Agriculture in Germany

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The Federal Republic of Germany (hereafter referred to as Germany), is situated in central Europe and has a land area of 357 092 km2. Germany is divided geographically into the Northern German Plain, the Central Upland Range, the Southwest German Central Upland Scarps, the South German Alpine Foreland and the Bavarian Alps. The Bavarian plateau in the south-west averages 488 m above sea level, but it reaches 2 962 m in the Zugspitze Mountain, the highest point in the country. Germany's major rivers are the Rhine, the Elbe, the Oder, the Danube and the Weser.

The climate is determined by its location in a zone of temperate climatic conditions with frequent weather changes. There is precipitation all year round. Progressing from the north-west to the east and southeast, the maritime climate gradually changes into a more continental climate. However, neither the daily nor the seasonal variations of temperatures go to extremes anywhere.

The annual mean temperature is around 9°C and precipitation is on average 700 – 800 mm per year (subject to regional fluctuations). Germany has approximately 82.4 million inhabitants, which corresponds to a population density of 231 inhabitants per square kilometer; however, over 80% of Germany is defined as rural area. Over 70% of the population live outside urban areas; more than three quarters of all municipalities have less than 5 000 inhabitants. The landscape of Germany is characterized by arable land, meadows, pastures and forests. Farmers manage more than half of the total national territory.

Although the area devoted to agriculture has declined since the end of 1992 (-3%), those areas used for renewable resources (e.g. rape and sunflower oils, starch and sugar) have nearly tripled between 1995 and 2005 to comprise 1.5 million hectares, i.e. 13.2% of arable land in 2005.

In 2006, Germany ranked fourth in a global comparison of exports of agri-food products with over 40 billion Euro, in contrast to agri-food imports of over 50 billion Euro. Compared with the past five years, farm incomes have been rising and the markets for renewable resources, organic products and timber are growing.

In 2006 as well, the structural changes in agriculture followed the long-term trend. Changes in agricultural practices and structures towards intensified farming have posed and are still posing the greatest risk to the management of plant genetic resources. In 2006, the number of farms of over 2 hectares of utilized agricultural area amounted to around 366 000 and has thus decreased by 40% as compared to 1996. While the number of farms decreased over the last ten years, the average farm size however increased. The average farm size comprised about 46 hectares of agricultural land, almost doubling since 1996. Compared to 1996, the number of workers in agricultural enterprises declined by 9.4%. Whereas the number of fulltime and part-time workers engaged in German farming in 2006 totaled approx.

1.3 million in almost 400 000 agricultural enterprises, the so-called agribusiness sector employs about 4.3 million workers. In spite of its small share of 1.0% (2005; 1.3% in 1995) of the total economic output, agricultural production is of major importance as it enables the population to be supplied with a sufficient amount of food, feed and renewable resources and plays a crucial role in rural development and for food production. More than 80% of the required foodstuffs can be obtained from domestic production. Germany bears a great variation of the natural conditions, size and organizational structure of agricultural holdings, production methods as well as regional food and raw products available.

Sustainable agriculture is the foundation for protecting natural resources – soil, water and air – and for maintaining agrobiodiversity. The technological progress and advancements in breeding made in recent decades might lead to that no longer all agricultural land is required for the production of food and animal feed. With energy prices rising, the use of regenerative sources of energy provides new opportunities for additional income. There is also growing industrial demand for renewable resources for non-energetic uses.

This allows for tapping innovative potential, thereby providing alternative sources of income and creating more jobs in rural areas.

1- Organic farming in Germany

1.1 Main production regions

Whereas there was a decline in the number of conventional farms, decreasing from 648 803 in 1990 to 429 000 in 1999, or 34 percent, organic agriculture spread very quickly during the last 10 years and reached 12 740 farms by the end of 2000 with 546 023 ha under organic production. The organic share of 3.2 percent of the total agricultural area and 2.9 percent of the total number of farms (2000) is slightly above the western European average.

Approximately 80 percent of all organic farms in Germany are members of one of the nine German organic producer organizations. AGÖL (Arbeitsgemeinschaft Ökologischer Landbau) is the umbrella organization of some of the producer organizations. Most of the organic farms are located in the federal states (Länder) of Baden-Württemberg and Bavaria in southern Germany, a pattern that developed after the Second World War.

After the reunification of Germany in 1990, organic farming also spread quickly in the former German Democratic Republic (GDR) where organic farming was previously prohibited. Nevertheless, a very small number of farms had practiced organic farming methods and nowadays, farmers convert to organic agriculture there, especially in agricultural regions with poor soils (classified as disadvantaged areas). The designation of large conservation areas with restrictive conditions on agriculture that can be easily fulfilled by organic farmers has lead to further conversion. Now the highest ratio of organic farms is in eastern Germany.

1.2 Main products

As there are no statistical data on the production or consumption of several organic crops, this subject has to be approached through data on land use by organic farms and data on sales of different product groups. The production side does not necessarily reflect the main product groups sold in the market place since many products are imported.

Table 1 presents the cropping pattern of farms in German producers' associations, where orchards and market gardens are included.

Table 1: Cropping Pattern On Farms Of German Producers' Associations In 1997/98

Crop	Hectares	Percentage Of Total Organic Acreage

Total	354 006	
Of Which:		
Cereals	89 824	25.4
Legumes	14 858	4.2
Root Crops:	4 371	1.2
– Potatoes	– 4,119	
Oil Plants	9 115	2.6
Vegetables:	4 408	1.2
– Vegetables For Processing	– 504	
– Carrots	– 666	
– Cabbage	– 186	
– Onions	– 206	
– Red Beets	– 381	
Fruit:	2 710	0.8
– Fruit For Processing	– 460	

– Pome Fruit	– 393	
– Small Fruit	– 127	
Medicinal Herbs, Herbs	267	
Wine	1 578	
Permanent Grassland	155 705	44.0
Special Crops	9 055	2.6

Source: ZMP, 1999 (www.organic-europe.net).

The most important organic crops in Germany (based on hectares planted) are cereals, followed by legumes and oil plants. Unfortunately, no data are available on value, as yields and values of the different crops can be very distinct from their relative land surface. For example, vegetables and, especially, fruit can have a very high value but their share of agricultural land surface is very small.

From ZMP figures (Zentrale Markt- und Preisberichtstelle für Erzeugnisse der Land-, Forst- und Ernährungswirtschaft GmbH), it appears that out of the total of 354 006 ha in German associations, 4 408 ha were under organic vegetable production and 2 710 ha under organic fruit production, which corresponds to approximately only 2 percent of the total surface under organic farming. This compares to a share of 18 percent for organic fruits and vegetable in total organic food sales.

There were 1 385 organic fruit orchards and around 650 organic market gardens in Germany at the end of 1999 out of a total of 11 748 farms which were included in a survey on land use and cropping patterns. However, not only organic market gardens are producing vegetables. Most of the organic farms produce some basic vegetables like potatoes, onions and carrots; because crop rotation schemes on organic farms include more crops than on conventional farms.

From Table 1 it can be deduced that potatoes, carrots, beet roots and cabbage are important vegetables in German organic production and consumption, although the number of hectares might not correspond relatively with the yield or value. The most important organic fruit crop in Germany is apples, produced and sold from September through April.

There are no data available on total sales or the growth rate of production of the different crops.

1.3 Government policy and support systems for organic farming

Due to the federal structure of Germany (16 Bundesländer) there are many different approaches to supporting organic farming. In every Land (Federal State), a different range of programmes is offered to help organic farmers, and the requirements for participation in equivalent programmes may differ. The support given to organic farming covers production, certification and marketing.

From 1989, organic farmers in Germany received support under the EC programme for more extensive agriculture when converting to organic agriculture. From 1994, farmers could receive support under Council Regulation (EC) No. 2078/92, concerning agricultural production methods compatible with requirements for the protection of the environment and the maintenance of the countryside. Not only converting farms, but also existing organic farms could participate in this programme.

The annual subsidies for arable farming and grassland were about DM 245 (€125) per hectare (DM196, or €100, for existing farms) and DM1 176 (€600) for permanent crops (DM980, or €500) for existing farms). The different Länder could diverge from these sums to a certain extent.

Since the year 2000, support has been granted under the Rural Development Regulation of Agenda 2000 (Council Regulation [(EC)] No. 1257/1999). Besides direct support to farmers, marketing initiatives are also supported. Subsidies are granted for producer-based marketing organizations, for processing and for development of marketing concepts (i.e. regional marketing initiatives). With the current BSE crisis, new initiatives in favor of organic farming may be introduced, as public awareness has been raised. The new Minister of Agriculture and Consumers' Protection has recently set a goal of 20 percent for the organic share of agriculture to be reached within the next 10 years.

1.4 Production constraints

Until recently, the organic market was a niche market. Only in the last few years have, big supermarket chains entered the field. In the past, this market was not sufficiently attractive for producers in general to consider conversion to organic farming on a large scale. Besides, organic farming requires a certain conviction, while many conventional farmers are convinced that their farming techniques are not harmful to the environment and that they follow good agricultural practices.

The costs of conversion to organic farming, including a heavier workload, are not fully covered by the subsidies to farmers. Especially intensive conventional farms with higher costs of conversion were often not attracted by the programmes. Also, a certain consciousness or spirit goes along with organic farming, and people have to be committed and enthusiastic.

On the other hand, intensive agriculture is being criticized, especially intensive animal production. Because of these changes, organic farming will most probably experience an upswing.

1.5 Destination of production

Very few raw materials and fresh organic products are exported. Only nine percent of the domestic production of wine is exported, six percent of the cereals and three percent of the fruit production. This means that nearly the entire domestic organic production is consumed in Germany. However, exports of processed and packaged organic food products (e.g. important organic brands, like Rapunzel) are considerable.

The German market for organic fruit and vegetables

According to Bundesverband Naturkost Naturwaren, the most important product groups sold in specialized natural food shops in 1999 in terms of value were fruit and vegetables with an 18 percent share of total organic sales. These are followed by milk and milk products (16 percent) and bread and bakery products (12 percent). Another 49 percent of sales are divided among products like tea, coffee, sweets, oils, fats, honey, spreads, pasta, dried fruits, nuts etc. The share of meat and sausages amounted only to 4 percent in 1999. These figures are expected to at least double in 2001 due to the BSE crisis, provided supply is available.

Sources: www.fao.org