes	9.7%
		- Domestic	9.5%
		- Exports	0.2%

Although in terms of market prices potatoes represent an expensive feed (in 1992/93, each unit of energy obtained from potatoes required around 50% higher direct costs than that from rye), many farms, especially small ones with poor soils and labour surplus continue to feed potatoes to pigs. This practice is mainly due to farm tradition and crop rotation, but also a consequence of poor quality and the lack of rural market outlets. Particularly on small farms, due to poor harvest and transport facilities potatoes are still stored directly on the ground in traditional clamps, contributing thereby to relatively high harvest and storage losses. These

losses are estimated to amount to 13% of total potato production (1991-1993).

The total consumption of table potatoes of 5.6 mio t is split equally between farm household consumption (2.7 mio t) and potatoes sold to the non-farm sector (2.9 mio t). Consumption per head in the farm sector is estimated to be 50% higher than that of the non-farm sector. Thus while the average per capita potato consumption of 149 kg/head (1994/95) is comparatively high, the non-farm consumption of around 120 kg/head is comparable with some EU countries, notably Ireland. Total potato consumption seems to remain stable over recent years.

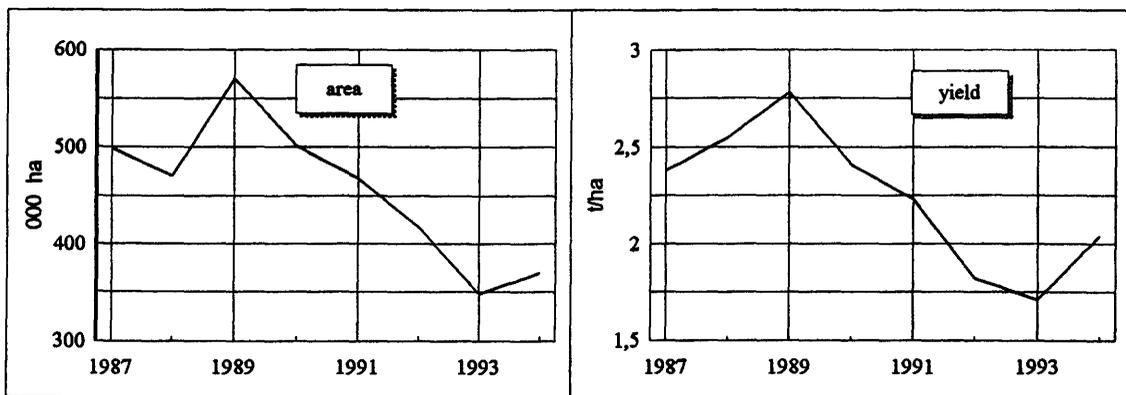
Figure 2.3: Development of area planted to potatoes (000 ha)



2.1.3 Oilseeds (*Annex II.3*)

Oilseeds production consists almost exclusively of rapeseed. In the period before transition, state-owned farms produced over two-thirds of total rapeseed. Total area planted to rapeseed was 370 000 ha in 1994 after having reached a peak of 570 000 ha in 1989. In 1994, rapeseed production totalled 755 700 t.

Figure 2.4: Development of area planted to rapeseed (000 ha)



In 1994, a significant increase in profitability of rapeseed production, relative to winter wheat, was observed. For this year, it was estimated that farm income generated from 1 ha of rapeseed was twice as high as for wheat production. As a result, farmers increased the area planted to rapeseed for the 1995 harvest by around 120 000 ha reaching a total area of almost 0.5 mio ha in 1995 (estimates).

Most of the rapeseed grown in Poland is "00" rapeseed (oil for food, meal for feed). The remainder is destined for non edible uses (mainly varieties with a high content of erucic acid).

Since transition, total human consumption of vegetable oils has increased with an increase in imports of oilseeds other than rapeseed. The consumption of animal fats decreased over this period. The recent growing demand for vegetable oil has improved the crushing industries profitability and also improved the oilseed prices on the domestic market - in line with high 1994 world prices for imported soybean, palm and sunflower oil.

2.1.4 Sugarbeet and Sugar (*Annex II.4*)

Sugarbeet planting reached around 400 000 ha in both 1993 and 1994. Although the area has increased during the last four years, the actual area planted is still around 5% below the pre-transition levels. Total sugar production recovered after the very difficult growing conditions in 1992 reaching 1.95 mio t in 1993, but declined again to around 1.33 mio t in 1994 due to the summer drought. Accordingly, the sugar yield decreased significantly by 32% to 3.32 t/ha in 1994 which is around the half of the sugar yields normally obtained in the EU.

On average, the net trade situation for sugar is almost balanced but varies over the years. Since the beginning of the 1990s, domestic demand has been rather stable reaching around 40 kg/head. The future price and income situation for farmers planting sugarbeet will depend mainly on the restructuring of the sugar industry and on the implementation of the sugar market regulation scheduled for the 1995/96 season (see chapter 5).

2.1.5 Fruit and vegetables (*Annex II.5*)

In 1994, fruit was grown on 265 000 ha and vegetables on 291 400 ha, approximately 90% is produced on individual farms. Although both crops occupy only 3% of UAA, they account for 11% of GAO. Important fruits are apples, pears, cherries, soft fruits (strawberries, currants, raspberries and gooseberries). In 1993, total fruit production amounted to 2.7 mio t of which 1.4 mio t (52%) were processed into fruit juices, frozen fruits and canned products. The most important vegetables are cabbage, cauliflower, onions, mushrooms, tomatoes, cucumbers, carrots and beets. The share of processed products in total vegetable production (5.9 mio t in 1993) is relatively low, reaching around 5%.

After a record harvest in 1993 for both fruit and vegetables, production declined significantly in 1994. Despite this decrease and parallel price increase, caused mainly by the drought, production of most types of fruit still remains unprofitable especially in the case of black currants which are mainly destined for processing. This situation is linked to the structural deficiencies in the processing industry which faces severe liquidity problems finding it

difficult to modernize production lines by implementing new technologies. Additionally, processing units, which are primarily in the hands of state enterprises and cooperatives, are not likely to be able to reduce the long delay of payments to farmers who consequently are more interested in selling their products directly to private companies and foreign buyers.

Poland is a significant exporter of both fresh and processed fruits. In recent years, fruit exports (in fresh fruit equivalent) accounted for an average of 40-50% of fruit production in Poland. The principal exports are apples, soft fruits and processed products, frozen soft fruits and condensed apple juice. Poland is also a net exporter of fresh and processed vegetables. The share of these exports (in fresh vegetable equivalent) is approximately 5-7% of domestic production; much lower than the figure for fruit. Domestic consumption of both home grown fruit and vegetables has increased but was also stimulated by competitive imports of tropical and mediterranean fruits and juices.

2.1.6 Other crops

Other crops of economic importance are tobacco and hops which in 1992 were grown on 23 000 ha and 2000 ha, respectively. The production quantities for tobacco were 45 000 t, for hops 2000 t.

2.2 Livestock (*Annex II.6*)

The livestock sector has been much more affected since transformation than the crop sector. The most important reasons have been:

- drop in real income bringing about a decline in meat consumption,
- collapse of traditional export markets (former Soviet Union),
- elimination of consumption subsidies,
- sharp increase in grain and fodder prices due to the drought in 1992,
- lack of capital to maintain the breeding herds.

Total animal output value expressed in constant prices dropped steadily by 22% between 1989 and 1993, but recovered slightly in 1994. For 1995, there are indications that the strong downward trend of recent years has finally stopped; a further recovery can be expected in the medium term.

Milk (*Annex II.7*) accounts for 12% of GAO (EU 17%). The structure of dairy farms underlines the importance of this sector on farm income: 25% of Poland's milk is produced by almost 1 mio individual farms holding 1 to 3 cows, 50% of the milk is produced in the category "4 to 10 cows" and only 25% of total milk production is delivered by state-owned or private farms with large sized herds. Total milk production declined from 16.4 mio t in 1989 to 11.9 mio t (- 27%) in 1994. The overall reduction of milk delivered for processing was even higher (- 45%), having an impact on the delivery ratio which is only 53%. Linked to the small farm size of milk producers, on farm use and direct farm sales for consumption again became more attractive as compared with processing.

Table 2.4: Development of the livestock sector

1994 figures and %change vs 1989	Beef		Pork		Poultry		Sheep	
	1994 (e)	change	1994 (e)	change	1994 (e)	change	1994 (e)	change
Animal number (000) (1.1.89 to 1.1.94)	7270 3866 (cows)	-30% -21%	17422	-8%	53300	-19%	891	-80%
Production (000 t)	450	-29%	1609	-13%	335	-7%	17	n.a.
Utilization (000 t)	464	-33%	1705	-9%	382	+11%	n.a.	n.a.
p.c. Utilization (kg)	12.0	-34%	44.2	-10%	9.9	+10%	n.a.	n.a.

Source: FAO (for 1994 own estimations based on FAO and GUS forecasts)

The total number of dairy cows fell from 4.9 mio head in 1989 to 3.9 mio head in 1994. The average yield per cow is approximately 3100 kg/year (EU 4900 kg). The small size of dairy herds severely restricts investment to improve feed ratios, hygienic standards, milking technology and to increase milk quality. The lack of on-farm cooling equipment and suitable dairy collecting systems increase the bacteria counts which do not match Western European standards. At present only 5% of the 730 plants can be considered to be modern.

Table 2.5: Development of milk production and dairy products

	1989	1993	1994 (e)	change 1994 vs. 1993	change 1994 vs. 1989
Dairy cows (1000 heads)	4885	4108	3866	-5.9%	-20.9%
Dairy cows yield (kg/head)	3358	3077	3083	+0.2%	-8.2%
Milk production (1000 t)	16404	12639	11920	-5.7	-27.3%
Milk deliveries (1000 t)	11385	6682	6269	-6.2%	-44.9%
Cheese prod. (1000 t)	451	309	345	+11.7%	-23.5%
Butter prod. (1000 t)	290	146	117	-19.9%	-59.7%
Skim Milk Powder prod. (1000 t)	176	157	113	-28.0%	-35.8%

Sources: Smolenski, Z. et al.; S&O Dairy Report, Warsaw, May 1995; FAO and own calculations

Recently, dairies faced shortages of raw cow's milk because they maintained very low procurement prices for a long period which in turn stifled milk production and deliveries. The shortages led to a significant price increase which is likely to be an incentive for a future recovery of the sector. Additionally, the Polish government will support the restructuring and modernization of the dairy industry and dairy farms. In a first stage it is planned to select 250 000 farms which produce or are planning to produce around 40 000 l of milk/year on

the basis of around 10 cows per farm. These farms will be supported by preferential credits to modernize and extend their milk production. The eligibility for preferential credits will depend on the number of cows per farm (not less than 5 head) and the yearly milk production (not less than 18 000 l). Preferential credits will also be granted to the dairy processing industry for modernizing investments to improve product quality and marketing.

Traditionally Poland was not active in the trade of dairy products. Before transformation, Poland was a net importer of milk and milk products. In 1989, the negative trade balance was equivalent to around 800 mio l of milk (5% of domestic supply). Since 1989, however, exports of Skim Milk Powder (SMP) increased to 125 000 t in 1993, but decreased in 1994 reaching a net trade surplus of around 80 000 t. Cheese imports increased significantly in 1993 but declined in 1994 which resulted in a net trade surplus of 10 000 t. Consumption, in particular of butter, strongly decreased as did liquid milk consumption. A certain stabilisation can only be observed for cheese. Significant improvements in the quality of domestically produced cheese led to a decline in imports and growth in exports. Exports are mainly cheddar, gouda and edam.

Beef production (*Annex II.8*) accounts for 5% of total agricultural output (EU 12%). Around 80% of the cattle number are breeds for milk production of which beef is only a by product. Output in carcass weight was reduced from 636 700 t in 1989 to 480 400 t in 1993 and it is estimated that production fell further to roughly 450 000 t in 1994. The main reason for the decline has been the difficult situation in the dairy sector. The average beef cattle herd is extremely small.

Beef meat consumption per head fell from 18.2 kg in 1989 to 12.0 kg in 1994, a downward trend which is expected to stop in the next two years before a recovery towards the end of the century. The main exports, in particular to the EU, are live cattle up to 300 kg live weight. In 1994, 49 800 t of live bovine animals have been exported and 47 200 t imported. The unit prices received for exports of bovine livestock were three times higher than those paid for imports because of quality differences: Exports covered mainly young cattle destined for Italy and Germany, whereas imports were mainly of cheap livestock coming from Lithuania and Belarus. Due to the drastic shrinkage in the number of cattle, Poland has had a negative balance of trade in beef in the last four years. In 1994, Poland imported around 18 000 t of fresh or frozen beef against exports of around 3800 t.

As for the restructuring of the beef sector, particularly in improving beef quality, the Polish government recently decided to implement the "Programme for the development of beef cattle breeding in Poland". It is intended to expand the beef cattle herd, basing it on local breeds crossed with imported beef breeds. By establishing high quality beef production (a herd of 10 000 pure beef cattle is planned for the year 2000) pastures can be used which remain on former state-owned farms. The government will support the following measures:

- the creation of beef cattle farms,
- the import of biological material for breeds improvements,
- preferential credits to farmers increasing the scale of beef production,
- technical assistance for farmers.

Pigs (*Annex II.9*) account for 17% of total agricultural output (EU 12%). Total number of pigs were heavily affected by the drought in 1992 when feed costs increased, the number of animals also fell in 1993 (-17%)² with a corresponding increase in slaughtering and an export surplus of live pigs. The profitability of pig fattening was good during 1994 (favourable grain/pig price ratio) and production is estimated to have further expanded to 20 mio head on 1 January 1995. As for quality, most of the pigs slaughtered are quite heavy (110 to 120 kg liveweight) and do not fully comply with the preferred lean pigmeat in Western Europe. This latter condition is mainly due to the lack of protein in the feed.

Some 13% of pigmeat production is consumed on the farm. The share of the big slaughterhouses of total production decreased from 75% in 1989 to 45% in 1993. The small sized private or cooperative enterprises started their business just after the liberalization of the meat market in 1990. Pork is the by far most preferred meat by consumers (two thirds of all meat consumption) and utilization³ remained quite stable over recent years fluctuating around a level of around 45 kg per capita. Since transition, the net trade of pigmeat and preserved pigmeat products is relatively small and domestic use and production balances out globally.

The **poultry** sector (*Annex II.10*) has experienced a period of intensive adjustment. In 1992 and also partly in 1993, high feed and capital costs and the withdrawal of most of the input subsidies resulted in a drop in total poultry meat output of roughly 15%. Domestic producers of chicken meat also had to face the pressure of competitive imports, mainly from the USA. The profitability of poultry production improved, however, in the second half of 1993. For 1994, total output is estimated to increase further to 335 000 t (+9.8% against 1993) which represents more or less the production level in the late 1980s.

In 1994, poultry meat consumption in Poland (10 kg/head) accounted for approximately 17% of total meat consumption, but the share has increased over recent years mainly at the expense of beef meat. Since transformation, Poland has a negative trade balance in poultry meat mainly as a result of increased imports of chicken cuts from the USA (total imports in 1994 were 61 000 t). Exports, however, remained fairly stable at a level of around 15 000 t (ducks and geese mainly to the EU).

Egg production (*Annex II.11*) in 1994 is estimated at 325 000 t which was 4.8% more than in 1993. Nevertheless, total supply of eggs in 1994 was around 3% lower than in the previous year as a result of lower imports from the countries of the former Soviet Union due to more strict sanitary controls. The downward trend in eggs production in the first 3 years of transition has been overcome. Due to the fact that egg consumption is not likely to grow significantly in 1995, and production is assumed to further increase, a certain surplus and slightly decreasing average egg price can be expected.

² %-change between January 1993 and January 1994; most of the decline of pig numbers took place during the first half of 1993.

³ Utilization does not equate to domestic human end consumption because it is derived from production plus net trade which only includes pigmeat at the 1st transformation level; live pigs and further processed pigmeat is not covered.

The **sheep** inventory declined dramatically from 4.4 mio heads in 1989 to approximately 0.8 mio in 1994. The driving force behind this evolution was the extremely low profitability of sheep meat and wool production, the latter mainly of low quality and substituted by imports. Due to the overall liberalization of the economy, wool imports from Australia and other countries increased which hampered domestic production. Big flocks on state-owned farms kept for sheepmeat production disappeared in line with the break up of these units. Per capita sheepmeat consumption is low and most domestic production is exported, either to the Middle East or the EU.

Horses are still an important factor for Polish agriculture and used as a source of draft, mainly in the eastern parts of the country. However, in the last two years the number of horses has declined significantly to 0.6 mio head in 1994, which is mainly due to the replacement of horse power by machinery, particularly on bigger individual farm units.

2.3 Forestry

Forests cover 8.79 mio ha, equivalent to 28% of the total area. Timber production reached 22 mio m³ in 1992, mainly harvested on state-owned forests. Softwood production predominates with 15 mio m³ hardwood accounting for only 5.2 mio m³. The results of a countrywide survey show quite dramatic disease and pollution damage in Polish forests. At the beginning of the 1990s, 81% of the forests were affected and pollution was and still is a particular problem in south west Poland, spreading eastward and causing damage also in the Tatra mountains. Although SO₂ emissions are still high, several measures have already been introduced which have improved the situation slightly.

The timber processing industry expanded in 1993 and continued to recover in 1994. Domestic demand for timber and timber products expanded in line with the recovery of the other sectors using wood as an input (construction, furniture, renovation etc.). Some of the timber processing industries reached 1989 output levels and most of them are now in profit.

2.4 Environmental situation

2.4.1 General context

Industry is the source of most pollution in Poland, the most harmful sectors being cement works, metal manufacturing plants and thermal power stations. As this production is concentrated in the six provinces of **southern Poland**, this is where most pollution is found. The main causes cited are outdated methods of production. Pollution is also a problem in other parts of the country such as Lubin-Glogow in the west and small areas near the mining centres in the middle of the country and also along the coast. The upper Vistula valley is a significant source of sulphur. Some 40% to 50% of pollution is estimated to come from other countries, this too mainly affects the south.

Poland has very **high emissions of sulphur dioxide, carbon dioxide and particulates** as a proportion of GDP, being between three times and six times higher than the OECD average. The source of this pollution is concentrated in the south. Poland has relatively large imports and exports of transboundary air pollution.

In industry, the **energy sector** is the **main pollution source** (the large electricity plants are powered by coal and lignite). Domestic and district coal burners though not a major pollution source are an important contributor to local pollution, especially in winter. Chemical plants, metal works and manufacturing produce 40% of national particulate emissions and represent a serious health hazard in their vicinity.

Polish water supplies per capita at 1500 m³ per year are low compared with the European average. This is mainly due to low rainfall and irregular distribution. Rivers and lakes are regularly monitored for pollution, the most significant problems are a high (relative to rivers in Western Europe) Biological Oxygen Demand due to the presence of raw sewage, a high concentration of heavy metals and in the lakes in particular, an excess of nutrients. Only 37 % of the population is served with sewage treatment plants.

The main source of **water pollution** caused by agriculture are manure run off, fertilizers and pesticides. Fertilizer use dropped between 1989-and 1992 and pesticide use is traditionally low.

As **only 24%** (3.5 mio inhabitants) **of the rural population** (14.6 mio) **have piped water**,⁴ the remainder rely mainly on wells. In central and southern Poland these supplies have a high nitrate content. Groundwater quality is better than that of the surface water. Of the groundwater, 17% is of drinking quality and 80% of reasonable quality nevertheless, contamination of groundwater is more difficult to correct than the reduction of surface water pollution.

Poland has **preserved a rich wildlife** and unique natural areas. Landscape diversity has been preserved by low intensity farming. Forest covers 28% of the country, but only a small part of this (14%) is natural, the remainder being mostly coniferous, damage to forests due to acid rain is a concern. A number of infrastructure projects (eg drainage of wetlands) could threaten natural areas but have been stopped by lack of finance. The return of economic growth could represent new threats.

Despite the need for further improvement of the overall environmental protection in several areas, particularly the creation and implementation of basic environmental laws, the **achievements over recent years are remarkable**, especially in view of the economic situation. For instance:

- Poland has achieved a 30% reduction of SO₂ emissions,
- there has been a significant sewage plant building programme,

⁴ OECD; "Environmental Performance Review of Poland -Main Report", p. 41, Paris, October 1994.

- progress has been made with the creation of the Oder Commission and the preparation of a common strategy,
- the production of many pollutants has dropped along with the drop in industrial output.

Generally there are grounds (international commitments, overall increasing environmental sensitivity) to believe that the **resumed economic growth will be more environmentally benign** than in the past. For agriculture also, the resumed growth is likely to be more environmentally sensitive. Price liberalisation has already led to better factor allocation, particularly on state-owned farms where generously given subsidies provoked a significant waste of fertilizers, energy, water and other inputs before transition. These changes alone have contributed to a more environmentally friendly production.

2.4.2 Impact on the agricultural sector

Agriculture suffers mostly from acid rain and other air pollution in the industrial areas. The former results in acidification of the soil leading to increased liming costs, reduced yields and eventually erosion and loss of arable land. Over 70% of Polish arable land is sandy and therefore liable to erosion, some 30% of agricultural land (5.6 mio ha) is affected with 1.6 mio ha in particular danger. Severe industrial pollution affects as much as 5 % of the land area (1 mio ha), mostly in the south. As a result, cultivation is impossible on 120 000 ha. It is estimated that air pollution accounts for 48% of the environmental losses in the agricultural sector, followed by surface degradation (39%) and water pollution (15%).

The government established a water purity classification in 1991 that controls the disposal of sewage, and in areas of drinking water intake controls manure, fertilizers, pesticides, drainage and animal farms.

3. FARM STRUCTURE AND INCOME

3.1 Evolution of the farm structure

Unlike the other CEECs, the private farm base was never eliminated in Poland. Despite several attempts during the 1950s, the process of collectivisation of individual farms was never completed, mainly as a result of continuous resistance by the farm population. Polish farm policy was therefore re-orientated and successive communist governments finally accepted the private farm as the main base for food production at variance with the rest of COMECON countries.

The rural population (about 14.6 mio) is older than the national average, mainly as a result of migration of younger people into urban areas. This process would have been even more pronounced but for the lack of urban housing facilities. The rural population is less well educated and the state of the health system is somewhat poorer compared with the national average.

More than 40 000 villages scattered throughout the country have an average of 350 inhabitants. Many of these, mainly in the centre and north-east do not exceed 200 people. Necessary investments to improve the rural infrastructure seem to be expensive and difficult to provide. In the south, villages are bigger and the population varies between 800 and 1000 inhabitants.

Taking account of the lack of employment opportunities in the non-agricultural sectors in rural areas, it was often assumed that an annual migration of almost 100 000 people from rural areas into urban centres would lead to a decrease in the rural population. However, there are certain indications that this (probably smaller) migration effect will be compensated by demographic and structural impacts. Based on the results of a Polish analysis (Szemberg, 1994), the population in rural households will continue growing for the following reasons:

- the Polish workforce will increase by around 1.2 mio individuals in the current decade, mainly due to a change in the age structure;
- out of this increase, a quarter or even more will appear in households running private farms;
- new jobs will be mostly available to the unemployed from industrial and service sectors, providing limited opportunities for surplus workers from private farms;
- the structural changes on larger private farms caused by better equipment and improved management will lead to higher labour productivity and thereby to additional labour surpluses which are the norm for smaller farms.

State-owned farms are concentrated in the northern and western part of Poland where they hold almost 40% of land resources compared with the national average of 18% (1992). These

enterprises used to be an important employer in these rural areas. Recent labour statistics show that state-owned farms provide 8-10% of total agricultural employment. There are 1563 state-owned farms with an average size of just over 2000 ha. These farms primarily produce grains and some livestock products. Most of them offer service activities such as repair shops, grain storage and food processing facilities.

The regional distribution of **co-operative farms** is similar to state-owned farms, concentrated in the western and northern part of Poland. Recently, 1720 cooperatives with an average size of around 400 ha were recorded, this is an average of big units and of small farms run by a small number of families. Approximately half of the co-operative farms were formed with land assigned to them by the state. The other half is made up by specialised co-operatives based on private ownership cultivating only a small range of products collectively. Around one third of income is related to livestock production; other receipts come mainly from processing, agricultural services and non-agricultural activities.

Private farms dominate the centre, the south and, in particular, the east of the country with an estimated share of the land area of around 85% in 1994. In the south, non-agricultural income opportunities are traditionally fairly well established and agriculture is very often a part time occupation. Here, the average farm size varies between 2 and 3 ha. However, in the central and the eastern part of the country, agricultural production still dominates the regional economy and non-agricultural income plays a smaller role. In 1994, 13.6 mio ha of agricultural land in Poland was cultivated by 2.03 mio private farms with an average farm size of 6.7 ha.

Part-time farming has been traditionally important in Poland. Only 20% of private farms derive their income exclusively from farming activities whereas another 40% are considered to gain their income mainly in this way. For the remaining farms, the main income sources are outside agriculture (pensions, social transfers, industry etc.) and farming might be considered as a source of additional own food consumption. There is a clear negative correlation between farm size and non-farm income where the smallest farms (< 3 ha) depend very much (82% in 1992) on income opportunities outside agriculture (OECD 1995, p. 259).

Expected **changes in the farm structure are slow**. Even under the relatively optimistic assumption of a general economic recovery and the creation of new employment in rural areas, the Polish government does not expect an opportunity for more than 600 000 to 700 000 professional farms in the year 2000¹. This assumption would imply that more than 1.4 mio private farms have either to disappear or to produce agricultural products mostly for their own needs, relying in principle on non-agricultural income sources.

Given the relatively tight time frame until the year 2000 and considering the amount of restructuring still required to build up the number of viable jobs outside agriculture, it appears very likely that the government will miss its target. Following SZEMBERG's assumptions of a rather slow decrease in the number of farms (1% annually on average) and taking the '94 census results as a starting point, there would be a total decrease of roughly 100 000 farms

¹ MAFE; "Concept of Social and Economic Policy for Rural, Agricultural and Food Economy Sectors till Year 2000", Warsaw, June 1994.

by the year 2000. Simultaneously, the polarisation between commercial and non-commercial farms will probably persist due to the above mentioned demographic and labour market impacts. This is reflected in the farm structure where smaller farms, mainly of the non-commercial type, will follow a downsizing trend to reduce their land area to the minimum level necessary to cover their own consumption needs and some surplus for local sales. As a result, the proportion of farms in the lowest size class (<2ha) is estimated to increase to 25% (475 000 farms) of total private farms in the year 2000.

On the other hand, average farm area may rise from the present 6.7 ha to 7.4 ha of UAA in 2000. This assumption is primarily based on possible transfers of land from the Agency of the Agricultural State Property to private farms and, to a lesser extent, transfers of land among private farms as a result of farm break up or downsizing. According to recent changes in farm structure and due to the fact that the larger peasant farms are mainly located in the northern and western regions where the Agency holds substantial arable land reserves, the land will be mainly transferred to farms in the size class of ">20ha".

Table 3.1: Structure of Private Farms in Poland - 1994 and 2000

Size class	Farms in 1994 (%)	Farms in 2000 (%)	UAA cultivated 1994 ¹⁾ (%)	UAA cultivated 2000 ¹⁾ (%)
<2ha	22	25	4	4
2-5ha	33	25	16	10
5-10ha	27	26	29	30
10-20ha	15	15	31	27
>20ha	3	9	20	29
Total	2.03 mio	1.9 mio	13.617 mio ha	14.1 mio ha

1) This does not reflect total UAA in Poland due to the exclusion of public area (State farm and communal areas).

Source: Own calculations based on the '94 census results and on estimates of Szemberg 1994.

The expected polarisation trend, particularly the increase in the number of farms in the lowest size class will have a considerable social impact. Since the maintenance or even the increase of the number of small farms will counteract migration towards urban centres, it requires the creation of new jobs in rural areas in the non-farm sector. For owners of small farms, non-agricultural income sources are getting more and more important to cover increasing household costs (energy, rents, services). Solving this problem will require the implementation of appropriate rural development policy measures as well as a substantial capital transfer.

3.2 Privatisation of state-owned farms

From the beginning of the transformation process in the State sector in 1992 to the end of 1994 the Agency of the State Agricultural Property had taken about 90% of agricultural assets from the state-owned farms. This was mainly land expropriated after the second world war and constituted the base to establish the state-owned farms in the following years. In total, 4.2 mio ha of land (incl. 3.5 mio ha of arable land) has been taken over by the Agency. The Agency has also taken other fixed assets with an estimated book value of 2.7 bio ECU (excluding the value of farm land), current assets of around 0.5 bio ECU and liabilities of 0.7 bio ECU. Of the 187 000 people employed on former state farms around 100 000 have lost their jobs since transition. However, this is a comparably small part of rural unemployment which is estimated at between 1 and 1.5 mio people.

The Agency selected about 2000 production units (incl. all fixed assets, livestock, machinery and other stocks) for privatisation, each with 600 ha of farm land on average which is around 4 times lower than the former average size due to the splitting of several larger state-owned farms. Moreover, about 25% of land in the Agency offer was designed for enlargement of already existing private farms.

By the end of 1994, about 50% (roughly 2 mio ha) of the land taken by the Agency was allocated to private tenants on the basis of long term agreements. Only 124 000 ha have been sold. The relatively limited success of land sales is mainly due to financial constraints and the unsolved legal ownership status of many parcels.

Based on the law of the 3 February 1993 concerning the financial restructuring of enterprises and banks, the Agency initiated procedures for special bank agreements with creditors (about 200 cases by the end of 1994). Some other financial instruments were introduced aiming at fast debt repayment, e.g. partial debt rescheduling arrangements for some fixed asset elements. About 37 mio ECU have been already paid in this way.

However, the indebtedness problem still remains to be solved. Accumulated debts together with the unsolved ownership question constitute the major obstacles in privatisation of former state-owned farms. Like many cooperatives in the new German Länder, the future for the large scale State-owned farms very much depends on how historical debts will be treated, given their influence on economic performance.

3.3 Co-operatives

From the end of the 19th century to the second world war, primary co-operatives formed an important part of the Polish economy and played a dominant role in rural areas, particularly in agriculture. However, by the second half of this century they had become "pseudo co-operatives" organised according to the centrally planned economy. At the beginning of the transformation process, based on the Law on Co-operatives of 1990, it was decided to liquidate all co-operative unions, to restore full democratic independence through obligatory new elections in all primary co-operatives and to make possible the splitting of existing co-operatives into two or more new co-operative units. These new legal changes, provoking the liquidation of regional and central co-operative unions, resulted in a significant decrease of

co-operative membership creating a serious problem for most of the primary co-operatives and contributing to their disintegration. The total number of members in rural co-operatives decreased from 7973 in 1989 to 2840 in 1993. In 1994, a new co-operative law entered into force improving the legal conditions for existing and the establishment of new co-operatives. However, further steps in the scope of co-operative legislation are needed to ensure the revival of an efficient and truly private co-operative movement compatible with market economy principles.

3.4 The financing of agriculture

As a consequence of limited domestic resources within the tight capital market and high cost of foreign capital, credits (particularly short term credits) under privileged conditions offered by the government are an important source of financing in agriculture. For example, in 1993 the interest rate for short-term preferential credits amounted to 24.5% while the market interest rate was above 40%. Especially after the drought year in 1992, these credits helped to stabilize output of primary products in particular through purchases of variable inputs. At the same time, these financing facilities helped the processing industry to control their losses and, within limits, to invest in modern equipment. The comparably high rate of inflation (around 30% in 1994) further depressed income and justified subsidies for credits on short term investments.

By the end of 1993, the overall rural credit debt (short and long term credits) amounted to around 2.7 bio ECU which was distributed as follows:

- 50% Agro-industry
- 22% Small business
- 13% State farms
- 11% Private farms (i.e. 300 mio ECU)
- 4% Co-operatives

This total rural credit was around 21% of all bank lending in Poland. The market for financial services in rural areas can be characterized by the following:

- around 45% of food processing sales are conducted by private, profitable enterprises which do not borrow;
- around 50% of food processing sales stem mostly from largely state-owned, loss-making enterprises in the primary sectors (meat, sugar, flour, dairy, fruit and vegetables, oils) which borrow heavily;
- private farms rarely borrow from banks;
- small rural enterprises related to agriculture borrow mainly from Local Co-operative Banks; over 60% of them are considered as credit worthy;

The demand for rural credit (especially short-term credits) is to a large extent targeted at preferential credits from the Agency for Restructuring and Modernisation of Agriculture

(ARMA). In 1994, ARMA received 19 900 credit applications for 152 mio ECU from farmers and 1 497 applications for 171 mio ECU from food processing units. 216 applications for around 9 mio ECU came from farm services. Taking the above mentioned credit debt of private farmers by end 1993 (300 mio ECU) and assuming that half of this was longer term debt, this would imply that ARMA's subsidized credits play a predominant role for the provision of farmers with financial means.

ARMA was created in January 1994. It has taken over the activities of the Debt Rescheduling Fund (FRiOR) which was founded in 1992 to channel preferential credits for debt rescheduling in the agro-food sector. The distribution of these ARMA subsidized preferential credits at fixed interest rates (around 20% in 1994) and the evaluation of investment projects for modernisation or debt restructuring will be conducted by rural banks. Based on the Law of June 1994 aimed at restructuring the rural co-operative banking system, these banks will channel almost all the credits for agriculture and the food industry. The foreseen rural banking structure would consist of a three-level system: 1 central union bank (the Bank for Food Economy, BGZ), 9 regional banks and more than 1200 local cooperative banks.

Credit subsidies provided through ARMA are also allocated to investment loans for the modernisation of farms and food processing enterprises. For those units which are considered as being creditworthy and have sound modernisation plans, but cannot obtain loans due to a lack of security, a credit guarantee fund has been established. In 1994, the ARMA

subsidised

- credits for restructuring and modernisation of the dairy and livestock sector;
- credits for the processing industry to purchase agricultural crops;
- credits for drought relief;

and (co-) financed

- programmes on training, extension and agricultural information;
- rural infrastructure development:
 - = water supply projects,
 - = sewerage projects,
 - = rural telephone projects.

In ARMA's 1994 budget, a total volume of around 175 mio ECU was foreseen to finance the above mentioned programmes. Of this amount, 36% was actually realized in 1994 (March-December). This relatively low percentage of realized disbursement was mainly due to difficulties of obtaining agreement between various ministries on criteria and procedures until halfway through 1994.

Table 3.2: Activities of the Agency for Restructuring and Modernisation of Agriculture (ARMA) in 1994

	(1) Expenditure foreseen (mio ECU)	(2) Expenditure realized (mio ECU)	(3) (2)/(1)
Taking over of credit subsidy commitments given by the former debt rescheduling funds (FRiOR)	16.4	7.3	44.5%
Subsidies for new investment credits	55.8	6.6	11.9%
Establishment of the credit guarantee scheme	14.9	7.5	50.0%
Subsidies for credits destined for drought relief	22.3	5.6	25.3%
Subsidies for procurement credits (for the purchase of agricultural crops destined for processing)	18.6	7.1	38.2%
Support of training, extension and agric. information	2.6	2.2	84.8%
Financing rural infrastructure of which:	38.3	26.4	69.0%
- water supply projects	20.1	15.4	76.7%
- sewerage projects	11.2	7.9	70.9%
- rural telephone projects	7.0	3.1	44.3%
Support of small enterprise development	6.3	0.0	0.0%
Total	175.2	62.7	35.8%

Source: ARMA

3.5 Farm income evolution

Before transition, the agricultural sector in Poland was more highly subsidised and protected than at the beginning of transition.² Procurement prices were guaranteed by the government at relatively high levels, subsidies were paid on variable inputs and credits for investments have been fixed even below prevailing rates of inflation. The reform steps initiated in 1990 removed state control over prices and limited subsidies paid to farmers. From 1989 to 1991, the share of expenditure for input subsidies on total agricultural expenditure was cut from 15.6% to 7.5%, the corresponding share for consumer subsidies decreased from 52.9% to 0.2%. These changes in support policies produced corresponding changes in the income of the farm sector.

² However, since 1986 the level of agricultural support has always been lower than the half of the support level in the EU. Between 1988 and 1993, the producer subsidy equivalent (PSE) in Poland decreased from 24% (EU 49%) to 16% (EU 48%). For more detail see Annex III.

Although total **real agricultural income** has stabilized in recent years, it dropped sharply in 1990 and to a lesser extent in 1991. The main reason for this evolution was the deteriorating relationship between agricultural output and input prices during the transition period. According to economic stabilisation and growth tendencies since 1992 one might have been expected a corresponding increase in agricultural incomes. However, this did not take place, partly due to severe structural deficiencies and market imperfections not only in the farm sector itself but also in the up- and downstream sectors. The income situation was further aggravated by cuts in production mainly due to unfavourable weather conditions in 1992 and in 1994. The disparity between agricultural income per household member and employee's income outside agriculture increased continuously between 1989 and 1993 when farm income was 23% lower than non-agricultural employee income. For 1994, estimates show a slight improvement of this income ratio.

In the context of income disparity between the agricultural sector and the rest of the economy one has to keep in mind that the majority of private farmers in Poland rely mainly on non-agricultural income sources. The share of non-agricultural incomes is highly correlated with farm size: In 1992, the total income on smaller farms (below 3 ha) was mainly (82%) generated by non-farm activities whereas on bigger farms (10 ha and more) only 20-26% of total income was based on non-agricultural income sources.

Table 3.3: Price changes and evolution of real income

Year	Producer price change (%)	Input price change ¹⁾ (%)	Agricultural Incomes per farm 1985=100	Income disparity ²⁾ (%)
1986	12.2	15.1	98	15.0
1987	26.8	25.9	87	16.3
1988	83.5	78.5	110	23.3
1989	254.9	174.0	125	15.9
1990	278.7	799.9	61	2.5
1991	29.4	77.9	51	-15.8
1992	59.8	40.4	59	-13.9
1993	32.6	38.8	65	-23.0
1994 ³⁾	34.0	25.0	64	-18.2 ⁴⁾

1) prices of goods and services purchased for current farm production

2) ratio between agricultural income per household member and non-agricultural employee's income

3) provisional

4) three quarters of 1994

Source: Calculations of Kwiccinski, A. based on GUS data.

4. UPSTREAM AND DOWNSTREAM INDUSTRIES

4.1 Upstream sector

Up to 1989, three institutional channels supplied farmers with goods and services. Goods for farm consumption and basic variable inputs were supplied almost exclusively by rural co-operatives, machinery was mostly supplied by co-operative and state-owned enterprises (AGROMAs), and services by co-operatives. All these institutions were subject to state-control. The input industries were monopolies and almost entirely state-owned. Agricultural input prices were fixed by the state and due to subsidies there was much wasteful use of raw materials and energy.

Restructuring and privatisation of co-operatives and state-owned enterprises in the upstream sector has been rather slow, which was partly a reason for a relatively rapid development of private channels supplying farmers mainly with fertilisers, plant protection products, construction materials, veterinary products and machinery. Private agents and dealers have taken over an important share of the input markets from the rural co-operatives. Currently most of the co-operatives previously supplying services to farmers are in the process of restructuring.

Globally, the entire agricultural input industry has been operating at only 30-40% of its production capacity in recent years. The different branches are going through a period of adjustment resulting mainly from the drop in sales for domestic use, but also from the elimination of subsidies. In addition, newly built agricultural machinery and equipment has to compete with second-hand machinery either sold by the state-owned farms looking for additional income sources or sometimes imported material, mainly from European Union countries.

Table 4.1: Domestic production of agricultural machinery

	1989	1993	change 1993/89
Tractors (000)	48.0	11.5	-76%
Tractor-ploughs (000)	40.4	14.1	-65%
Grain combines (000)	6.1	0.2	-96%

Source: Statistical Yearbook 1994; GUS, Warsaw 1994.

4.1.1 Mechanisation

The small size of most Polish farms where the fields are often small, irregularly shaped and scattered, makes widespread mechanisation difficult, resulting in extensive use of animal power for tilling purposes.

The production of agricultural machinery is concentrated on state-owned enterprises and privatisation in this sector seems to be slow. A group of 25 state plants active in this sector

merged into "AGROMET" with a market share of 60-70%. Domestic manufactures supply more than 75% of the tractor market and nearly all farm equipment. Tractor production is concentrated on the URSUS company, a well known state-owned plant with a manufacturing capacity of 70 000 tractors per year. In the past, demand for tractors exceeded production due to highly subsidised prices. During the 1970s and the 1980s, the entire sector managed to expand and acquire new technologies. The industry's technical level is similar to the European average. Imported machineries are significantly more expensive than those produced in Poland. Exports have however decreased since transformation due to difficulties on neighbouring markets.

Official information on the production of agricultural machinery should be treated with caution. Since transition, many small scale producers have appeared on the market and are not covered by national statistics. The demand for most agricultural machinery is slowly increasing. While most of the tractors used by Polish private farmers are in the medium horsepower range, there is a need to increase the availability of both small- and large-sized tractors. As half the tractors are over 10 years of age there is a need for replacement.

4.1.2 Fertilizers

The use of **mineral fertilizer** is essential to improve the generally low natural fertility of the arable land. Basic nutrients (P and K) and organic matter content are at low levels and need to be replenished regularly. Between 1988/89 and 1993/94, the use of mineral fertilisers was cut from 196 kg/ha to 71 kg/ha of pure NPK. This decrease, which is partly a result of a more efficient utilization in recent years, was more pronounced in the state-farm sector than on individual farms which could be explained by the generally better provision of state-owned farms by subsidized input factors till the end of the 1980s.

Table 4.2: Use of chemical fertilizers (kg/ha of arable land)

	1988/89	1993/94	change 93/94 vs 88/89
Total:			
NPK	195.5	71.1	-64%
CaO	202.2	104.7	-48%
Private sector:			
NPK	167.8	70.0	-58%
CaO	166.6	101.1	-39%
Public sector:			
NPK	288.2	80.5	-72%
CaO	321.5	119.4	-63%

Source: Zalewski (1994), p. 82.

The use of fertilizer shows significant regional differences, ranging from 23.8 kg NPK/ha in Krosno voivodship to 159.1 kg NPK/ha in Torun voivodship. In the areas with higher use of fertilisers the observed yields are significantly higher. Many producers reduced their input

costs for phosphate and potassium but kept the high level of nitrogen to support the short term yield potential. The deficiency of potassium and phosphorus is reduced by use of organic fertiliser. In 1993/94, there were 71.1 kg of NPK used per 1 ha of UAA (8% more than in 1992/93). Fertilizer use increased by 11% in the private sector while in the public sector it decreased by 3%. For 1995 crops, the NPK use is expected to increase to 80 kg/ha of UAA.

Poland's light soils also require heavy and continuous use of **lime and magnesium**. Around 60% of soils are classified as being highly acidic and 47% are considered deficient in magnesium. The annual requirement for lime is estimated at 4.5 mio t. According to experts assessment, soil degradation could be stopped with the use of 210-220 kg lime/ha/year. Inadequate lime and magnesium applications represent a serious long term problem, reducing yields by up to 8%.

The **fertilizer industry** is concentrated on 10 state-owned enterprises which employ around 20 000 people. The drastic decline in domestic use of fertilisers since transformation forced fertiliser producers to increase exports from a 4% share of production in 1988 to over 41% in 1991. Only 60% of capacity in the nitrogen of the plants is used and only 10-40% of for phosphorous fertilisers. The industry is trying to increase output to reduce fixed costs per unit production. The quality of Polish fertilisers has reached world standards and competes on EU markets.

4.1.3 Plant protection materials

In 1994, the supply of **pesticides** increased by 5% while their application increased from 0.47 kg to 0.5 kg of active ingredient per ha UAA. The share of imported pesticides on the Polish market is still growing. In the first quarter of 1994, herbicides have had the biggest share (59%) within the total supply of plant protection materials, whereas the use of fungicides and insecticides was smaller, accounting for 31% and 4%, respectively. Other plant protection materials accounted for 6%. As far as fungicides are concerned, the share of seed treatment agents is increasing. For 1995 it is expected that pesticide use will increase by about 9% to 0.55 kg of active ingredient per ha UAA. However, it is assumed that the weak distribution network and the lack of sufficient assistance on pesticide management at the farm level will persist. This will limit future utilisation of pesticides and reduce the effectiveness of plant protection agents.

4.2 Agro-food processing

Before 1989, the Polish food processing industry was part of the centrally planned and organized economy. Although the program for restructuring since 1989 has been quite successful in liberalising prices and reducing market controls, until 1994 it was less succesful in transferring ownership of the state-owned industries into private property. Privatization is lagging behind, particularly in the following food branches:

- sugar industry,
- milling,
- potato processing,
- spirits and tobacco.

More advanced sub-sectors are bakery and confectionery, poultry processing, the production of soft drinks and beer, the processing of edible oils and margarines.

The food-processing industry is very important for the Polish economy contributing 21% to total industrial output in 1993. Total **employment** has remained rather stable in the last two years reaching 441 000 employed in the sector in December 1994. The most important sub-sectors are meat-processing, dairy, fruit and vegetables, sugar and confectionery, milling and bakery.

In 1993, the total **output value** amounted to roughly 11 bio ECU. Out of this total of food processing sales, around 18% were contributed by spirits, 16% by meat processing, 12% by dairy products, 10% by tobacco, 7% by beer processing and 6% by sugar. Total output value is equivalent to 25000 ECU per person employed. Labor productivity is considerably lower than in western Europe which indicates that technical adjustment will be necessary in the coming years. Hence, the wide spread expectations that the food processing industry might absorb some of the labour force leaving the agricultural sector may be optimistic.

4.2.1 Transformation

According to the analysis carried out in the OECD-report on Poland (OECD 1995, p. 86-88), the transformation of industry has resulted in significant structural changes since 1989. During the **first phase**, the old enterprises had to face competition from newly established private and locally based processing plants. Significant imports of a large variety of highly processed and professionally marketed food products challenged domestic producers. In parallel, significant investments took place, in particular for the poultry and meat processing, bakery and beverage sectors. These investments did not require enormous capital commitments. On the other hand, the industry continued to operate with comfortable wholesale margins, which were dominated by the state-owned or co-operative enterprises still holding the majority in trade, marketing and processing.

The **second phase** of transformation, which started in 1991/92, is concentrated on the development of new and more efficient market channels and an increase in the number of companies which are well adjusted to market economy rules and which are dominated by private ownership. These small and medium sized private companies have been competing successfully with large food processing enterprises. However, the majority of these plants have tended to suffer from financial difficulties in recent years due to the decline in processing margins and their high dependence on loans. Additionally, there are companies operating with outdated machinery and equipment, in bad locations or simply not being price and quality competitive.

The technological standard is comparatively more advanced in meat processing, fruit and vegetables and some of the milk processing enterprises. It is estimated that the average technological lag in the entire food processing industry amounts to 10-15 years. The technological gap is one of most important barriers in the process of improving quality standards, lowering processing costs and of limiting the environmental damages caused by industry. This also limits the possibility to increase the range of products for export to western markets. Most of the agricultural products exported are still in an early stage of processing,

e.g. meat as carcasses, crude rapeseed oil, sugar in sacks, frozen fruit and vegetables in wholesale packages.

Among the subsectors, the highest rates of new **investment** have taken place in confectionery, followed by beer and alcohol. Companies mostly used new capital for the maintenance of current production levels, the improvement of processing efficiency or for investments to comply with EU standards. A number of firms invested in equipment required by environmental regulations. Small and medium sized private companies are the most dynamic investors, at the expense of larger firms. Although the need for modernisation renewal investments arises in all agro-food processing sectors, they are most urgently needed in the processing of the main vegetable products, dairies and in the production of spices and compound feedstuffs. It would be necessary to modernize old slaughterhouses, which were mainly (65%) established before 1935 and located in the centre of towns. In general, they do not yet meet western European sanitary, veterinary and environmental standards.

Privatisation of the food industry started in 1991 when there were around 540 state-owned food processing enterprises. By the end of September 1994 about 270 enterprises were already covered by various privatisation programmes. However, the situation differs widely between the different food sectors. Brewing industries are already mostly privatized. As for poultry processing (with 32 state-owned enterprises in 1991), 70 to 75% of the total processing capacity is privately owned. In oilseed processing privatization was quite successful, 2 out of 8 state-owned plants have been fully privatized and the others transferred into various stages of privatisation.

On the other hand, privatisation in potato processing (40 to 50% processing units are privatised) and in the sugar industry is much less advanced. In November 1994, out of 78 state-owned enterprises only 6 were fully privatized, 3 enterprises were leased, and 4 enterprises, which were transformed into State Treasury companies, are expected to be privatized individually. Under the "sugar" law it is envisaged to combine the 65 remaining enterprises into 4 "sugar holding companies". The privatization programme in the central milling industry (PZZ) has not yet started (end 1994). Out of 103 state-owned milling units in 1991, only 3 have been privatized, 15 have been selected for the mass privatisation programme, 6 have been closed after bankruptcy and another 8 have entered the liquidation process for economic reasons.

After four years of transformation, a **major problem** for the food processing industry is its fragmentation resulting from the de-monopolization process. The structure of previously centrally planned and organised complexes has been dismantled and privatization created a large number of autonomous units partly isolated and not always well suited to face market competition. The small processing units which have emerged since transformation need to market heavily and cannot afford means for research and development. These enterprises are unlikely to be able to achieve significant economies of scale and the question arises whether a certain form of concentration might be needed in order to improve the competitiveness of the industry. The increased competition has led to a significant decline in profit margins. Due to inflation, expensive credit and low utilisation of capacity, the financial situation of the sector has worsened. More and more enterprises, even privatised ones, are facing bankruptcy.

The **legal framework** also requires improvements. In order to adapt existing legislation on domestic trade and rules for commercialisation of agricultural products, improvements in the arbitration procedures have to be made in the following areas:

- commercial contracts,
- liability of specific professions such as brokers and commission agents,
- licensing procedures,
- regulation and supervision of commodity exchanges.

Another area where improvements are required are **standardisation, inspection, quality** and the safeguarding of **consumer** concerns and interests. Recently, the government started to implement an action programme to rationalise the network of institutions supervising the standardisation, safety and inspection, and certification of products, factories and laboratories in the agricultural and food sector. These activities are of vital interest for the Polish food industry in particular with the view to meet sanitary standards applicable in western Europe.

4.2.2 Marketing

The transformation process of the Polish economy has not dramatically changed the supply of primary agricultural products, however the food processing industries were exposed to substantial changes in their structure of marketing and commercialisation. The importance of small scale retail sales of unprocessed agricultural products increased rapidly and also regionally based processing plants gained market share. At the same time, the importance of state-owned and co-operative trade units decreased significantly. In the period 1988-1992, the total number of co-operative procurements declined by a factor of 3. Only in the dairy sector do milk co-operatives still play a dominant role.

Sales among farmers and direct farm sales for local markets are important. The Agency of Agricultural Markets (ARR) intervenes directly on the markets for cereals, sugar, milk powder and pork, playing a major role in the cereal transactions (for more detail see chapter 5).

Since transformation, agricultural markets in Poland have become more transparent and more competitive. However, they are still highly fragmented and most of the private enterprises, which are active in commercialisation and marketing, lack capital. Professionalism in the wholesale and retail-system has improved in recent years, but further improvement is still required, particularly on the wholesale level. In this context it is important to create and improve the institutions and infrastructure required for organizing and monitoring markets which is particularly important for stock-keeping and balancing supply and demand across regions.

The major reasons for the present agricultural problems can be found in difficulties in the agri-business sector. The benefits of efforts made by farmers to improve efficiency are partially lost to an inefficient trade and processing industry. It would not be rational to invest at the farm production level if the primary processing industry and the wholesale trade are not capable of handling products more efficiently.

5. AGRICULTURAL MARKET POLICY

5.1 Agricultural Price Policy and Price Developments

In Poland, market mechanisms were introduced six months earlier in the agricultural sector than in the rest of the economy. Most of the administrative limitations to procurement and marketing of agricultural products had already been phased out by 1st August 1989. The second stage of price liberalisation took place in January 1990. From this date price controls and the buying-in monopoly of the State ceased to exist giving the possibility of free price arrangements for farmers and food processing industries. However, farmers continued to deliver some of their production to public procurement organisations using the existing marketing infrastructure and secure contract prices.

As a consequence of the drastic transition measures, mainly from price liberalisation and the parallel reduction of consumer subsidies hyperinflation occurred, particularly in autumn 1989 and January 1990. Expectations of higher prices led to delayed sales of agricultural and processed food products, consequently, supply shortages emerged despite sufficient production. This brought about consumer price increases on the now liberalised markets. For that reason the Polish government brought in price stabilization measures by selling relatively low priced food from stocks and food aid, this broke the steep inflation trend.

Due to the fact that inflation could not be stopped immediately and given the increasing deterioration of the terms of trade for agriculture between 1989 and 1991 (see figure 5.1), the government had to increasingly concentrate on agricultural income problems rather than stabilizing short-term market fluctuations alone. For this purpose it established the Agency for Agricultural Markets (ARR) in mid 1990. From this date the ARR is responsible for market intervention in agriculture, focusing on market stabilization and support of farmer's income. Market intervention is mainly realized through intervention purchases or sales of goods. The Agency is also responsible for holding the State's reserves of food and agricultural products. The activities of the ARR are primarily financed by the budget. Another part of its expenditure is covered by own revenues stemming from sales of intervention products. In 1994, the ARR received 2.59 bio Zloty (96 mio ECU) from the government to cover the outlays on its intervention purchases and for the management of its stocks. Of this amount, 73% were destined to finance the holding of State reserves and 27% for market intervention. By the end of 1994, the ARR received an additional amount of 0.897 bio Zloty (around 33 mio ECU) to cover debts from grain elevators which were to be taken over from the central milling industry (PZZ).

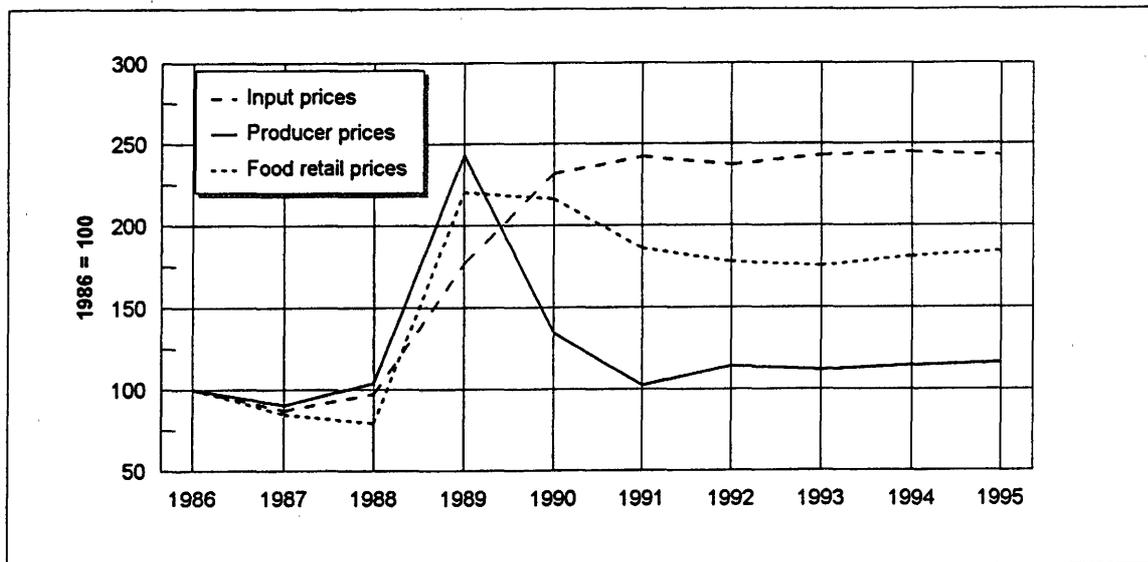
As shown in table 5.1, in 1994 the budget expenditure for the agricultural sector amounted to 2.3 bio ECU (9% of the total budget expenditure). Of this amount, only 4% was attributed to ARR for agricultural market and price policies which indicates the financial limitations for market intervention. The by far biggest part (72%) of agricultural budget expenditure is destined for the farmer's social security system.

Table 5.1: Total budgetary expenditure associated with agro-food policies

Expenditures:	1990		1994	
	in mio ECU	in %	in mio ECU	in %
- Price and income support	126.4	9.5	96.3	4.1
- Reduction of input costs	182.0	13.7	188.9	8.1
- General services	205.6	15.4	270.4	11.6
- Consumer subsidies	128.4	9.6	2.4	0.1
- Social measures (pension fund)	642.8	48.3	1684.3	72.4
- Education, culture and art	46.3	3.5	83.3	3.6
- Other	----	----	1.6	0.1
Total agriculture	1331.5	100.0	2327.2	100.0
Total national budget expenditure	16075.8	----	25877.8	----
Share of agric. on total expend.	----	8.3	----	9.0

Source: Own calculations based on OECD (1995), Budget Law of 1994 and ARMA

Figure 5.1: Development of real agricultural prices in Poland from 1986 to 1995



1994 = provisional; 1995 = forecast

Source: Own calculations on OECD data

The **stabilization activities** of the ARR apply to wheat, rye, butter, skimmed milk powder, pigmeat and beef, sugar, potato starch and occasionally honey, wool and linen. However, intervention measures are of more importance for the grain, dairy and meat markets. For

market stabilization, a price range is fixed in which prices are allowed to fluctuate. If the market prices exceed these limits then direct market intervention or decisions to apply such measures are made. The ARR can intervene in external trade but until 1994 this was mainly in the form of import-activities and to a much lesser extent on the export side. **Minimum and intervention prices** are of course important instruments for the stabilization of "normal" seasonal price fluctuations, but in periods of drastical market disturbance (record harvests, severe droughts) their stabilizing impact could be judged as relatively low in the context of the available budget and compared with the impact of border protection.

5.1.1 Cereals

For cereals the government establishes a minimum and a maximum price within which market prices at the farm gate level can fluctuate. The minimum price:

- is announced before the beginning of the harvest period;
- represents the lower boundary of the institutional price limits;
- is fixed each season as the result of negotiations between farmers' organisations and the Polish government, represented by the ARR and the ministries of agriculture and finance.

If market prices are below the minimum price, then intervention takes place. The ARR support this minimum price by purchasing at an intervention price somewhat higher than the minimum price but under a price ceiling defined by the government. In the first two seasons of application of minimum prices, i.e. 1992/93 and 1993/94, the intervention price was fixed at 30% above the minimum price level in the first year and at +20% in the second year.

Table 5.2: Prices for wheat and rye

	unit	1993/94		1994/95	
		Wheat	Rye	Wheat	Rye
Poland: intervention price	1000 Zl/t ECU/t	2400 100.4	1700 71.1	2500 88.5	1800 63.8
Poland: farm gate price	1000 Zl/t ECU/t	2460 102.9	1853 77.5	2846 100.8	1925 68.2
European Union: Intervention price	ECU/t	139.46	139.46	128.72	128.72

* The exchange rates used represent the average of the corresponding monthly exchange rates. For the period April '94 - March '95 the average exchange rate of 1 ECU=28233.3 is applied provisionally.

Source: European Commission (DG VI) and Information Bulletin of ARR, April 1995

If market prices are above the maximum price, then the ARR may sell from intervention stocks and/or enable imports by reducing tariff levels. In 1992/93, maximum prices were fixed at around 50% above the minimum price.

In the past two years the ARR has become a major force in the price formation process in the grain sector. Intervention is still dominated by direct action, either by the Agency itself or by its agents (authorized warehouses). In 1994, the intervention purchase of grain amounted to around 1.3 mio t which was around 6% of total production.

The different forms of intervention can be summarized as follows:

- **Direct purchases by the ARR**

These are purchases at ARR warehouses or at some PZZ (central milling industry) warehouses where the ARR maintains contracts for purchasing and storing grain to replenish ARR stocks. In 1994, 183 900 t of cereals (14% of total grain intervention) were purchased directly.

- **Purchases through the system of authorized warehouses**

Purchases of grain by authorized warehouses are pre-financed through preferential credits which are based on ARR credit guarantees. For getting these preferential credits, the warehouses have to pay at least the intervention price to farmers for their grain deliveries. By the end of December 1994, about 748 200 t of cereals (58% of total intervention) were purchased through this form of intervention.

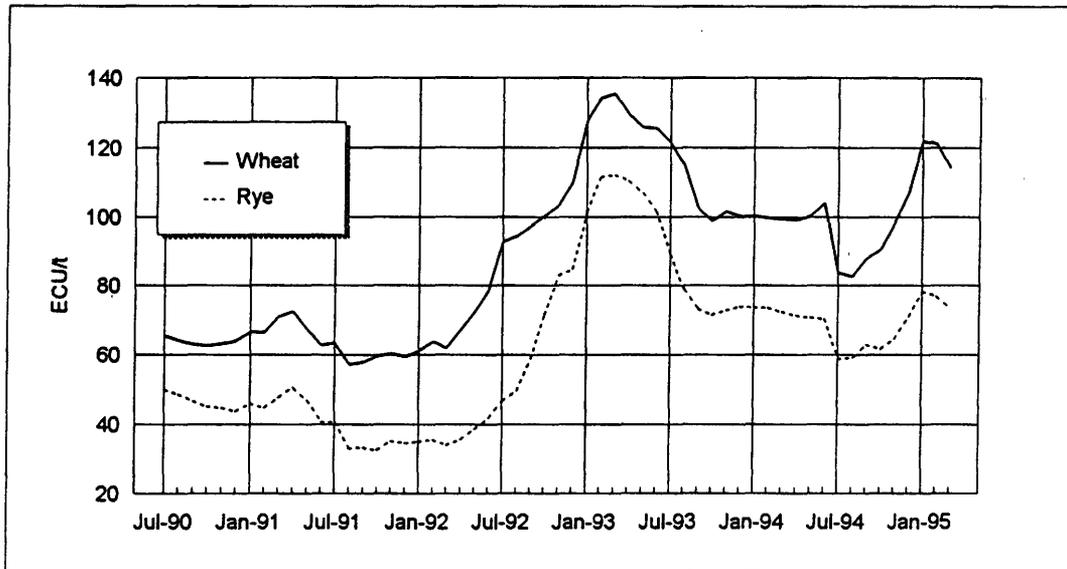
- **Indirect intervention through the system of commodity loans for large farmers**

The purpose of this system introduced in 1993/94 is to encourage farmers to store their own grain and to hold it off the market during the season of peak deliveries (October-December). Larger farms, with a production of at least 100 t of grain or a minimum cereal area of 20 ha receive a loan for 45% of their grain which is stored at least 3 months in their own stores. By the end of December 1994, about 354 900 t of grain (28% of total intervention) was subject to this system called "advanced payments for delayed deliveries".

Recent **price developments** point to a certain upward trend. Although this price increase is mainly due to the smaller grain harvest in 1994 (which declined by 7.1% because of a prolonged summer drought), procurement prices expressed in ECU tended to increase from July 1990 (see figure 5.2).

In comparison with the EU, in 1994/95 Poland's producer prices for wheat ranged between 70% and 80% of the corresponding EU price levels whereas the Polish intervention price reached only 69% of that in the EU. In 1995/96, the difference between the EU and Polish prices is likely to decrease further as a result of the last step of the CAP-reform.

Figure 5.2: Development of monthly procurement prices for cereals in Poland from 1990 to 1995

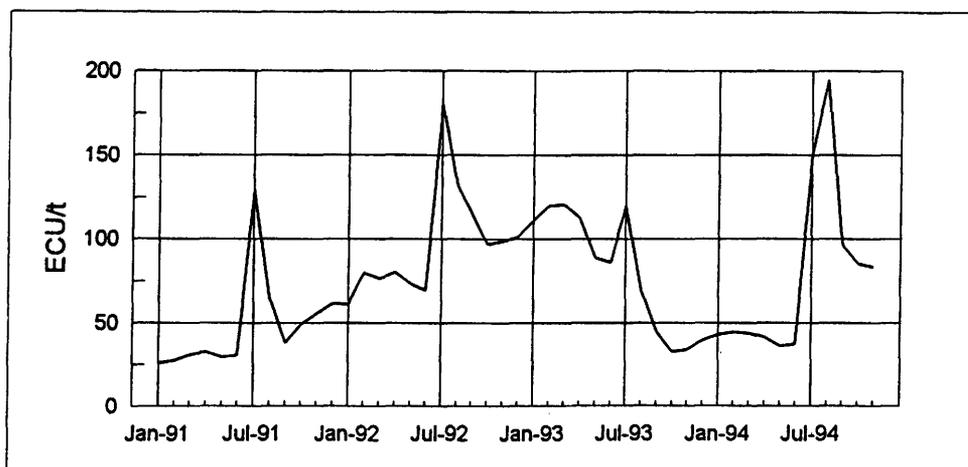


Source: Own calculations on GUS data.

5.1.2 Processed Potatoes

Until 1989, potato production was supported by a State procurement price, fixed mainly for the quantities processed and exported. From 1993, direct potato purchases were phased out and the system of granting export subsidies was modified, adjusting the extent of these subsidies according to changes in world market prices. During the first quarter of 1993, the export subsidy was set at 3,000 Zl/kg (around 150 ECU/t) of potato starch contained in processed products.

Figure 5.3: Development of potato producer prices in Poland from 1990 to 1994



Source: Own calculations on USDA data.

Significant changes in potato yields within the last 3 years led to high fluctuations in potato prices (see figure 5.3). After high yields in 1993 and a corresponding decline in producer prices, the summer drought in 1994 and the forecasted low yields caused significant increases in potato prices, leading to a peak in August 1994 of 5.4 mio Zl/t (195 ECU/t). This was around the market price level (non supported) in the EU. It was estimated that in 1994/95 the average producer price for potatoes was 3 times higher than in 1993/94 at around 3.4 mio Zl (about 120 ECU) per t.

5.1.3 Sugar

In order to better cope with price fluctuations on the sugar market, the Polish parliament adopted the "sugar" Bill in August 1994 which provides a CAP-like regulation of the sugar market. This will be fully implemented in 1995/96. In this regulation it is foreseen to fix production quotas corresponding to domestic use (quota A) and exports (quota B). The total quotas will be distributed between processors according to their sugar production in the last three years. Exports within the quota B will be supported by a special fund which is to be financed by a 7% tax on sales of sugar from the quota A. The surplus production, above the quota A and B, will be exported without any support. If this surplus is sold on the domestic market then a penalty tax of 100% will be applied.

According to the implementation timetable, the sugar quota announced for the 1995/96 season is 1.5 mio t (quota A) and 300 000 t (quota B). According to the law a minimum price for sugar of quota A will be established. For 1995/96, this price will be fixed at 9 600 Zl/kg sugar (around 300 ECU/t) which is about 48% of the intervention price level in the EU. Sugarbeet prices are negotiated between the industry and growers at the factory level.

5.1.4 Milk and dairy products

As in the EU, price stabilization through intervention on markets for milk and dairy products are concentrated on processed products such as skimmed milk powder (SMP), butter and cheese. State intervention for price stabilization fixes minimum prices for milk and intervention prices for butter and SMP which were introduced in 1992 and is channeled through dairies. The ARR buys butter and SMP at intervention prices only from those dairies which are paying at least the minimum price to farmers for first class milk. In September 1994, about 80% of the Polish dairy plants met this requirement.

Butter and SMP intervention purchases are normally undertaken during the surplus production months of May to October and are initiated when market prices for butter (prices at the dairy plant level) fall at least 10% below the minimum price. A corresponding maximum price is generally set for the deficit season (November - April) which may lead to sales from intervention stocks when market prices are above the maximum price level. From 1992 to 1994 the average share of butter intervention of total butter production fluctuated between **12 and 15%**.

Table 5.3: Institutional prices for milk, butter and SMP

	Minimum price for raw cow's milk		Intervention price			
			butter		SMP	
	Zl/litre	ECU/t	1000 Zl/t	ECU/t	1000 Zl/t	ECU/t
Poland:						
May'93-Apr'94	2300	100.07	28 400	1235.7	23 000	1000.7
May'94-Apr'95	2500	87.12	35 000	1219.8	26 250	914.8
May'95-Apr'96	4000	126 ¹⁾	52 000	1639 ¹⁾	40 000 ⁴⁾	1260 ¹⁾
EU:						
1994/95	---	309.85 ²⁾	---	3282.0 ³⁾	---	2055.2 ³⁾
1995/96	---	306.80 ²⁾	---	3216.4 ³⁾	---	2055.2 ³⁾

1) The exchange rate for May '95 is used provisionally; all Polish prices were maintained in old zloty

2) Target price 3) Intervention price 4) from the 1st of June to the 30th of November 1995

Source: Information of the ARR and European Commission (DG VI)

Due to the summer drought in 1994 there was a further decrease in dairy cow numbers and milk yield per cow, and the intervention buying in the surplus season (May-October) was less than expected. The reduced supply of raw milk and dairy products caused a significant price increase. Between January and December 1994, milk procurement prices increased by 25% to 127 ECU/t. The corresponding wholesale prices for butter increased by 42% to 2144 ECU/t and for SMP by 40% to 1364 ECU/t.

In 1994/95, the minimum price paid to Polish farmers for their milk deliveries was less than one-third of the target price for milk in the EU. In the same period, the Polish intervention prices for butter and SMP reached 37% and 44.5% of the corresponding EU-levels.

5.1.5 Meat

Intervention activities in the meat sector are in general limited to **pork**. Since the transition, the first direct intervention in the meat market was undertaken in the first quarter of 1993 as a consequence of indirect repercussions of the 1992 summer drought leading to higher feed prices. These in turn led to increased slaughterings. For this reason, the ARR was authorized to defend a price level of around of 14 500 Zl (0.65 ECU) per kg for live pigs at the beginning of 1993. In 1993, the quantity in **intervention storage** amounted to 65 400 t of pig half carcasses which was roughly **8%** of **total registered purchases** (in carcass weight).

In 1994, the meat market was characterized by a low supply of livestock from domestic production. To counteract an excessive price increase in the second half of 1994, the Agency sold 18 000 t of meat between July and October, 94% of which was pigmeat. At the same time, 3 500 t of pork and 6 900 t of beef was purchased from regions with local surpluses of live cattle to replenish stocks. For the first half of 1995 a decline in the profitability of pig

production is expected since prices for potatoes which are a major feedstuff for pig fattening are likely to remain at high levels until the next harvest. In addition, the price ratio of live pigs to rye was expected to narrow from 14:1 in October 1994 to 8-9:1 in the first half of 1995. The corresponding change for live pigs to barley has been 12:1 to 7-8:1.

Contrary to the situation in the EU, in Poland **pigmeat** has been **more expensive than beef** in recent years. This is partly due to consumer preferences but also a result of the higher subsidies given to the pork sector throughout the 1980s. Moreover, beef is only a by product of milk production and therefore not of high quality. In the first quarter of 1995, farm-gate prices for live cattle amounted to 672 ECU/t which was around 50-55% of the EU farm gate price for live cows. However, this price ratio cannot be interpreted as an advantage of Poland's beef production, since this product is not competitive in terms of quality.

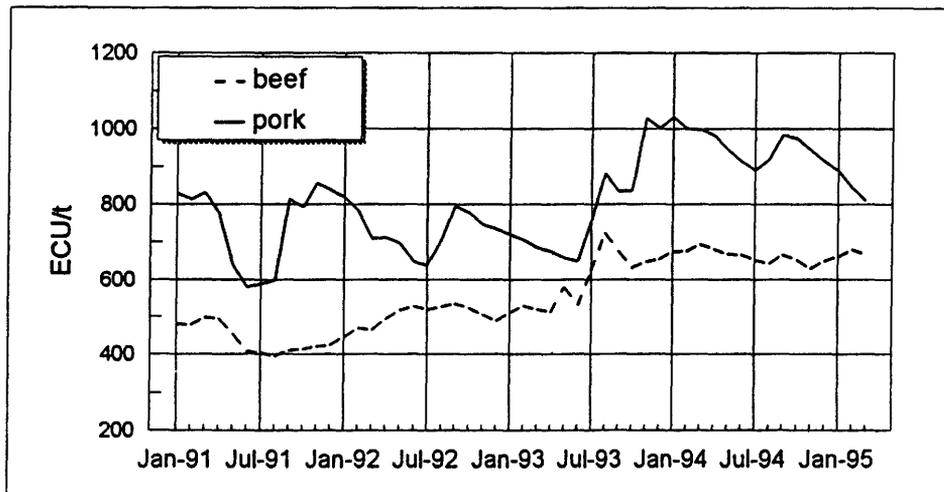
Table 5.4: Prices for beef and pork

	1994		1995 (prov.) ²⁾	
	beef	pork	beef	pork
Poland (liveweight): farm gate price in ECU/t	658	946	672	846
Poland (equiv. carcass) ¹⁾ farm gate price in ECU/t	1196	1261	1222	1128
EU (carcass weight): wholesale price in ECU/t	(cat R 3) 3133	(cat U) 1281	(cat R 3) 2988	(cat U) 1331

1) The price in carcass weight is roughly calculated using the conversion factor between live and carcass weight for beef = 0.55 and for pork = 0.75.

2) For Poland the first quarter of 1995 is used provisionally; for the EU it is a forecast.

Figure 5.4: Development of monthly producer prices for beef and pork in Poland from 1990 to 1995



Source: Own calculations on GUS data.

Pigmeat production seems to be quite competitive at the farm gate level. In 1995, Polish producer prices were around 15% below the wholesale price level in the EU. However, this gap could be bigger considering the cereals price ratio between the EU and Poland. Moreover, the efficiency of slaughterhouses and market channels as well as the amount of export subsidies will determine the possibilities of sales on world markets. Following transition, the stepwise abolition of subsidies on feed and agricultural machinery together with the decrease in export subsidies has made Polish pigmeat less competitive compared with previous years.

5.2 Border measures and taxation

Under the Law on Economic Activity of December 1989, foreign trade has been generally liberalised since 1990. The state monopoly of foreign trade was abolished and state-owned enterprises were no longer privileged by specific trade advantages. The administrative management of foreign trade as well as the central distribution of hard currencies ceased.

Customs tariffs

Poland removed most of its non-tariff protection measures in 1990, maintaining relatively low customs tariffs. As a result, Poland had one of the most liberal customs systems in Europe in the early 1990s. Tariffs for food and agricultural goods were between 5 and 25%. These relatively low levels of border protection proved to be politically unsustainable, since world prices for some products (particularly sugar) reached very low levels, seriously threatening the domestic industry.

As a response to difficulties in food and agricultural trade and of deteriorating farm incomes, the Polish government increased border protection in a stepwise fashion.¹ In the first half of 1991, the average level of customs tariffs was raised from 10.4% to 17.7% and in August 1991 to 26.6%. From 5 July 1993, when a new tariff schedule entered into force, the average customs tariff for food and agricultural products was 21%. The new tariff contains the following changes for agricultural commodities:

- reduction of tariffs for raw materials which are not produced domestically;
- increase of tariffs for such imported goods which could displace domestic production;
- differentiation of tariffs according to seasonal growing patterns (seasonal tariffs for fruit and vegetables);
- introduction of specific tariffs for sugar and products containing sugar.

The new customs tariff was introduced mainly to cope with the later implementation of GATT providing a certain scope for negotiation and future movement. Thus, some tariffs have been set at higher levels than currently necessary or desirable. Poland's tariff schedule includes different conditions for the trade with EU- and CEFTA-countries, taking into account the agreements Poland signed in the past. Generally, tariffs for food and agricultural products are increased according to the level of processing. The agricultural sector is the third most protected at the border after the armaments and car industry.

¹ The development of border protection in Poland is illustrated more in detail in Annex III according to the concept of Producers Subsidy Equivalent (PSE) calculated by the OECD for several countries.

Border tax

In 1992, Poland introduced a 6% border tax to improve the balance of payments. The GATT agreed that this measure could be applied temporarily and requested that this tax would cover all imports. Since 1995, this tax has been reduced to 5%.

Variable levies

The law on variable import levies on agricultural commodities entered into force on June 21st 1994. These variable levies were introduced to protect domestic producers from imports of highly subsidized agricultural products. The duty is paid on the border by importers. The rate of the levy is defined in Zloty per unit of product and is equal to the positive difference between the threshold price and the external price increased by import tariffs and taxes as well as other charges on agro-food imports. The receipts of the variable levies collected by customs are transferred as a budgetary subsidy to finance the activities of the Agency for the Restructuring and Modernization of Agriculture. The list of products under levy application changed in September 1994 and March 1995, covering in May 1995 the following products: pigmeat, poultry meat, wheat flour, rye flour, rapeseed oil, dried eggs, gelatine and honey. At the beginning of June 1995, **it was foreseen that the variable levies would be eliminated** in July 1995 corresponding to the implementation rules of the Uruguay Round (UR) commitments. Their replacement by higher tariffs was still unclear.

Export measures

While in the pre-transition period Poland's agriculture and food exports were fairly highly subsidized, since 1990 **export subsidies** were rarely applied and were limited to **sugar, SMP and butter**. However, exports undertaken by the ARR on the basis of intervention purchases, are partly export sales with losses and can therefore be regarded as a form of indirect export subsidization.

Export prohibitions are possible to prevent domestic shortages, e.g. in 1992/93, as a consequence of the decline in output caused by the drought. These restrictions were implemented through an export licensing system. Additionally, exports of live ducks, geese and turkeys were banned from 1993 to prevent them being used to improve foreign breeds.

VAT

The introduction of a value added tax (VAT) on July 5th 1993 replaced the former turnover tax. The Polish VAT system consists of the following three levels: 22% for industrial products, 7% for the most food products, 0% for unprocessed agricultural products.

For imported goods the VAT is calculated on the basis of the import value plus the customs tariffs plus 5% border tax plus (eventually) excise duty.

Excise duty (polish "akcyza")

The excise duty is a special tax payment introduced together with the VAT. The rates are set by the ministry of finance. It is applied to some alcoholic beverages, cars, tobaccos and some luxury products.

6. AGRICULTURAL TRADE

6.1 Evolution of trade flows

6.1.1 Global view

Total imports and exports represented respectively 22 % and 18 % of GDP in 1994. A sharp deterioration of the trade balance occurred in 1991, with a deficit reaching -3,7 bio ECU in 1994.

Within global external trade, agricultural products (commodities and processed products from the first 24 chapters of the combined nomenclature) represent a significant part: 11,8 % for imports and 12,7 % for exports (average 1992-94).

Table 6.1 below describes the evolution of both total trade and agricultural trade since 1989.

Table 6.1: Agricultural trade within external trade

(Mio ECU)	1989	1990	1991	1992	1993	1994
Imports						
- all	9328	6408	12526	12289	16059	18062
- agriculture	1293	526	1685	1524	1924	2006
- % agric.	13.9	8.2	13.5	12.4	12.0	11.1
Exports						
- all	12222	10701	12027	10183	12059	14395
- agriculture	1706	1504	1998	1490	1403	1751
- % agric	14.0	14.1	16.6	14.6	11.6	12.2
Trade balance						
- all	+2894	+4293	-499	-2105	-4000	-3667
- agriculture	+413	+977	+313	-33	-520	-255

(Source : United Nations for 1989-93, Ministry of Agr. for 1994, own conversion from \$ to ECU)

Since 1989 (with the exception of 1990, when trade was disrupted), global imports and agricultural imports in particular have increased, whereas there has been no clear trend on the export side. As a result, the agricultural trade balance has experienced the same deterioration as the trade balance in general. However, a slight recovery took place in 1994.

6.1.2 Analysis by product

Of the 24 chapters of the Combined Nomenclature relating to agriculture, the 9 most significant for Poland are analysed below. Each of them represents more than 90 mio ECU, either on the import or the export side. All together, they represent 47 % of the total imports and 68 % of the total exports. Imports are more dispersed, in particular because they include tropical products.

These key-products are the following :

- 2 chapters on both import and export sides: **vegetables, fruit;**
- 2 chapters on the import side: **coffee-tea-spices, animal feed;**
- 5 chapters on the export side: **live animals, meat, dairy produce, preparations of meat, preparations of fruit and vegetables.**

Table 6.2: Agricultural trade for key-products (average 1992-94)

	Imports (mio ECU)	<i>% of agric. imports</i>	Exports (mio ECU)	<i>% of agric. exports</i>
Live animals	36	2.0	159	10.2
Meat	42	2.3	147	9.5
Dairy produce	71	3.9	175	11.3
Vegetables	136	7.5	108	7.0
Fruit	153	8.4	217	14.0
Coffee, tea, spices	181	10.0	20	1.3
Preparations of meat	17	0.9	93	6.0
Preparations of f and v	47	2.6	117	7.6
Animal feed	172	9.5	12	0.8
Subtotal	856	47.1	1048	67.7
Total	1818	100	1549	100

(Source : SAEPR, own conversion from \$ to ECU)

Recent developments also underline the growing importance of beverages (alcoholic and non-alcoholic), almost exclusively exported to Russia and some other specific processed products (for example sugar confectionery and cigarettes).

6.1.3 Analysis by partner country

The following table highlights the Polish agricultural trade with its main partners.

Table 6.3: Agriculture trade by partners (average 1992-94)

Mio ECU	Imports	% of imports	Exports	% of exports
EU-12	908	50.0	851	55.0
o.w.:				
Germany	363	20.0	398	25.7
Italy	41	2.2	143	9.3
Netherlands	216	11.9	131	8.4
EFTA (31.12.94)	131	7.2	106	6.8
o.w.:				
Austria	35	1.9	37	2.4
Former Soviet Union	75	4.1	366	23.6
o.w.:				
Russia	19	1.0	244	15.8
CEFTA	83	4.6	34	2.2
Other	620	34.1	192	12.4
Total	1818	100	1548	100

(Source : SAEPR, own conversion from \$ to ECU)

EU-12 is by far Poland's most important agricultural trading partner. In the past few years, it has supplied close to 50 % of Polish imports and taken approximately 55 % of Polish exports in this sector. With the accession of Austria, Sweden and Finland, ex-members of EFTA, these shares will increase by some 5 %.

In second place is the former Soviet Union, with an average share of around 24 % in 1992-94. **There has been a noticeable revival of Polish agricultural trade with this group of countries, in particular Russia, since 1990, in contrast to the stagnation of trade with the EU.**

Other CEFTA countries play a minor role in the Polish agricultural trade, amounting to a 4,6 % share in Polish imports.

6.1.4 Agricultural trade with the European Union

Although the (enlarged) European Union is by far Poland's most important trading partner, its share is static, even decreasing in 1994. **The balance was traditionally positive for Poland, but since 1993 has become negative, as shown in table 6.4 below.**

Table 6.4: Agricultural trade with EU-12

Mio ECU	1989	1990	1991	1992	1993	1994
Imports from EU	760	616	996	924	1090	984
Exports to EU	895	1107	1080	952	815	890
Balance	+135	+491	+84	+28	-274	-94

(Sources : EUROSTAT for 1989-93, SAEPR for 1994, own conversion from \$ to ECU)

Agricultural imports from the EU

Agricultural imports from the EU have increased in general over the period. However 1994 marks a certain decline, possibly as a consequence of the increased border protection.

As regards the breakdown of these imports, **Tangermann and Josling (1994)** produced an analysis of the period 1988-93. They used two classifications:

- level of processing: raw materials, lightly processed products, highly processed products;
- granting of EU export refunds : products with refunds, products without refunds.

Data were analyzed at a convenient disaggregated level: the four digit level of the Combined Nomenclature. The analysis compares 1993 with the reference period 1988-90.

As regards the level of processing, imports of raw materials have decreased to 65 % of the reference level. They represented 38 % of agricultural imports in 1993. Imports of lightly and highly processed products have increased somewhat, at 106-108 % of the reference level, representing 62 % of agricultural imports in 1993.

In the granting of EU export refunds, products "with refunds" represented 59 % of Polish agricultural imports in 1993 and their value has decreased to 58 % of the reference level. The remaining products "without refunds" represented 41 % in 1993 and have noticeably increased to 161 % of the reference level. This finding contradicts the commonly held view that the increase in EU exports to Poland is a direct result of subsidised exports.

Agricultural exports to the EU

Agricultural exports to the EU have decreased in general over the period. 1993 was affected by the EU import ban on live animals and meat from April to September. Exports recovered somewhat in 1994.

The main agricultural products exported to EU-12 are roughly the same as to the world in general, with a somewhat higher proportion of live animals, and fruit and vegetables.

6.2 Bilateral trade agreements

Poland and the European Union signed the "**Europe Agreement**" (cf annex IV.1) which came into force in 1994. The agreement is designed to support the political and economic reforms in Poland and should facilitate its integration into Western Europe. It provides for the abolition of all quantitative restrictions on EU imports of Polish industrial products (except textiles and coal) and allows market access for agricultural products through tariff quotas. Border measures for most of the agricultural products covered by the agreement were to be reduced by 20 % for three years, and at 40 % of the initial level over the last two years. Import quotas had to be increased by 50 % over five years. The Europe Agreement is the continuation of the Trade and Cooperation Agreement between the European Community and Poland under which Poland benefitted from a number of unilateral tariff concessions normally granted to developing countries (System of Generalized Preferences).

The **agreement between EFTA** and Poland is similar to the Europe Agreement. However, it only covers industrial products and processed agricultural products, whereas agricultural basic commodities are still subject to bilateral agreements. For processed products, only the non-agricultural component is covered by the agreement.

At the end of 1992, together with Hungary, Slovakia and the Czech Republic, Poland signed the **Central European Free Trade Agreement (CEFTA)**. With the specific emphasis to promote trade relations between these countries (also known as the Visegrad countries), the agreement is scheduled to remove, in principle, customs duties and non tariff barriers between these countries by the year 2001. CEFTA covers all industrial, agricultural and food-processing products but it does not explicitly foresee free trade for agricultural products. The pace and the degree of tariffs removal will differ between countries and will certainly depend on the sensitivity attached to particular products.

As experience has shown in multi- and bilateral trade negotiations, agriculture appears very often to be one of the most difficult sectors. This also holds true for CEFTA which provides only limited scope for concessions in agriculture, lagging behind the results found in relation to the EU and the EFTA countries. For a number of products, a 10% annual duty reduction, over a period of only 2 years, results into a total concession limited to 20 %. For a few selected products a 50 % reduction over 5 years is envisaged.

The CEFTA provides, however, the framework for further negotiations and might lead to improved cooperation between the four countries. The recent development aiming at the expansion of the agreement might stimulate the debate and further deepen trade relations of the Visegrad countries.

Poland has a strong interest in further developing **trade with Russia**. Poland was involved in several barter transactions on the basis of agricultural and food deliveries to Russia in return for natural gas and oil. In recent years there is a strong trend to widen these trade connections. However, the commercial risks involved are relatively high, not only with Russia but also with the other New Independent States. From the Polish side it has therefore already been requested that some sort of western credit guarantees for Polish exports should be made available to cushion the negative effects of the instability and uncertainty of the general economic conditions in the region.

6.3 The Uruguay Round Agreement

(cf annexes IV.2, IV.3 and IV.4)

Even if the Uruguay Round Agreement (URA) will not directly change the conditions for agricultural production, it sets a benchmark for further development of Polish support policies. From the 1 July 1995, Poland will fully implement the results of the URA covering the commitments on internal support, market access and export subsidies.

Poland's commitments on internal support are expressed in \$ and therefore shielded against the devaluation of the zloty. Total Aggregate Measurement of Support (AMS¹) is limited to 3.3 bio \$ by the year 2000, an amount which seems rather comfortable, considering the high level of support during the reference period 1986-88 (cf annex III on PSE).

The commitments on market access consist of two elements, the provisions on minimum market access and the new tariff rates resulting from the process of tariffication. The base year for calculation is the period 1986 to 1989 when Poland's trade was still state managed and controlled.

Under minimum market access, in-quota duty rates are set between 10 % for oilmeals and 50 % for apples and potatoes. The related quantities which are due to be imported by the end of the century are fairly important for pork (46 000 t), poultry (20 000 t), butter (16 900 t), cereals (880 000 t), vegetable oil (80 000 t), vegetables (136 000 t), potatoes (268 000 t), sugar (84 000 t) and beer (570 000 hl).

The tariff rates applied to ordinary trade are bound, in general, at a quite prohibitive level. This system can ensure a sufficient level of border protection even at the end of the implementation period. For a whole series of products, the new border measures consist of a combination of a fixed percentage rate plus a variable component expressed in ECU per tonne.

¹ The present footnote aims to clarify the relationship between the Producers Subsidy Equivalent (PSE) and the Aggregate Measurement of Support (AMS).

The PSE refers to the current world market price (expressed in \$). Any currency fluctuation or world price movement results therefore in a change in the PSE of a particular agricultural product, from one year to another, even if internal support policies do not change.

The AMS fixes the external price at the level of the base period (1986-88). Therefore, AMS variations result only from changes of internal prices or changes in the volume of production.

However, for the purpose of a rough estimate, it is assumed that the "high" level of the PSE over the reference period 1986-88 compared with the more recent period (cf annex III) indicates that some margin of manouver is available regarding the commitment on AMS (recent AMS figures are not easily available).

As with internal support, the commitments on **export subsidies** are also expressed in \$ and amount to 672 mio \$ in the base year. Most important budget outlays are foreseen for processed fruit and vegetables, fresh and processed meat. For fresh and processed meat, quantities exported with subsidy were comparatively small (each 50 000 t) but had a very high per unit subsidy; this highlights their lack of competitiveness on international markets.

For other products like potatoes, rapeseed, fresh fruit and vegetables, total quantities exported with subsidy were comparatively important. However, budgetary outlays are fairly limited and per unit subsidies are small, which indicate their present better competitiveness on international markets.

The commitments under export subsidies underline the necessity to develop domestic production more or less in line with the evolution of internal consumption. For some of the key sectors, cereals and dairy produce, subsidised exports to the world market are excluded (cereals) or very strictly limited (dairy produce). For other important sectors, like fresh and processed meat, the competitive advantage, after subsidy, remains limited and depends on the capacity of the meat processing industry to improve its efficiency. To a lesser extent, this also holds true for processed fruit and vegetables, which is often considered as a rather promising sector.

7. OUTLOOK FOR 2000¹

This chapter puts together the preceding findings in order to build a possible scenario for Polish agriculture up to the year 2000. In concrete terms, the aim of the exercise is to construct a tentative macro-economic scenario, assuming continuation of the reform process, and to derive projected balance sheets for the main commodities, including production, domestic consumption and trade.

The margin of error of such projections is of course very high in the case of CEECs (it is imprecise even for western economies). The evolution of the CEECs since 1989-90 is something totally new, depriving the traditional econometric instruments of their theoretical base. Moreover, because of rapid changes, it is impossible to assume the continuation of current policies, as is usual in these exercises. In most studies, the assumptions tend to be moderately optimistic, assuming a successful continuation of reform: the ex-post analysis of past forecasts (EBRD, 1994) shows that significant errors have been made. The time horizon of the present scenario, the year 2000, makes the exercise even more fragile. **The following quantitative estimates, based on qualitative analysis and the judgement of individual experts, have therefore to be interpreted cautiously.**

7.1 Overall economy

The growth of the agricultural economy relies heavily on general economic growth, the main reasons being:

- the development of food demand is to some extent dependent on GDP growth and consumer income;
- agriculture depends directly on upstream and downstream sectors;
- credit availability, dependent on interest rates, is a key factor for agriculture;
- the budgetary outlays which can be devoted to agriculture depend on overall growth.

Therefore, a number of assumptions have to be made on the likely evolution of the overall Polish economy.

At the beginning of the transition process, Poland experienced two years of severe recession, in 1990 and 1991. The economy has recovered at an increasing pace, with a GDP growth of 5 % in 1994. Prospects for 1995 point to a further growth rate of 5 %. Inflation was very strong during the 1989-91 period but has been kept under more reasonable limits since 1993, with an annual rate at around 30 %. Public finances and the current account have been gradually improving since 1993 to 1994. In this rather bright context, the main negative element is the high level of unemployment, which has stabilized at around 16 % since 1993 and is not likely to decline significantly because of the natural growth of active population in the next few years (estimated at + 0.7 mio over the period 1995-2000).

¹ This chapter has been realized with the help of the external experts, but the authors, within DG VI, take full responsibility for its whole content.

On this basis, this scenario for the Polish economy is **reasonably optimistic**, assuming a rather smooth continuation of the reform process and the continuing confidence of the international financial community. In this scenario, **GDP growth will continue at the 5 % yearly level until 2000**. That would give a cumulated growth of 34 % over the 6-year period 1995-2000, taking the Polish economy largely above its pre-transition level.

Inflation could gradually decline and be kept under 10 % at the end of the century. The average change in **income evolution** would be less than the GDP growth, e.g. + 2 to + 3 %, due to the adjustment policies and to investment needs. **The unemployment rate** would remain at 15-16 %, due to the opposing effects of dynamic economic growth and an increased active population.

The share of agriculture in the Polish economy has been declining since transition and reached 6.3 % in 1994. On one hand, agriculture plays a crucial social role as an employment buffer (25 % of total employment) but, on the other hand, its growth is limited by domestic demand and by the trade capacity. **Domestic food demand** is not likely to grow more than incomes in general and its yearly increase could therefore be around 2 %. **Trade** in agricultural products cannot reasonably result in a net exporting position in the medium term, mainly due to structural constraints. Taking into account domestic food demand and trade, the growth of GAP (gross agricultural product) could be limited to 2 % over the period 1995-2000. **This would give a cumulated growth for agriculture of around 13 % over the 6-year period 1995-2000, which would more than offset the decline in gross agricultural product that has occurred since 1990**. In the analysis by commodity, it will be examined how this overall growth can be achieved in the different sectors.

7.2 Farm structures

The dualistic nature of the farm structures is a fundamental feature of Polish agriculture and is not likely to change in the foreseeable future.

Small private farms, mostly based on part-time activity, represent 3/4 of land resources and will remain the backbone of Polish agriculture. Because of the overall constraint of employment, people cannot easily leave the farm sector and find a job in other economic areas. Therefore, the number of these farms will only decrease very slowly, the assumption of a 1 % yearly decline seems reasonable (cf § 4.1). However, the share of bigger farms, with an agricultural area of more than 20 ha, allowing full-time activity and a good integration in marketing channels, is likely to increase. Their share of the privately utilized agricultural area could increase from 20 % in 1994 to nearly 30 % in 2000.

The state-owned farms and co-operatives represent only 1/4 of land resources. Their mid-term future is still unclear but the general impression is that only a small part of their land and assets will be used for the enlargement of the already existing private farms. Most is likely to remain under large scale agriculture, even after eventual splitting. The degree of intensity, which was higher in this sector than in the private sector, has already declined significantly and will probably remain much lower than in the 1980s because of the lack of capital and the disappearance of input subsidies.

7.3 Market-policy context

Several factors have to be taken into account in the definition of government's policy regarding agriculture:

- the social role of agriculture, providing full or partial activity for 25 % of the population;
- the very small scale of farm structures and the still inefficient up- and downstream sectors, limiting international competitiveness despite the low farm-gate prices;
- the large share of household income spent on food (around 30 %) and the poverty which exists in a section of the population;
- the limited public budget available for agriculture;
- the framework provided by the Uruguay Round commitments (which allows some margin of manoeuvre).

Within this context, it is assumed that the Polish government will only aim at self-sufficiency for agricultural and food products. An increase of border protection has already taken place to protect the agricultural sector and it is expected that this movement will stop in order to maintain prices at a relatively low level and avoid hurting consumers (despite the margin of manoeuvre given by the Uruguay Round commitments).

7.4 Analysis by commodity

The main commodities are reviewed: cereals, oilseeds, potatoes, sugar, milk, beef, pigmeat, poultrymeat. The starting point (1993 and/or 1994) and tentative prospects for 2000 will be highlighted, as well as key Uruguay Round information (preferential quotas and ceilings on volume of subsidized exports for 2000). Further analysis would be needed for other specialized commodities, such as fruit and vegetables.

7.4.1 Cereals

The table below presents a tentative balance sheet for total cereals.

Table 7.1: Tentative cereals balance sheet for 2000

		1993	1994	2000	GATT 2000
area	000 ha	8 506	8 481	8 600	
yield	t/ha	2.75	2.57	3.28	
production	000 t	23 417	21 764	28 200	
imports	000 t	2 935	463	862	882
exports	000 t	3	2	1 562	no subs.
utilization	000 t	26 349	22 224	27 500	
- o.w. feed use	000 t	13 945	14 000	17 050	
self-sufficiency	%	89	98	103	

Main assumptions :

- **area:** slight increase, justified by some shift from the potatoes area (cf § 7.4.2);
- **yield:** new starting point at the (low) level for 1993 (1994 was even lower but affected by drought), then **paralleling the historical long-term trend (+ 0.1 t/ha per year)**. The cumulated yield increase over the period 1995-2000 would be 16 %;
- **imports** close to the preferential minimum access;
- **feed use** following the development of livestock production (next paragraphs);
- **other uses** increasing with global income.

There would be an exportable surplus of cereals in 2000, at the level of around 1.6 mio tonnes, i.e. 5.5 % of the production. Poland's Uruguay Round commitments do not allow any export subsidy for cereals, so that the whole surplus (largely wheat) would have to be exported at the world price level. The domestic prices would therefore be at that level also. This would not imply a fall in prices from current levels if the world market situation and prospects (as far as wheat is concerned) remain bright, as assumed by various organisations.

Distribution between cereals

The shift from rye to wheat should continue, a total of around 300 000 ha over the period 1994-2000. Where the soils are suitable, wheat is more profitable than rye because of their price differential.

7.4.2 Potatoes

Table 7.2: Tentative potato balance sheet for 2000

		1993	1994	2000	GATT 2000
area	000 ha	1 761	1 697	1 550	
yield	t/ha	20.60	13.59	19.00	
production	000 t	36 271	23 058	29 450	
imports	000 t	63	15	60	268
exports	000 t	297	120	760	360
utilization	000 t	36 037	22 953	28 750	

Main assumptions:

- **area:** the declining trend of the potato area is likely to continue; the decrease between 1994 and 2000 is assumed to be around 150 000 ha, a decrease of roughly 10 %;
- **yield:** this is very variable and does not show any clear trend; an average historical yield of 19 t/ha has been retained for all the coming years;
- **imports:** the tariff for minimum access is fairly high (50 %), so that there is no reason for it being fulfilled;
- **utilization:** feed use is very variable over years but there is a clear trend to a slight reduction, due to the (slow) technical improvement of animal feeding.

With such a scenario, Poland would recover some export capacity for potatoes (2.5 % of the production level). That implies, as is now the case, that the domestic price will follow the large fluctuations of the "potato world market".

7.4.3 Oilseeds (rapeseed)

Table 7.3: Tentative rapeseed balance sheet for 2000

	1993	1994	2000	GATT 2000
area 000 ha	348	370	550	
yield t/ha	1.70	2.04	2.30	
production 000 t	594	756	1 265	
imports 000 t	14	9	5	
exports 000 t	34	80	420	341
disappearance 000 t	574	684	850	

Main assumptions:

- **area:** rapeseed, which was mainly grown by state-owned farms, was severely hit by transition problems; it should recover to the higher levels of the past (a peak at 570 000 ha in 1989) under the influence of increased domestic consumption of vegetable oils and the rather positive prospects for the world market prices. The first estimates for 1995 show that plantings are already as high as 490 000 ha;
- **yield:** new starting point at a level lower than the historical yields (1992 has been chosen as reference), then paralleling the historical long-term trend;
- virtually no **imports** (surplus situation);
- the distribution of total supply between exports and disappearance (domestic crushing) assumes an increased crushing capacity.

With such a scenario, Poland would considerably reinforce its export position of rapeseed and rapeseed oil.

Domestic prices for oilseeds and oilseed products are already at the level of the world market, therefore the Uruguay Round constraints are not particularly binding.

7.4.4 Sugar

Table 7.4: Tentative sugar balance sheet for 2000

	1993	1994	2000	GATT 2000
area 000 ha	399	401	315	
sugar yield t/ha	4.89	3.32	5.24	
production 000 t	1 951	1 329	1 650	
imports 000 t	13	10	84	84
exports 000 t	74	184	134	104
utilization 000 t	1 891	1 155	1 600	
self-sufficiency %	103	115	103	

Despite high production costs, Poland has a significant sugar sector, allowing a net exporting position on average. This is accomplished with high border protection and export subsidies. The new sugar law, which enters in force for the 1995 crop, keeps the same logic but creates a market organization very similar to the EU's: production quotas, financing of exports under quotas through a tax mechanism, export of excess quantities without support.

This new regime will not prevent a rationalization of production because pressure to import remains. Rationalization will be partly encouraged by western investors. In this process, many of the high number of factories (78) will inevitably close and beet growing will concentrate on the most suitable areas. This should lead to an increase of sugar yields, up to an estimated level of 5.2 t/ha in 2000, and to a strong decrease in the beet area.

The net export capacity could be maintained without breaking the GATT commitments by using the opportunity of exporting (small) quantities produced at marginal cost without subsidy.

Remark on land use

The table below shows the variations of land use linked to the above prospects for the crops under review.

Table 7.5: Land use

(000 ha)	1994	2000	Variation
Cereals	8 481	8 600	+ 119
Potatoes	1 697	1 550	- 147
Oilseeds	370	550	+ 180
Sugarbeet	401	315	- 86
Total	10 949	11 015	+ 66

Land use for these main crops increases only marginally, by less than 70 000 ha. This implies that the large areas which are currently fallowed in the state-owned farms, estimated in 1994 at 1.1 mio ha, would remain largely unused for crops. In fact, the future of those farms is still problematic, as stated in chapter 3. Nevertheless, the overall picture would have to be reassessed if the management structures and incentives develop to such an extent that this land comes back into production.

7.4.5 Milk

Table 7.6: Tentative milk outlook for 2000

	1994	2000	GATT 2000
number of cows (000) (on 1 January)	3 866 (3762 in 95)	4 000	
milk yield (t/cow)	3.08	3.5	
production (000 t)	11 920	14 000	

Main assumptions:

- number of cows: the low level of 3.76 mio on 1 January 1995 is expected to be the minimum before a possible recovery, slowed by investment capacity;
- milk yield: an increase of 2 % per year under the influence of the present modernization program (cf chapter 2), mainly designed for "commercial" farms (more than 5 cows);

Under this scenario, the number of cows will remain lower in 2000 than in 1990 (4 mio instead of 4.9 mio) and milk production would still be under the 1990 level (14 mio t instead of 15.8 mio t).

The processing and marketing of such quantities are not likely to raise particular problems, due to the dynamism of the downstream sector and to an increased consumption of dairy produce.

7.4.6 Beef

Table 7.7: Tentative beef balance sheet for 2000

	1994	2000	GATT 2000
cattle numbers (000) (on 1 January)	7 270 (7 288 in 95)	8 000	
production (000 t)	450	550	
imports (000 t)	18	45	18
exports (000 t)	4	2	41 (meat)
disappearance (000 t)	464	593	
per capita disapp (kg)	12.0	15.0	

N.B. This balance sheet deals only with beef, at a 1st transformation level; it covers neither the trade of live animals, nor further processed products. Therefore "disappearance" does not equal domestic consumption of beef products.

Main assumptions :

- **cattle numbers:** now stabilized at a level of 7.3 mio on 1 January 1995. A recovery could now occur, again slowed by investment capacity;
- **beef production:** will follow the animal numbers, with a time lag; it could increase from 450 000 t in 1994 to 550 000 t in 2000;
- **beef disappearance:** this has declined severely but could recover with increasing incomes.

Under this scenario, cattle numbers would remain much lower in 2000 than in 1990 (8 mio instead of 10 mio), as would beef production (550 000 t instead of 725 000 t in 1990). **This would mean a strong net import position in 2000.**

7.4.7 Pigmeat

Table 7.8: Tentative pigmeat balance sheet for 2000

	1994	2000	GATT 2000
pig numbers (000) (on 1 January)	17 422 (20 000 in 95)	21 000	
production (000 t)	1 609	1 785	
imports (000 t)	97	112	46
exports (000 t)	1	1	41 (meat)
disappearance (000 t)	1 705	1 896	
per capita disapp (kg)	44.2	48.0	

N.B. This balance sheet deals only with pigmeat, at a 1st transformation level; it covers neither the trade of live animals, nor further processed products. Therefore "disappearance" does not equal domestic consumption of pigmeat products.

Main assumptions :

- **pig numbers:** the recovery has visibly started (even if one considers the exceptionally low level of 1994 compared to the former rather stable figures). Pig rearing is likely to increasingly favour lighter and leaner animals;
- **pigmeat production:** would recover from 1.6 mio t in 1994 to 1.8 mio t in 2000;
- **pigmeat disappearance:** has been decreasing since the transition but could recover if living standards improve.

Under this scenario, pigmeat production would be lower in 2000 than in 1990 (1.78 mio t instead of 1.85 mio t) and **trade would remain in strong deficit**. However, there could be a net exporting capacity for some specialized pigmeat products.

7.4.8 Poultrymeat

Table 7.9: Tentative poultrymeat balance sheet for 2000

	1994	2000	GATT 2000
poultry numbers (000) (on 1 January)	53 330 (57 000 in 95)	77 000	
production (000 t)	335	455	
imports (000 t)	61	54	20
exports (000 t)	14	15	13
disappearance (000 t)	381	494	
per capita disapp (kg)	9.9	12.5	

N.B. This balance sheet deals only with poultrymeat, at a 1st transformation level; it covers neither the trade of live animals, nor further processed products. Therefore "disappearance" does not equal domestic consumption of poultrymeat products.

Main assumptions :

- **poultry numbers:** the minimum was reached in 1993 and a recovery has now started, benefiting in particular from increased border protection;
- **poultry production:** this should recover from 335 000 t in 1994 to 455 000 t in 2000, following poultry numbers and a more pronounced orientation towards "heavy" poultry (geese, ducks, turkeys);
- **poultrymeat disappearance:** it is already increasing (from a very low level) and should further increase due to increasing incomes and convenience.

Under this scenario, poultrymeat production will be much higher than the 1990 level (455 000 t instead of 332 000 t). **The trade situation would nevertheless remain negative as is the case for the other meats.**

Remark on meat consumption

In order to highlight the consistency of the assumptions made for meat consumption, the table below shows the variations linked to the above prospects.

Table 7.10: Meat consumption

(kg per capita)	1994	2000	Variation %
Beef	12.0	15.0	+ 25 %
Pigmeat	44.2	48.0	+ 9 %
Poultrymeat	9.9	12.5	+ 26 %
Total	66.1	75.5	+ 14 %

Globally, meat consumption would follow the increasing food demand as stated at the beginning of this chapter. Within the different meats, pigmeat would remain by far the most preferred one, as in other CEECs, but its increase would be less than beef and poultrymeat. Beef starts from a very low level and a trend towards western standards is forecast. Poultrymeat consumption also starts from a low level and could develop in a dynamic way due to convenience and comparatively low prices.

Conclusion of the analysis by commodity

In the context of a continuing agricultural recovery (2 % annually over the period 1995-2000, i.e. around 13 % over the 6-year period), it has been possible to work out a plausible scenario for the main commodities, as summarized by the table below, in terms of physical production.

Table 7.11: Production outlook for the main commodities

Commodity	Expected growth 1995- 2000
Cereals	+ 17 %
Potatoes	- 7 %
Oilseeds (rapeseed)	+ 26 %
Sugar	- 13 %
Milk	+ 16 %
Beef	+ 20 %
Pigmeat	+ 5 %
Poultrymeat	+ 30 %

The crop sector would experience significant changes, with wheat and rapeseed developing to the detriment of rye, potatoes and sugarbeet. In the livestock sector, poultry could become the most dynamic sector, followed by beef; pork would remain relatively stable.

Taking into account the expected growing meat consumption, export capacity could be reestablished more quickly for the crop sector (cereals, oilseeds) than for the livestock sector. The main results are presented in qualitative terms at the end of the executive summary.

ANNEXES

Annex I.1

Glossary/abbreviations

ARMA	Agency for Restructuring and Modernisation of Agriculture (as well called ARMOR = Agencja Restrykturyzacji i Modernizacji Rolnictwa)
ARR	Agencja Ryunku Rolnego (Agency for Agricultural Markets)
BGZ	Bank for Food Economy
CEECs	Central and Eastern European Countries
CEFTA	Central and European Free Trade Agreement between Poland, Hungary, Czech Republic and Slovakia, also known as the Visegrad four, with Slovenia in the process of joining
CSE	Consumer Subsidy Equivalent
EU	European Union
GAP	Gross Agricultural Product
GAO	Gross Agricultural Output
GDP	Gross Domestic Product
GUS	Główny Urząd Statystyczny (Central Statistical Office)
MAFE	(Polish) Ministry of Agriculture and Food Economy
NTB	Non-tariff barriers
o.w.	of which (in tables)
p.c.	per capita (consumption)
PSE	Producer Subsidy Equivalent
PZZ	Central milling industry
SAEPR	Sekcja Analiz Ekonomicznych Polityki Rolnej (Agricultural Policy Analysis Unit)
UAA	Utilized Agricultural Area
URA	Uruguay Round Agreement
Zł	Polish Zloty

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Annex I.3

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ANNEX II.1 : CEREALS

wheat balance sheet

	1987	1988	1989	1990	1991	1992	1993	1994 (e)
beg. stocks (000 t)	0.0	0.0	0.0	368.0	890.8	811.4	799.0	
area (000 ha)	2132.6	2178.7	2195.5	2280.7	2437.4	2405.1	2476.9	2407.1
yield (t/ha)	3.72	3.48	3.85	3.96	3.80	3.06	3.33	3.18
prod (000 t)	7941.6	7582.1	8461.6	9025.8	9270.0	7368.1	8242.7	7658.5
imports (000 t)	2342.8	2317.1	2239.9	985.3	65.0	533.5	819.9	205.0
exports (000 t)	0.1	0.2	0.0	0.0	261.0	518.4	1.2	1.0
feed (000 t)	4364.0	4102.8	4324.2	4137.2	4251.1	3543.3	2990.8	3600.0
seed (000 t)	523.6	556.1	577.7	602.2	594.1	612.5	606.7	635.0
end. stocks (000 t)	0.0	0.0	368.0	890.8	811.4	799.0	0.0	
utilization (000 t)	10284.3	9899.1	10333.5	9488.2	9153.3	7395.6	9860.4	7862.5
pc utilization (kg)	273	261	272	249	239	193	256	204

barley balance sheet

	1987	1988	1989	1990	1991	1992	1993	1994 (e)
beg. stocks (000 t)	0.0	0.0	0.0	131.0	30.0	0.0	40.0	
area (000 ha)	1285.7	1250.3	1174.7	1174.1	1237.4	1197.9	1167.7	1032.0
yield (t/ha)	3.37	3.04	3.33	3.59	3.44	2.35	2.79	2.60
prod (000 t)	4334.6	3804.2	3908.7	4217.4	4257.1	2818.8	3254.7	2685.8
imports (000 t)	315.7	380.5	626.6	76.2	0.0	53.8	675.5	100.0
exports (000 t)	13.1	10.3	0.0	133.5	64.8	135.9	0.3	0.0
feed (000 t)	3573.9	3402.7	3322.2	3108.3	3165.1	2701.2	2360.6	2315.0
seed (000 t)	298.0	241.3	240.9	251.0	243.8	240.0	245.3	240.0
end. stocks (000 t)	0.0	0.0	131.0	30.0	0.0	40.0	0.0	
utilization (000 t)	4637.3	4174.4	4404.3	4261.1	4222.3	2696.7	3969.9	2785.8
pc utilization (kg)	123	110	116	112	110	70	103	72

maize balance sheet

	1987	1988	1989	1990	1991	1992	1993	1994 (e)
beg. stocks (000 t)	0.0	0.0	0.0	104.0	0.0	0.0	232.5	
area (000 ha)	31.6	40.0	51.1	59.0	70.1	56.0	54.5	50.4
yield (t/ha)	4.60	5.11	4.78	4.91	4.85	3.67	5.32	3.75
prod (000 t)	145.6	204.4	244.0	289.9	339.9	205.7	289.8	189.0
imports (000 t)	245.7	138.0	461.3	463.1	33.9	115.7	927.1	
exports (000 t)	0.0	0.1	0.0	0.0	0.0	8.1	0.2	
feed (000 t)	252.5	488.1	543.2	253.2	304.4	952.0	450.0	410.0
seed (000 t)	17.5	16.4	16.5	14.1	12.8	12.5	13.4	12.0
end. stocks (000 t)	0.0	0.0	104.0	0.0	0.0	232.5	0.0	
utilization (000 t)	391.3	342.3	601.3	857.0	373.8	80.8	1449.2	
pc utilization (kg)	10	9	16	22	10	2	38	

rye balance sheet

	1987	1988	1989	1990	1991	1992	1993	1994 (e)
beg. stocks (000 t)	0.0	0.0	0.0	423.0	463.0	300.0	169.0	
area (000 ha)	2646.6	2325.0	2275.0	2314.5	2289.5	2033.9	2212.8	2436.3
yield (t/ha)	2.58	2.37	2.73	2.61	2.58	1.96	2.26	2.18
prod (000 t)	6816.7	5500.6	6216.5	6044.0	5899.4	3981.4	4992.1	5300.1
imports (000 t)	29.4	10.3	110.2	0.0	0.0	190.5	459.0	5.0
exports (000 t)	0.8	17.6	11.8	1.5	44.2	644.4	0.0	0.0
feed (000 t)	4268.5	3548.4	3769.1	3440.0	3509.8	2682.3	2416.9	3480.0
seed (000 t)	485.5	478.0	486.1	476.6	416.7	452.9	457.6	450.0
end. stocks (000 t)	0.0	0.0	423.0	463.0	300.0	169.0	0.0	
utilization (000 t)	6845.4	5493.3	5891.9	6002.5	6018.2	3658.6	5430.0	5400.0
pc utilization (kg)	182	145	155	157	157	95	141	140

ANNEX II.1 : CEREALS (follow-up)

oats balance sheet								
	1987	1988	1989	1990	1991	1992	1993	1994 (e)
beg. stocks (000 t)								
area (000 ha)	856.1	850.0	803.2	746.8	686.2	666.6	641.8	618.1
yield (t/ha)	2.84	2.61	2.72	2.84	2.73	1.84	2.33	2.01
prod (000 t)	2428.6	2221.5	2185.7	2118.8	1873.4	1229.1	1492.9	1242.7
imports (000 t)	0.0	0.0	0.0	0.0	0.0	2.0	18.5	
exports (000 t)	46.0	50.2	46.2	53.2	94.1	52.6	0.0	
feed (000 t)	1945.3	1743.3	1731.0	1852.9	1404.2	907.5	1183.0	1060.0
seed (000 t)	222.3	229.8	218.0	208.6	202.7	196.8	197.0	197.0
end. stocks (000 t)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
utilization (000 t)	2382.5	2171.4	2139.5	2065.6	1779.3	1178.4	1511.4	
pc utilization (kg)	63	57	56	54	47	31	39	

triticale balance sheet								
	1987	1988	1989	1990	1991	1992	1993	1994 (e)
beg. stocks (000 t)								
area (000 ha)	310.8	549.4	648.6	748.6	731.1	659.3	656.8	586.2
yield (t/ha)	3.27	3.15	3.71	3.63	3.35	2.59	2.88	2.78
prod (000 t)	1017.0	1731.1	2403.8	2720.7	2449.1	1710.5	1894.4	1631.1
imports (000 t)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
exports (000 t)	0.0	1.1	6.2	50.2	10.0	3.0	0.3	
feed (000 t)	906.1	1388.5	1993.7	2293.0	2177.6	1490.0	1616.7	1900.0
seed (000 t)	127.3	142.8	164.7	160.8	142.8	144.3	136.4	130.0
end. stocks (000 t)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
utilization (000 t)	1017.0	1730.0	2397.6	2670.5	2439.1	1707.5	1894.1	
pc utilization (kg)	27	46	63	70	64	45	49	

other cereals balance sheet								
	1987	1988	1989	1990	1991	1992	1993	1994 (e)
beg. stocks (000 t)								
area (000 ha)	1119.2	1245.7	1228.5	1207.3	1264.6	1302.3	1295.8	1350.9
yield (t/ha)	3.02	2.78	2.88	2.98	2.94	2.03	2.51	2.26
prod (000 t)	3375.9	3460.3	3537.6	3596.9	3722.7	2648.6	3250.3	3056.3
imports (000 t)	97.1	215.3	11.4	0.0	2.7	10.4	34.9	34.9
exports (000 t)	0.0	0.0	2.3	3.7	1.9	0.0	0.9	0.9
feed (000 t)	3132.4	3219.5	3290.0	3252.5	3375.3	2336.2	2926.8	
seed (000 t)	192.1	190.8	189.9	199.3	204.7	203.9	212.1	211.0
end. stocks (000 t)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
utilization (000 t)	3473.0	3675.6	3546.6	3593.2	3723.5	2659.0	3284.4	
pc utilization (kg)	92	97	93	94	97	69	85	

total cereals balance sheet								
	1987	1988	1989	1990	1991	1992	1993	1994 (e)
beg. stocks (000 t)	0.0	0.0	0.0	1026.0	1383.8	1111.4	1240.5	
area (000 ha)	8382.6	8439.0	8376.6	8530.8	8716.2	8321.1	8506.2	8481.0
yield (t/ha)	3.11	2.90	3.22	3.28	3.19	2.40	2.75	2.57
prod (000 t)	26059.9	24504.3	26957.8	28013.5	27811.5	19962.2	23417.1	21763.5
imports (000 t)	3030.8	3061.2	3449.4	1524.6	101.6	906.0	2934.8	463.0
exports (000 t)	60.0	79.5	66.6	242.0	476.1	1362.4	2.9	1.9
feed (000 t)	18442.7	17893.3	18973.4	18337.1	18187.5	14612.5	13944.8	14000.0
seed (000 t)	1866.3	1855.2	1893.8	1912.6	1817.6	1862.9	1868.5	1875.0
end. stocks (000 t)	0.0	0.0	1026.0	1383.8	1111.4	1240.5	0.0	
utilization (000 t)	29030.8	27486.0	29314.7	28938.3	27709.4	19376.6	26349.0	22224.5
pc utilization (kg)	771	726	772	759	725	505	685	577

ANNEX II.2 : POTATOES

potatoes balance sheet

	1987	1988	1989	1990	1991	1992	1993	1994 (e)
beg. stocks (000 t)								
area (000 ha)	1934.1	1866.1	1858.5	1835.3	1732.7	1757.3	1760.7	1697.3
yield (t/ha)	18.74	18.60	18.50	19.79	16.76	13.31	20.60	13.58
prod (000 t)	36252.2	34706.5	34390.5	36312.8	29038.1	23387.7	36270.5	23057.5
imports (000 t)	0.0	0.0	0.2	0.1	0.0	14.4	63.1	15.0
exports (000 t)	425.5	643.8	789.1	704.3	378.2	712.7	297.0	120.0
feed (000 t)	17283.4	16027.3	15726.6	17759.5	13872.4	10070.4	18210.5	10000.0
seed (000 t)	4698.8	4580.2	4511.1	4384.9	4193.4	4047.4	4000.0	4000.0
end. stocks (000 t)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
utilization (000 t)	35826.8	34062.7	33601.6	35608.6	28660.0	22689.4	36037	22953
pc utilization (kg)	951	900	885	934	749	591	937	596

ANNEX II.3 : RAPESEED

rapeseed balance sheet

	1987	1988	1989	1990	1991	1992	1993	1994 (e)
beg. stocks (000 t)								
area (000 ha)	498.6	470.5	570.0	500.4	467.8	417.1	348.4	370.3
yield (t/ha)	2.38	2.55	2.78	2.41	2.23	1.82	1.71	2.04
prod (000 t)	1186.1	1199.3	1585.8	1206.0	1042.7	758.2	594.4	755.7
imports (000 t)	0.0	0.0	3.0	0.0	3.0	22.7	14.2	9.0
exports (000 t)	421.1	382.7	493.1	668.7	556.1	272.1	34.3	80.0
feed (000 t)								
seed (000 t)	47.0	57.0	50.0	46.8	41.7	34.8	37.0	50.0
end. stocks (000 t)								
utilization (000 t)	765.0	816.6	1095.7	537.4	489.6	508.8	574.3	684.7
pc utilization (kg)	20	22	29	14	13	13	15	18

ANNEX II.4 : SUGAR

sugar balance sheet

	1987	1988	1989	1990	1991	1992	1993	1994 (e)
SUGARBEET								
area (000 ha)	421.7	412.2	422.7	440.2	361.3	375.8	398.9	400.5
yield (t/ha)	33.17	34.13	34.01	37.98	31.58	29.41	39.16	29.15
prod (000 t)	13987.0	14068.8	14373.7	16721.0	11411.8	11051.9	15620.8	11676.1
SUGAR (%)								
yield (t/ha)	12.5	11.6	12.0	12.0	13.2	12.6	12.5	11.4
production (000 t)	4.14	3.97	4.09	4.55	4.17	3.70	4.89	3.32
imports (000 t)	1746.9	1638.6	1730.3	2004.4	1506.0	1388.5	1951.2	1329.3
exports (000 t)	0.0	56.2	89.2	10.9	0.1	40.6	13.2	10.0
supply (000 t)	255.0	79.4	116.6	342.6	332.1	87.4	73.5	184.0
hum. consumption	1491.9	1615.4	1702.8	1672.8	1174.0	1341.8	1891.0	1155.3
pc consumption				1485.0	1518.0	1442.0	1456.0	1490.0
				39.0	39.7	37.6	37.9	38.7

Annex II.5

Table 2.4: Area and production of main fruits and vegetables

Product	Acreage		Production	
	1000 ha in 1994	%-change vs. 1993	1000 t in 1994	%-change vs. 1993
Total vegetables	290.5	+5.4	5106.7	-13.1
of which:				
- cabbage	57.1	+3.2	1671.6	-4.5
- cauliflower	14.0	+5.8	220.5	-14.0
- onions	37.1	+10.6	590.8	-18.4
- carrots	35.6	+4.6	786.4	-15.6
- cucumbers	34.1	+4.4	366.0	-2.8
- tomatoes	29.6	+3.5	375.3	+3.6
Total fruits	265.0	....	2110.8	-22.0
of which:				
- apples	....	....	1441.1	-21.8
- pears	....	....	44.9	-49.8
- sour cherries	....	....	119.0	-19.1
- cherries	....	....	28.9	-8.8
- strawberries	46.2	-23.6	141.6	-29.2
- raspberries	....	....	30.2	-6.9

Source: GUS; "Produkcja upraw Ogrodniczych w 1994 r."; Warsaw, March 1995

ANNEX II.6 : LIVESTOCK NUMBERS

livestock								
	1987	1988	1989	1990	1991	1992	1993	1994 (e)
cattle (000)	10522.7	10322.1	10390.8	10049.0	9024.0	8029.0	7596.0	7270.0
o.w. cows	4925.5	4795.2	4884.6	4878.2	4707.0	4363.0	4108.0	3866.0
pigs (000)	18545.9	19605.0	18835.0	19464.2	19737.0	20725.0	21058.0	17422.0
o.w. sows					1964.0	1952.0	1885.0	1598.0
poultry (000)	59234	63101	66188	71512	61307	59443	54680	53330
o.w. lay. hens	53275	52533	51621	48458	41402	38886	38000	43000
sheep (000)	4738.9	4376.5	4409.0	4158.5	3233.7	1869.6	1267.9	890.5
o.w. ewes								
horses (000)	1140.9	1051.0	972.7	941.2	938.9	899.5	841.3	841.3

ANNEX II.7 : MILK

milk balance sheet								
	1987	1988	1989	1990	1991	1992	1993	1994 (e)
cows (000)	4925.5	4795.2	4884.6	4878.2	4707.0	4363.0	4108.0	3866.0
yield (t/cow)	3.15	3.26	3.36	3.25	3.07	3.01	3.08	3.08
prod (000 t)	15531.8	15632.0	16404.0	15832.4	14442.5	13153.2	12639.4	11920.0
imports (000 t)					5.5	1.7	31.0	
exports (000 t)					2.0	1.3	0.5	
utilization (000 t)	15531.8	15632.0	16404.0	15832.4	14446.0	13153.6	12669.9	
pc utilization (kg)	412	413	432	415	378	343	329	

ANNEX II.8 : BEEF

beef/veal balance sheet								
	1987	1988	1989	1990	1991	1992	1993	1994 (e)
slaughters (000)	4049.5	3512.9	3355.8	4257.1	4437.9	3699.0	3350.0	2850.0
weight (kg)	182	196	190	170	149	147	143	158
prod (000 t)	735.1	688.9	636.7	725.4	662.5	544.1	480.4	450.0
imports (000 t)	0.0	43.7	99.7	1.6	23.3	33.7	28.0	18.0
exports (000 t)	44.2	47.1	45.6	44.1	19.6	9.5	3.3	4.0
utilization (000 t)	690.9	685.4	690.8	682.9	666.2	568.3	505.1	464.0
pc utilization (kg)	18.3	18.1	18.2	17.9	17.4	14.8	13.1	12.0

ANNEX II.9 : PIGMEAT

pork balance sheet								
	1987	1988	1989	1990	1991	1992	1993	1994 (e)
slaughters (000)	19082.2	20056.2	20420.6	19957.7	22343.0	23019.0	23530.0	19050.0
weight (kg)	91	91	91	93	87	88	81	84
prod (000 t)	1729.2	1828.3	1854.2	1854.5	1947.3	2035.6	1903.0	1609.0
imports (000 t)	12.8	5.0	15.6	20.9	27.6	31.0	47.4	97.0
exports (000 t)	3.3	3.8	4.14	8.03	2.11	1.5	0.6	1.0
utilization (000 t)	1738.7	1829.5	1865.7	1867.4	1972.8	2065.1	1949.8	1705.0
pc utilization (kg)	46.2	48.3	49.1	49.0	51.6	53.8	50.7	44.2

ANNEX II.10 : POULTRYMEAT

poultrymeat balance sheet

	1987	1988	1989	1990	1991	1992	1993	1994 (e)
slaughters (000)	232100	250000	259700	232500	234200	227200	213800	234800
weight (kg)	1.40	1.39	1.39	1.43	1.42	1.42	1.43	1.43
prod (000 t)	325.4	347.2	362.0	332.0	333.3	322.2	305.0	335.0
imports (000 t)			1.0	0.7	1.6	55.9	75.3	61.0
exports (000 t)	15.7	16.7	19.9	20.5	16.0	20.9	15.2	14.0
utilization (000 t)	309.7	330.5	343.0	312.2	318.9	357.2	365.0	382.0
pc utilization (kg)	8.2	8.7	9.0	8.2	8.3	9.3	9.5	9.9

ANNEX II.11 : EGGS

eggs balance sheet

	1987	1988	1989	1990	1991	1992	1993	1994 (e)
lay hens (000)	53275	52533	51621	48458	41402	38886	38000	43000
yield (kg/hens)	8.3	8.7	8.7	8.7	8.7	8.7	8.2	7.6
prod (000 t)	442.9	457.0	446.6	422.4	361.8	340.0	310.3	324.8
imports (000 t)			0.1	3.4	55.6	52.9	50.8	
exports (000 t)	0.7	2.6	9.8	2.1	0.0	0.4	1.1	
for hatching (000 t)	22.0	23.2	24.0	21.0	20.5	21.3	22.4	20.7
utilization (000 t)	420.2	431.3	412.8	402.7	397.0	371.3	337.6	
pc utilization (kg)	11.2	11.4	10.9	10.6	10.4	9.7	8.8	

Annex III

Support to agriculture (PSE)¹

With the Producers Subsidy Equivalent (PSE)- and Consumers Subsidy Equivalent (CSE)-calculations the OECD has developed a concept with which it is possible to measure the support to producers and consumers that arises as a result of agricultural policies. PSEs, which for the present report are more important than CSEs, can be divided in different components of which the **market price support (MPS)** is the most important in Polish agriculture. In 1992-1993 it represented 73% of the net total PSE compared to 58% in 1986-88 demonstrating that Poland has reinforced the use of market price support, at least in relative terms.

Unlike the significance of MPS, **direct payments (DP)** have never played an important role in Polish agricultural support, accounting for only 9% of the net total PSE in 1986-88 and 4% in 1989-90 until they were abolished in 1991. The last aggregated component "**other support**" (OS) is dominated by transfers related to the reduction of input costs and general services like research, training and advisory. Both categories lost part of their importance in the net total PSE, reducing its share of contribution from 21% in 1987 to 7% in 1993 for the reduction of input costs and from 42% in 1991 to around 20% in 1993 for general services.

For the time being, Poland is one of the countries with the least subsidized agriculture in the world. PSE-calculations show that at the beginning of the transformation process in 1989-90, Poland intended to build up a very liberal market economy with low support levels. Since then, Poland has reinforced the border measures and equivalent price support systems due to increasing competition problems caused by structural deficiencies mainly in the food processing industries and by raising imports partly covered by EU export refunds. Poland raised its internal price support (PSE) from -18% in 1990 over -3% in 1991 to 15% in 1992 and 16% in 1993.

¹ The Producers Subsidy Equivalent (PSE) is used to measure the transfer of money from consumers and taxpayers to agricultural producers on a given level of output. Positive PSE values represent a net support to agriculture; negative ones stand for an implicit taxation of agriculture. The PSE-coefficients are calculated as follows:

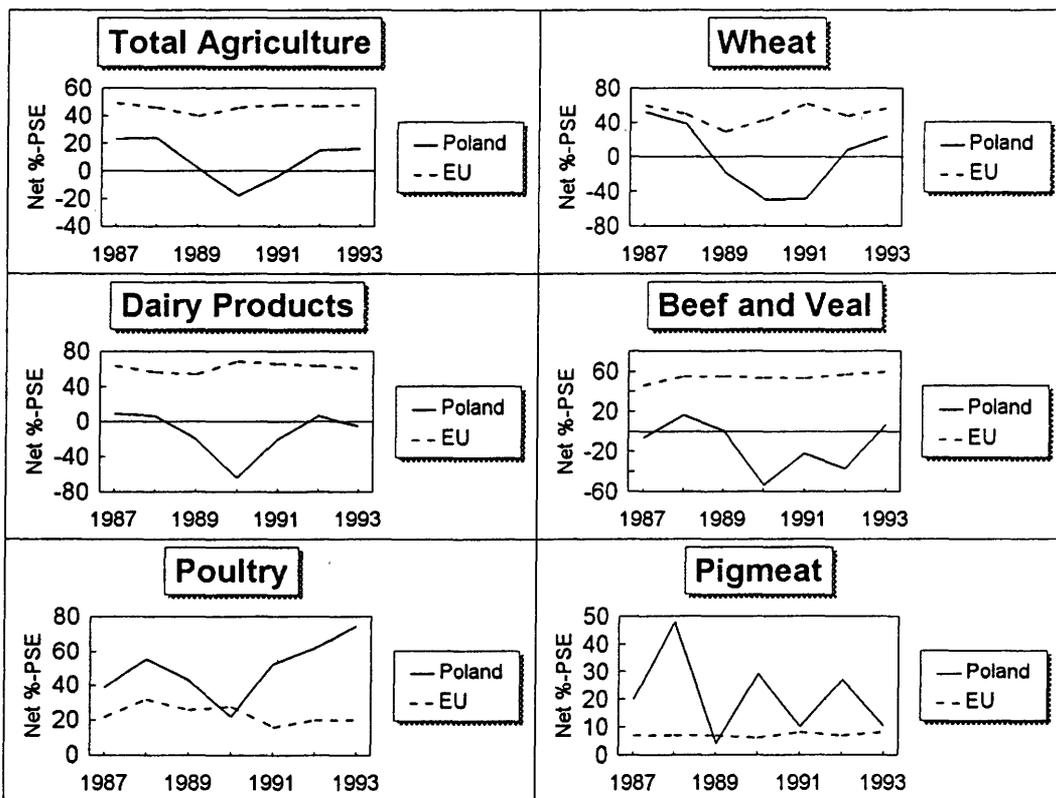
a)	Gross Total PSE	=	$Q*(P - P_w) + DP + OS - LV$
b)	Net Total PSE	=	$Q*(P - P_w) + DP + OS - LV - FA$
c)	Unit PSE	=	PSE / Q
d)	Percentage PSE	=	$100*PSE / (Q*P + DP - LV)$

where:	Q	=	volume of production
	P	=	domestic producer price
	PW	=	World price at the border in domestic currency
	DP	=	direct payments
	OS	=	all other budgetary-financed support
	LV	=	levies on production
	FA	=	feed adjustment (only for livestock products)

A PSE-comparison between the EU and Poland (see also figure III.1) leads to the following conclusions:

- During the entire analysed period, the support of agricultural producers in the EU has been more stable and higher than in Poland. In Poland, agricultural producers were highly subsidized in the years 1987-88, implicitly taxed in 1990-91 and again subsidized in the years 1992-93;
- Except the sugar, pork, poultry and eggs subsectors, Poland's PSE remained below that for the EU during the entire period;
- Except in 1989, for pigmeat the PSE in Poland was higher than the PSE in the EU;
- In 1993, the Polish poultry sector was highly supported reaching a PSE-level of 75% which was 55% points above the EU level.

Figure III.1: Percentage PSE by product, 1986 - 1993



Source: OECD

Table III.2: Comparison of Net-%-PSE for selected products in Poland and in the EU

	1987	1988	1989	1990	1991	1992	1993(p)
Agricultural Production Total							
Poland	23	24	2	-18	-3	15	16
EU	49	46	40	46	48	47	48
Wheat							
Poland	52	39	-18	-49	-48	8	24
EU	60	50	29	43	62	48	57
Coarse grains							
Poland	26	-10	-43	-47	-24	0	29
EU	68	45	35	50	56	54	62
Oilseeds							
Poland	53	28	-52	-35	-17	21	4
EU	76	56	61	70	66	66	63
Sugar							
Poland	61	10	72	20	41	31	19
EU	78	68	46	53	68	72	67
Dairy products							
Poland	9	7	-19	-64	-20	7	-5
EU	64	57	55	69	66	64	61
Beef and Veal							
Poland	-6	17	1	-54	-22	-37	7
EU	46	55	55	54	53	57	60
Poultry							
Poland	39	56	43	22	53	62	75
EU	22	32	26	28	16	20	20
Pigmeat							
Poland	20	48	4	29	10	27	10
EU	7	7	7	6	8	7	8

p = provisional

Source: OECD

Annex IV.1

Association Agreements

The Association Agreement, also known as Europe Agreement, between the EU and their Member States on one side and Poland on the other side was signed in December 1991. In March 1992, it entered into force provisionally in the form of a so called Interim Agreement covering already the mutual trade provisions. After finalizing the ratification process, the Europe Agreement with Poland came into force (together with Hungary) in February 1994.

Scope of the Agreement

The general scope of the Agreement covers five main areas:

- political dialogue,
- economic co-operation,
- financial assistance,
- approximation of laws.

In the area of trade liberalisation the Agreement provides for the creation of a free trade area for most industrial goods within a ten years period. Special provisions are applied to the sensitive sectors coal, steel, textiles and agriculture. Based on the conclusions of the European Council in Copenhagen in June 1993, additional protocols were signed to open to the associated CEECs the possibility of a later accession to the EU when the corresponding conditions are fulfilled.

Agricultural provisions

The agricultural provisions of the Agreement were considered separately and trade liberalisation in this sector was limited to selective market access concessions. The agricultural trade concessions of the EU are mainly related to limited tariff quotas subject to stepwise tariff reductions and increasing preferential quantities. Generally, the fixing of preferential quotas for the first year of application (1992 for Poland) was based on average import quantities in 1989/90 plus around 10%. For the following years until 1996, which is the final stage of the agricultural provisions in the Poland Agreement, the quotas are raised by around 5% to 10% a year according to the sensitivity of the products. The **EU trade concessions** for Poland can be differentiated in the following six categories:

1. Consolidation of the autonomous tariff and levy reductions granted previously under GSP (Generalized System of Preferences) regulation. Products covered by this regulation are e.g. soft fruits, game meat, natural honey, cut flowers, rabbits, several vegetables and certain meat specialities. These products are not subject to quotas because of their minor market importance in the EU, but in the case of certain soft fruits for processing specific minimum import prices are fixed by the EU in consultation with Poland for each marketing year.

2. Levy reduction of 50% from 1992 onwards whereby the corresponding preferential quantities increase by around 5% to 10% each year until 1996. This regulation is applied to the following quantities in the final stage:
- 1300 t duckmeat
 - 17200 t live geese and -meat
 - 3000 t meat of domestic swine, salted or in brine
 - 7500 t potato starch
 - 2250 t sausages
 - 9600 t preserved meat of domestic swine
3. Stepwise levy and duty reduction of 20% in the first year, 40% in the second year and 60% in the successive years until 1996 which is applied to the following quantities in the final stage:
- 5600 t meat of bovine animals, fresh, chilled or frozen
 - 9000 t sheep and goat (meat and live animals)¹
 - 1400 t live swine, domestic
 - 9800 t meat of domestic swine
 - 8400 t chicken and cuts of chicken
 - 1400 t turkeymeat
 - 4100 t milk powder
 - 1400 t butter
 - 2800 t cheese
 - 1720 t eggs
 - 4350 t buckwheat
4. Stepwise tariff reduction similar to the above levy reduction applying a 60% reduced tariff from the third year onwards to a great number of different fresh and processed fruits and vegetables.
5. Reduction of the variable (i.e. agricultural) component and - since the third year - abolition of the tariff (industrial) component for certain quantities of products not covered by Annex II to the EEC Treaty. The preferential quantities are increased stepwise reaching in 1996 a level of 50% above that of the baseperiod (1990). This regulation is applied e.g. to yoghurt, margarine, sugar confectionary, chocolate, pastry, cakes and icecream.
6. 75% levy reduction for a global quota of live bovine animals opened to imports from the CEECs. This global quota, which is applied to live bovine animals for fattening or for slaughter with a weight between 160 kg and 300 kg, is calculated by taking the difference between the following reference quantities
 1993 = 237,600; 1994 = 257,400; 1995 = 277,200; 1996 = 297,000 animals
 and the number of animals (198,000 heads) fixed in the balance sheet arrangements. Hence, the following quantities are subject to the above mentioned levy reduction:
 1993 = 39,600; 1994 = 59,400; 1995 = 79,200; 1996 = 99,000 animals.

¹ For this quantity, the tariff is reduced to zero.

The European Council in Copenhagen in June 1993 agreed to accelerate the timetable of the agricultural trade provisions in the European Agreements to improve the market access for the CEECs. This acceleration is applied to the above described categories 3, 4 and 5 which means that the preferential quantities, tariff and levy reductions foreseen for the third year onwards would be applied six months earlier, starting in July 1993.

As for the other associated CEECs, for Poland the utilization of the preferential quotas was relatively low in the first two years of application of the interim agreement. Compared to the situation in Hungary the degree of utilization in 1994/95 is still low particularly in the meat sector except for duckmeat for which the quota is fully utilized. In this subsector as well as for dairy products the demand for import licenses is much higher than quota available. The relatively low utilization of the quota for chickenmeat is probably due to a high competitiveness in this sector. Polish producer prices range around the EU-level and increased feed costs in 1993 as well as rising imports of frozen chicken from the USA detrimentally affected the profitability of poultry farming in Poland.

The importance of the agricultural trade concessions of the EU can be approximately derived from a comparison between the total agricultural imports and the imports covered by preferential treatment. In 1993, the agricultural imports of the EU originating in Poland amounted to a value of 690.7 mio ECU. From this value

- 418.1 mio ECU (61%) were covered by preferential treatment, of which
 - = 290 mio ECU (42%) were related to CN-positions under tariff reduction without quota limitation,
 - = 128.1 mio ECU (19%) were related to CN-positions for which tariff quotas exist.

The **agricultural trade concessions of Poland** for products originating in the EU (Annex XI of the Agreement) are related to a 10% tariff reduction on the date of entry into force of the Agreement, i.e. March 1992. 254 CN-positions of e.g. live animals, meat, cereals, dairy products, fresh and processed fruit and vegetables, beverages are covered by this regulation. Unlike the EU-trade concessions, which are mainly limited to tariff quotas, the Polish 10% tariff reduction is not quantitatively restricted.

Table IV.1: Utilization of the Association Agreement Quotas

PRODUCT (tonnes)	Quota available	Quota utilized	% of utilization	Quota available	Quota utilized	% of utilization
	01.07.93-30.06.94			01.07.94-30.06.95		
CEREALS						
<i>Buckwheat</i>	3800	110	2.9	4100	992	24.2
DAIRY PRODUCTS						
Milk powder	3550	3550	100.0	3800	3800	100.0
Butter	1200	1200	100.0	1300	1300	100.0
All cheeses	2400	2400	100.0	2600	2600	100.0
<i>Total Dairy Products</i>	7150	7150	100.0	7700	7700	100.0
BEEF						
Beef	4800	550	11.5	5950	1320	22.2
Processed products				440	440	100.0
<i>Total beef</i>	4800	550	11.5	6390	1760	27.5
POULTRY & EGGS						
Duck meat	1100	1100	100.0	1206	1206	100.0
Chicken meat	7200	60	0.8	7800	360	4.6
Turkey meat	1200	0	0.0	1300	460	35.4
<i>Total Poultry meat</i>	9500	1160	12.2	10306	2026	19.7
Eggs in shell	1300	0	0.0	1400	719	51.4
Whole eggs	190	0	0.0	200	70	35.0
<i>Total Eggs</i>	1490	0	0.0	1600	789	49.3
	1993			01.01.94-30.06.94		
GOOSE MEAT						
<i>Goose meat</i>	13800	7643	55.4	7450	3071	41.2
	1993			1994		
LIVE BOVINE ANIMALS						
Poland, Hungary, Czech & Slovak Republics						
<i>Live bovine animals (head)</i>	39600	39600	100.0	59400	59400	100.0
PIG MEAT						
Meat of swine salted or in brine	2500	0	0.0	2700	0	0.0
Sausages	1875	1014	54.1	2025	438	21.6
Processed products	8000	2749	34.4	8650	1852	21.4
Live pigs	1150	0	0.0	1250	0	0.0
Meat of swine, fresh, chilled, frozen	8050	40	0.5	8750	0	0.0
<i>Total pig meat</i>	21575	3803	17.6	23375	2290	9.8
SHEEP & GOATS						
<i>Meat and live animals</i>	7500	4735	63.1	8100	4716	58.2
	01.01.93-30.06.94			01.07.94-24.05.95		
MAIN FRUIT & VEGETABLES						
Onions : 07031019	184250	184250	100.0	136800	21641	15.8
Cauliflower : 0704	950	864	90.9	1450	1217	83.9
Prepared cucumbers and gherkins : 20011000	2400	2400	100.0	2000	2000	100.0
Peas 07102100	2584	2562	99.1	2050	2050	100.0
Beans 07102200	16750	15454	92.3	13200	3053	23.1
Blackberries, Myrtilus : 0811	18250	18250	100.0	14000	13980	99.9
Strawberries : 081110+(20088070+...50)	6605	3349	50.7	4860	1323	27.2
Apple juice : 20097019	10250	6023	58.8	7900	1155	14.6
	1993			1994		
Mushrooms : 20031030+07119050	29680	7405	24.9	31080	8488	27.3

For cereals, dairy products, poultry & eggs, beef, live bovine animals and pig meat, the quota utilized refers to the quantities for which import certificates were requested.

For sheep & goats, fruit & vegetables, goose meat, the quota utilized refers to actual utilization.

Annex IV.2

GATT commitments

Table IV.2: Poland's import offer to GATT (selected products)

Product	CN-code	quota in 1995 (t)	quota in 2000 (t)	tariff for quota	tariff outside quota in the year 2000
live cattle	0102	6720 ¹	11165 ¹⁾	20%	12% + max 931 ECU/t
beef	0202	10560	17545	30%	19% + max 3034 ECU/t
live hogs	0103	3990	6640	35%	89%; max 412 ECU/t
pork	0203	27930	46480	30%	76%; max 896 ECU/t
meat products	1601	5910 ²⁾	9830 ²⁾	35%	89%; max 1536 ECU/t
poultry meat	0207	20000	20000	30%; min 0.3 ECU/kg	76%; max 1283 ECU/t
milkpowder	0401	13000 ³⁾	21700 ³⁾	40%	102%
butter	0405	10100	16900	40%	102%; max 2313 ECU/t
cheese	0406	5000	5000	35%	160%
eggs	0407	200 mln pc ⁴⁾	353.4 mln pc ⁴⁾	25%; min 0.03 ECU/pc.	64%; min 105 ECU/th. pc.
- durum wheat - other wheat	1001	280000 ⁵⁾	280000 ⁵⁾	20% 25%	25% 64%; min 96 ECU/t
rye	1002	150000 ⁵⁾	150000 ⁵⁾	20%	51%; min 93 ECU/t
barley	1003	121000	201700	20%	51%; min 93 ECU/t
maize	1005	250000	250000	20%	12.8% + max 96 ECU/t
potatoes	0701	160700 ⁶⁾	268000 ⁶⁾	50%	128%
oilseed extract	2306	21800 ⁷⁾	36400 ⁷⁾	10%	19%
vegetable oil	1507/-12	80000	80000	40%	51%
tomatoes	0702	10000	16700	20%	40% + max 1200 ECU/t
cabbage	0704	45000	75000	50%	32%; min 16 ECU/t
carrots	0706	4000	8000	25%	64%
cucumbers	0707	10400	17340	60%	48% + max 520 ECU/t
bananas	0803	20000	33000	20%	51%
- apples - pears	0808	30000	45000	60% 50%	48% + max 240 ECU/t 95%
sugar	1701	50000 ⁸⁾	84000 ⁸⁾	40%; min 0.17 ECU/kg	96%; min 0.43 ECU/kg
beer	2203	342000 hl	570000 hl	30%; min 0.25 ECU/l	38%; min 0.32 ECU/l

1) Quota contains also goods of CN 0201; 2) Quota contains also goods of CN 160241, 160242, 160249, 160250; 3) The quota for skimmed milk includes goods of CN 0402; 4) Quota includes also goods of CN 040700900, 0408 and 3502; 5) In equivalent of processed products; 6) Quota covers also goods of CN 1105 and 3505 7) Quota covers also goods of CN 1204, 1205 and 1207; 8) In equivalent of processed products; the quota contains also goods of CN 1212, 1702 and 1703

Source: Ministry of Agriculture and Food Economy of Poland

Table IV.3: Poland's commitment to the Aggregate Measurement of Support (AMS)

Basic quota AMS	Maximum AMS in the years 1995-2000 (in mln. US-\$)					
	1995	1996	1997	1998	1999	2000
4160	4022	3883	3745	3606	3457	3329

Table IV.4: Poland's commitment on the reduction of export subsidies

Products	Basic level of export subsidy (mln US-\$)	Maximum value of export subsidies (mln US-\$)		Subsidized exports in base period (1000 t)	Maximum quantity of subsidized exports (1000 t)	
		1995	2000		1995	2000
meat products	133.7	125.7	85.6	50.6	48.8	39.8
meat	59.2	55.7	37.9	51.7	49.9	40.9
poultry meat	15.0	14.1	9.6	16.4	15.8	13.0
skimmed milk	8.7	8.2	5.6	46.8	45.2	37.0
casein	12.9	12.2	8.3	19.4	18.7	15.3
sugar	50.0	47.0	32.0	132.1	127.5	104.4
molasse	16.0	15.0	10.2	314.7	303.7	248.6
alcoholic products	32.5	30.5	20.8	668.5	645.1	528.1
frozen fruits and vegetables	48.7	45.8	31.2	158.3	152.8	125.1
fresh fruits and vegetables	51.7	48.6	33.1	251.0	242.2	198.3
processed fruits and veg.	164.7	154.9	105.5	216.2	208.6	170.8
potato starch ¹⁾	10.8	10.2	6.9	43.2	41.7	34.1
seeds	9.7	9.1	6.2	52.9	51.0	41.8
rapeseed oil	19.1	18.0	12.3	38.4	37.1	30.3
rapeseed	23.5	22.0	12.9	432.3	417.2	341.5
potatoes	22.1	20.7	14.1	455.5	439.6	359.8

1) Includes other potato products

Annex V

PHARE Assistance to Poland's Agriculture

1. General Framework and Background

Agriculture and rural development are a high priority in Poland's economic transformation programme, and Poland has been the principal beneficiary of PHARE Assistance in agriculture between 1990 and 1993. During this period, PHARE has provided 165 mio ECU to Polish agriculture, that is 39.7% of total PHARE commitments for CEECs' agriculture. There was no agricultural tranche in the 1994 PHARE programme.

Phare agricultural commitments for Poland (Mio ECUs)

1990	1991	1992	1993	1994	Total (90-94)
100	17	18	30	0	165

Within Poland, the **Ministry of Agriculture and Food Economy** is the responsible authority for the realisation of most PHARE Assistance to Polish agriculture. The **Foundation of Assistance Programmes for Agriculture (FAPA)** is the Project Management Unit which implements the PHARE projects, and FAPA delegated the implementation of specific projects to other institutions (**Foundation for Rural Co-operatives, National Union of Co-operative Bank, Agricultural Property Agency of the State Treasury, Institute for Land Reclamation and Grassland Farming**).

2. Specific actions

Three agricultural PHARE programmes were set up in 1990, for a total amount of 100 mio ECU:

- The "**Sectoral Import Programme for Plant Protection Products**" (50 mio ECU) had 3 components:
 - (i) supplying plant health products,
 - (ii) technical assistance to ensure correct use of the products and
 - (iii) monitoring to ensure that the use of plant health products does not threaten the environment.(the programme is completed)

- The so called "**Establishment of Lines of Credit for Imports of Agricultural Equipment and Equipment for the Food Industry**" programme (30 mio ECU) firstly provided for the opening of a line of credit in foreign currency to help private

entrepreneurs to import the inputs and equipment they need, and secondly provided technical assistance in form of a collaboration between Community's cooperative banks and the Polish institutions (the project is ongoing).

- The "**Sectoral Programme for Animal feed and Animal Feed Additives**" (20 mio ECU) was dedicated to sell 40 000 t of animal feed (for pigs and poultry) and various additives to private sector farms, to help them to improve their financial situation and boost production of good-quality meat; technical assistance was also provided to improve the food and health situation and to impart appropriate technology for the animal feed industry (the project is completed).

The 1991 programme ("**Agriculture and Rural Development**", 17 mio ECU) was partly dedicated to meet Polish requirements for technical assistance under the World Bank's Agriculture Development Project loan capital (100 mio US-\$) for the promotion of rural co-operatives. It aimed :

- to promote the emergence of a dynamic private sector in agriculture and the rural economy (establishment of a national network of co-operatives support centres providing training, planning, analysis and audit services to the co-operative managers and board members);
- to establish the legal, regulatory and supporting institutional framework necessary for a favorable market driven economy in the agricultural and rural sectors (co-operative banks, training Polish bank staff to appropriate standards, developing business plans, etc.);
- and to assist the Ministry of Agriculture and Food Economy to implement and monitoring a general strategy in this field, and to coordinate and implement all types of assistance provided by external sources.

(the 1991 project is still ongoing)

The 1992 so called "**Agricultural and Rural Development**" PHARE programme represented a total amount of 18 mio ECU and was built on the achievements of the previous programme in areas such as the co-ordination of aid and support to rural co-operatives, while initiating elements of the Polish Government's new Medium Term Agricultural Adjustment Programme, particularly the privatisation of the state-farms.

The main areas focused on were : Aid to Co-operatives (4.25 mio ECU), Co-operative Banks (5 mio ECU), Privatisation of State Agri-Business (3 mio ECU), Extension Service Training (1 mio ECU), and Aid co-ordination and strategic planning assistance (4.75 mio ECU). (the project is ongoing).

N.B. Another so called "**Land Information System**" PHARE Programme has been set up in 1992, but was not a specific agricultural programme ; this project is ongoing and is managed by the Ministry of Physical Planning and Construction (total amount: 5 mio ECU).

In the 1993 so-called "**Development of Rural and Agricultural Sectors**" Programme, PHARE Assistance to Polish agriculture represented a total amount of 30 mio ECU (13.3% of total PHARE assistance commitments in Poland). In the logical continuation of the previous years programmes, it aimed to provide the necessary impetus to increase production, create employment and improve living standards in rural areas. The main objective was to complete the transition of the agricultural sector to a market based economy, thereby preparing Poland for integration into the EU. The main objectives were:

- *Support to Independent Cooperatives* (4 mio ECU): support and technical assistance to the Foundation of Rural Cooperatives to allow the establishing of new cooperatives, to facilitate the restructuration and the expansion of existing cooperatives.
- *Improvement of Rural Financial Services* (6 mio ECU): 1993 PHARE Assistance Programme provides support to create a Credit Guarantee Scheme, designated to alleviate one of the major obstacles to the extension of credit to the small farms, namely the lack of collateral. This scheme is intended to contribute to the development of rural financial services and to promote the supply of resources to private agriculture. In November 1994, the funds for the Guarantee Scheme (6.993 mio ECU) were reallocated for auditing 1 600 cooperative banks.
- *Pilot Capital for Employment generation in Ex-State Farms* (4 mio ECU): the objective is to assist farmers in areas of high structural unemployment to establish enterprises acquiring assets from ex-state farms. This Capital Fund is administered by the State Treasury Agricultural Property Agency.
- *Support for Marketing and Investment* (3 mio ECU) to certain projects concerned with developing domestic and exports markets and promoting investment in rural areas.
- *Policy Formulation and European Integration* (4 mio ECU): consultancy support is given to formulating a comprehensive strategy to ensure agricultural economy develops to allow with the EU. General diffusion of information related to European issues is facilitated (conferences, seminars, publications).
- *Rural Infrastructure for Water Management* (4 mio ECU): support to rural water management projects to reduce pollution, especially run-off in small basins (pilot project implemented in 3 basins).
- *Project Implementation and Monitoring* (3 mio ECU): support to the Foundation of Assistance Programmes for Agriculture, which has the responsibility for co-ordinating and managing foreign aid and monitoring Phare Programme.
- *Integrated Pilot Projects co-financed with EU Member States* (2 mio ECU): support to projects implemented on a regional basis and co-financed by EU Member State. In November 1994, out of this component, 1 mio ECU was reallocated to support training for outreach services, which is extremely important for the economic development of the rural areas.

(the 1993 programme is ongoing)

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