

Agriculture

Trends in Agriculture in the Federal Republic of Germany

Background

There were around 353,000 farms with over two hectares of usable agricultural land in Germany in 2006 (1990: 667,000). The number of full-time and part-time workers engaged in farming totalled approximately 1.2 million. If upstream and downstream sectors are included, there are 3.8 million jobs in the agricultural and food sector in Germany.

The share of gross value added (GVA) generated by agriculture, forestry and fisheries has fallen from 1.7% in 1990 to 0.9% in 2006 (i.e. from around € 20 billion to € 17.8 billion). By comparison, these sectors accounted for a 29.9% share in 1900, and even in 1950, the figure was still 11.3%.

Productivity, on the other hand, has increased dramatically over the last 50 years: in 1949, one farmer produced enough food to feed ten people; in 2004, he produced enough to feed 143 people.

In total, 16.9 million hectares of land are utilised for agricultural purposes in Germany (i.e. around 49.3% of total area). Of this figure, crop production accounts for around 11.8 million hectares and permanent pasture for around five million hectares. By comparison, fruit plantations, tree nurseries and Christmas tree farming play a minor role in terms of land consumption.

European agricultural policy

Since the 1960s, agricultural policy has been regulated at European level. Until the 1990s, in light of the special nature of farming, the European Union safeguarded farm incomes on the world markets by means of high tariff protection at its external borders, state price support, export subsidies and measures to control productive output. Agricultural surpluses were sold on world farm markets using export subsidies. Income stability for farmers was achieved, but at high financial cost and causing negative environmental impacts and trade conflicts.

The 1992 agricultural reform was the first radical reorientation of agricultural policy, which continued with Agenda 2000. Pricing and quota policies were partly replaced by direct payments to farmers (first pillar), with a new priority, namely rural development policy, being incorporated as a second pillar of the common agricultural policy. The new policy course combined a stronger market orientation in European agriculture with direct payments to farmers. Agricultural policy measures were also geared more strongly towards safeguarding environmental and other social benefits generated by agriculture. Agenda 2000 continued the course initiated in 1992. As a general principle, however, the objective of securing farm income through governmental pricing and quota policies was maintained.

The Luxembourg agreements on the reform of EU agricultural policy in June 2003 marked a fundamental shift in Europe's agricultural policy course. For the most part, the

reform cuts the link between support and production (decoupling). The decoupled direct payments are made in recognition of the social benefits of farming. They contribute to safeguarding a multifunctional agriculture and are also a form of recompense for compliance with higher animal welfare and environmental standards in the EU.

Farmers may receive direct payments provided that they comply with specific legal obligations (cross-compliance) and maintain their land in good agricultural and ecological condition. The course initiated with the 2003 reform, comprising cuts in support prices and decoupled direct payments will be continued in the coming years, in particular within the so called health check of common agricultural policy (CAP) in 2008.

Sustainable land management

The radical reform of the CAP in 2003 also has implications in terms of more sustainable land management. In Germany, implementation of the reform began in 2005 and will continue until 2013 within the framework of the German decoupling model towards a system of regionally uniform acreage premia. In terms of sustainability, this has three key impacts:

1. Decoupling of premia from production is expected to lead to more extensive production.
2. As one element of the German model, premium volumes will be redistributed to some extent in favour of extensively used sites and grasslands.
3. The payment of premia is conditional upon farmers' compliance with various standards on food safety, the environment and animal welfare (cross-compliance).

Overall, then, the 2003 CAP reform and its implementation in Germany support efforts to achieve more sustainable farming. Furthermore, under the second pillar, specific measures to support environmental services from farming are envisaged, supported with additional financial means, inter alia, with sums saved through mandatory withdrawal of direct payments (being allocated to rural development measures) (modulation).

Measures to improve competitiveness and farm incomes

Increasing agricultural productivity is no longer the first priority in German agricultural policy but the development of the food markets and markets for renewables demand for a highly productive and sustainable agricultural production. Therefore, improving competitiveness in agriculture continues to be a policy objective and is being pursued under the second pillar of the common agricultural policy.

The effect of the direct payments provided under the first pillar is to compensate farmers for higher food security, environmental and animal welfare standards in the EU and to facilitate multifunctional and sustainable agriculture.

Environmentally friendly pest control

Pesticide Reduction Programme

In 2004, Germany launched a Pesticide Reduction Programme in addition to existing legislation.

The Pesticide Reduction Programme builds on Germany's existing plant protection legislation.

With the authorisation of plant protection products which provide users with clear instructions for their handling and application, legal provisions on quality and safety of plant protection equipment and the improvement of professional knowledge of users of these products, the incorporation of additional provisions into the Act concerning the Protection of Crop Plants and principles governing good practice established in plant protection and other areas of the law, a comprehensive legal framework is now in place.

The Pesticide Reduction Programme centres on the necessary minimum, especially in the application of chemical plant protection products. The necessary minimum in the application of these products relates to the intensity that is required in order to safeguard crop cultivation, especially in relation to economic efficiency.

The decision by the farmer, gardener or forester whether to use plant protection products in a given situation in order to protect his crop, as well as which products to use and in which dosage, does not only depend on the regulatory situation. The practitioner makes these decisions on the basis of specific criteria of relevance to him, notably

- the overall agriculture policy and economic framework, such as
 - participation in funding programmes to improve the environment (e.g. agri-environmental schemes),
 - production in line with specific agreements with the recipient side (e.g. sales agreements, contract growing),
 - specific farming practices (e.g. organic farming), and
- the current conditions for the plant protection measure.

The purpose of the Pesticide Reduction Programme is to limit the application of plant protection products, especially chemical products, to the necessary minimum to a greater extent in order to avoid unnecessary applications of these products, and to encourage the use of non-chemical crop protection methods.

This shall result in:

- a decrease in the residues of plant protection products in foods, thus making a major contribution to consumer protection,
- a further decrease in environmental pollution from plant protection products,
- an improvement in the economic situation of farms by avoiding unnecessary costs of pesticide use.

The aim is to achieve the following:

- to reduce the risks associated with, and the intensity of, chemical pesticide use by reducing the application of plant protection products to the necessary minimum and replacing a significant share of chemical plant production products with non-chemical alternatives, and
- to reduce the percentage of products exceeding the existing Maximum Residue Limits (MRLs) in domestic agricultural products to less than 1% across all product groups.

The success of the Pesticide Reduction Programme is assessed on the basis of appropriate indicators such as treatment indices, rating of samples exceeding Maximum Residue Limits (MRLs) and risk indicators.

The following actions are being pursued within the Programme:

- Improving standards in good professional practice, especially
 - improvement of professional knowledge,
 - keeping records of pesticide use, and
 - improvement of plant protection inspections and inspections of foods of plant origin.
- Better enforcement of the principles of integrated plant protection, especially
 - provision of more and better professional information,
 - integration of Pesticide Reduction Programme indicators into quality assurance schemes,
 - establishment of a network of reference farms,
 - development and introduction of modern plant protection technology, especially widespread use of loss-minimising plant protection equipment.
- Supporting the development and implementation of innovations, especially
 - plant protection technology,
 - non-chemical plant protection measures (including resistance of crops) and integrated plant protection processes, and
 - forecasting systems and other decision-making aids.
- Financial support for schemes to support the Pesticide Reduction Programme, especially
 - organic farming,
 - non-chemical, including biological, plant protection processes,
 - integrated plant protection.
- "Hot spot" management.
- Cooperation with trade organisations and the food processing industry and the integration of consumer information into the Pesticide Reduction Programme.

The Pesticide Reduction Programme is supported by a Pesticide Reduction Programme Forum. Developing the German Plant Protection Index (PIX), the aim is to try to identify and summarise trends in the development of plant protection intensities as well as risks to consumers and the environment and thus monitor the Programme's progress.

Measures to improve water management

Germany is a water-rich country, so more intensive measures were not required in relation to irrigation and drainage for agriculture. In specific cases, however, water-saving irrigation schemes are funded by the state and research on optimising irrigation technology is continuing. Water-intensive gravity-flow systems were phased out 20 years ago, while funding for artificial drainage of agricultural areas stopped in 1989.

Infrastructural measures to improve market access

The infrastructural conditions for agricultural marketing are in place across the board in Germany. Producer groups who pool their offer in order to strengthen their market position receive institutional support under certain conditions for specific product categories.

Measures to promote diversification of agricultural production systems

Diversification is one of the priorities of the Joint Task for the Improvement of Agricultural Structures and Coastal Protection (GAK) by means of which the German Government and the federal states (*Länder*) jointly support agricultural structural policy measures at farm level. Investment in the diversification of agricultural production systems is one of the three thematic pillars of the GAK. Diversification comprises farming and non-farming activities which allow farms to tap into new sources of income. The federal states are responsible for administering the funding and setting the funding criteria. The funding takes the form of a subsidy and is co-financed by the Federation and the federal states.

Protection against weather-related risks in agriculture

Protection against weather-related risks in agriculture is primarily a task for the business sector, i.e. farmers themselves and insurers. There are well-established insurance schemes, such as hail insurance, as well as the option of insuring against other weather-related risks, including flooding and drought. To a certain extent, the agricultural sector can also insure against the effects of more serious weather-related problems via the forward markets for loans. In extreme emergencies (e.g. protracted drought, flooding), state aid for livelihood security is available, which may be paid out after events which cause large-scale damage. The aid is financed by the federal states and, in exceptional cases, by the Federation. This system has proved its worth, but may need to be reviewed in light of the impacts of climate change.

The German Government's International Contribution to Combating Hunger and Strengthening Rural Development in the Developing Countries

Activities relating to food security

Despite substantial development efforts and considerable progress, hunger and malnutrition are still fundamental problems for millions of people in developing

countries. Around 80 percent of the 852 million people worldwide suffering from hunger live in rural regions and it is mainly in the rural regions that the problem of hunger is worsening. As this statistic makes clear, growth in the agricultural sector in developing countries is extremely important in terms of achieving food security.

At the World Food Summit convened by the FAO in Rome in 1996, the international community pledged to halve the number of hungry in the world no later than 2015. In November 2001, the German Bundestag decided that Germany should play a leading role in combating world hunger. Realising the right to food is a priority area for action by the German Government in its Program of Action 2015.

The right to food

The German Government attaches great importance to the right to food - enshrined in the International Covenant on Economic, Social, and Cultural Rights - and the ensuing rights-based approach to combating hunger.

It has therefore provided substantial financial support for the *Intergovernmental Working Group for the Elaboration of a Set of Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security* (IGWG) established at the World Food Summit: Five Years Later in Rome in June 2002. The Working Group's task was to prepare guidelines, within two years, for the realisation of the right to food within national and international legal structures.

The *Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security*, adopted by the FAO in November 2004, require the member states of the United Nations to intensify their efforts to combat world hunger, and serve as an important reference point for encouraging greater national responsibility and good governance. The Guidelines link a human rights-based approach with the development agenda for the first time in an international document.

The German Government attaches major political importance to the Voluntary Guidelines on all issues relating to the right to food and food security. It views the Voluntary Guidelines as an action-oriented frame of reference in the field of food security and rural development which enables better identification of population groups affected by hunger and strengthens their legal status. The Voluntary Guidelines also serve as an important reference point for encouraging greater national responsibility and good governance in the worldwide fight against hunger and malnutrition. The Voluntary Guidelines can also be utilised by international organisations and governments on a sectoral basis and integrated as a cross-cutting task.

A project launched in summer 2005 with funding totalling EUR 5.3 million aims to provide targeted support to the FAO in developing instruments to implement the Guidelines. The German Government is also working for the Guidelines to be recognised by international organisations such as the IMF and the World Bank.

The German Government utilises the Voluntary Guidelines in its own policy development. Core aspects of the Guidelines form an integral part of the BMZ policy paper "Rural Development: A Reference Framework", for example.

The German Government's bilateral cooperation with the FAO on food security

Within the framework of its bilateral cooperation on food security with the FAO (through a Bilateral Trust Fund), the German Government supports various projects to combat hunger and malnutrition, with the funding coming from the Federal Ministry of Food, Agriculture and Consumer Protection (BMELV) and with a particular focus on promoting sustainable agriculture and sustainable management of other natural resources. It is thus supporting the FAO to address new global challenges through pilot projects and the development of technical cooperation for the food, agriculture, fisheries and forestry sectors. From the implementation stage onwards, the projects are intended to respond to vital interests and have the potential for further dissemination as a pilot measure after successful trialling. The Bilateral Trust Fund has an annual budget of around EUR 8.35 million. Since 2002, 43 projects with funding totalling EUR 24,722,995 have been implemented within the framework of the Trust Fund in cooperation with the FAO.

The Trust Fund's support framework currently focuses on the following priorities:

- the right to food;
- combating highly pathogenic avian influenza;
- food and energy security in rural regions, and
- sustainable agriculture and animal husbandry.

The regional focus of the projects currently lies in East and West Africa and in Afghanistan as a priority country.

The Bilateral Trust Fund portfolio

Overview of the "right to food" projects

- A "life without hunger" is a key priority for President Tejan Kabbah's government in Sierra Leone. In support of this goal, a three-day symposium on the right to food took place in Freetown back in May 2003. As a follow-up to the symposium, a *Right to Food Secretariat* was set up at presidential level and the status of the *Food Security Coordination Committee* was enhanced. The Trust Fund has provided grant funding for the Secretariat's work to cover personnel, travel and material costs.
- Two agricultural projects which aim to strengthen food production and self-sufficiency are also part of the best-practice implementation of the right to food concept. These are, firstly, the rehabilitation of national seed production through the re-establishment of national seed farms with a market-economic focus, and a reform of national seed policy. The aim is to create structures enabling farmers to be supplied with good quality seed on a sustainable basis. Secondly, support is also being provided for *Operation Feed the Nation*, which was established by the Government of Sierra Leone. Productivity increases in agriculture are to be achieved through *Farmer Field Schools*.

- In Brazil, where the present Government attaches high priority to combating hunger and realising the right to food, Brazilian civil society decided to appoint a National Rapporteur on the Human Right to Food. This is an independent office whose purpose is to critically appraise and comment on the strategies, programmes and draft legislation proposed by the Government and put forward its own proposals on the further development of the right to food. It will also establish participatory control mechanisms on a country-wide basis in order to monitor the implementation process and drive it forward. The Trust Fund has provided support for the office's operations. In order to safeguard the sustainability of the approach, the project has also included the development and establishment of civil society mechanisms.

Overview of projects to combat highly pathogenic avian influenza (HPAI)

Despite current measures to address the problem, it must be assumed that bird flu is now endemic in some countries. Due to the risk of transmission to humans, bird flu is an ongoing threat not only to families' livelihoods but also to public health.

The measures taken to combat the disease so far, especially slaughtering but also restrictions on poultry keeping and marketing, have hit smallholder poultry farmers especially hard. A successful and sustainable campaign against the disease must take account of the small farmers' conditions of life, and the measures must be accepted by households. It must be borne in mind, in this context, that destroying flocks without compensation contributes directly (loss of an important source of protein) and indirectly (loss of an important source of income) to food insecurity; conversely, most smallholder poultry farming is undertaken by women and therefore directly benefits the household budget and therefore also food security.

Preventive slaughter has destroyed many smallholder farmers' flocks with a high level of genetic diversity. If flocks are re-established, the previous diversity is generally lost. This loss of biodiversity reduces important animal genetic resources and erodes stable and sustainable production systems.

The strategy pursued by the FAO has a regional focus on Asia and takes particular account of the small farmers' conditions of life and the issue of biodiversity.

To combat bird flu in the latent region of origin of South-East Asia, Laos and Cambodia have been selected as countries which have been especially hard hit by the disease. The aim of the planned measures is to control bird flu to such an extent that farming families' livelihoods are secured and no further threat is posed to public health.

To this end, disease monitoring services are being established and/or reinforced at village and communal level. Support is being provided to the state veterinary service at provincial and national level in the form of training, better diagnostic services (laboratories), development of information materials and vaccination campaigns. This enables the veterinary service to respond adequately to the crisis and control the epidemic on a long-term basis. Public information and raising awareness of preventive action against the disease are other important aspects.

The project is currently being extended to Uganda and Egypt, with regionally adapted activities.

Coherent and overarching strategies are also required so that the campaign against bird flu can be conducted in a way which takes account of small farmers' conditions of life and biodiversity.

For this purpose, the Trust Fund has provided personnel support for the FAO's *Emergency Centre for Transboundary Animal Disease Operations (ECTAD)* to establish a Crisis Management Centre (CMC). ECTAD combines emergency measures to combat transboundary animal diseases with preparedness strategies and also develops contingency plans and strengthens national animal health services.

The main purpose of the project is communication and the establishment of measures at regional and global level. In addition, appropriate strategies are to be developed by implementing pilot projects in selected countries. At the end of the project period, it is expected that HPAI prevention and control strategies which are sensitive to the needs of small farmers and biodiversity will be deployed not only at national level but will be taken into account at regional and global level as well.

Overview of projects on food and energy security in rural regions

From a regional perspective, the work being undertaken with the FAO in Afghanistan via the Bilateral Trust Fund should be highlighted here. Since 2002, 17 projects have been funded in all, with the total volume of funding amounting to EUR 20.2 million.

Classic emergency relief projects absorbed a 40% share of the total volume of funding. This primarily comprised the coordination of emergency measures in the agricultural sector and the provision of seed and support for returning refugees and poor rural households, by supplying them with *farm kits* (seed, fertiliser and tools).

Most of the other projects aimed to improve the income situation of small farming families suffering from permanent food insecurity through the provision of support in agricultural production, thus enabling them to stabilise their food situation. Measures include the rehabilitation of irrigation systems, support for poultry and dairy cattle raising, and reducing post-harvest losses through better storage. The production and income improvements also help to ensure that income can be generated legally through agriculture.

A third group of projects focuses on the national conditions for agricultural production with a view to improving food security. In this context, Afghanistan's Ministry of Agriculture, Irrigation and Livestock has been given support to develop a national market information system, and a coordination unit for projects of relevance to food security has also been funded.

Besides the five ongoing projects in Afghanistan, a new project on biodiversity and food security was launched in 2006, focussing on the conservation and management of wild

plants for the qualitative improvement of food through key micronutrients in hard-to-access mountain regions.

All the projects under way in Afghanistan are currently being integrated into an overarching strategy and will be incorporated into an umbrella project on food security.

A new interregional project relating to food and energy security in rural regions is intended to assess the implications of the growing demand for bioenergy on food security in developing countries and develop strategies and approaches to manage the economic, environmental and social impacts in the interests of food security. The basic idea of the project is to develop methodologies which take account of food security objectives in the formulation of bioenergy policies with a view to making a positive contribution to rural development.

Overview of sustainable farming projects

Agriculture is the most important economic sector in most developing countries and is likely to remain so for the foreseeable future. On average, over 70 percent of the population in developing countries still live and work in rural regions, whose productive capacities can only be safeguarded for the long term through a form of agriculture which conserves natural resources.

The loss of soil fertility, including erosion, and therefore the loss of the economic basis are increasingly being observed, often as a result of demographic pressure. Traditional agricultural production systems are also being challenged by the HIV/AIDS pandemic. Illness and death are causing a dramatic shortage of workers.

New practices and ideas which are labour-extensive and protect soils and which offer the prospect of higher economic yields are already being promoted successfully. Known as *Conservation Agriculture (CA)*, this system is based on the principles of minimal soil disturbance, permanent soil cover, crop sequences which suit the soil, and/or mixed crops.

An ongoing project aims to promote *Conservation Agriculture (CA)* techniques in Kenya and Tanzania since it was shown that this approach is practicable, requires less labour and yet results in higher yields (or yields that remain the same during drought) and can also reverse erosion processes.

The project makes an important contribution to the international *Sustainable Agriculture for Rural Development (SARD)* initiative, which is supported by the Federal Ministry for Economic Cooperation and Development (BMZ) and the German Council for Sustainable Development.

The project also makes a major contribution to the *Sustainable Agriculture Information Network (SustaiNet project)* initiated by the German Council for Sustainable Development and supported by the Federal Ministry for Economic Cooperation and Development (BMZ) and the Federal Ministry of Food, Agriculture and Consumer Protection (BMELV). Together with partners from civil society and government agencies, SustaiNet documents examples of best practice in sustainable agriculture and develops strategies to promote them. At international level, SustaiNet cooperates with

the FAO's SARD Initiative: FAO/SARD and SustaiNet provide mutual support in the national and international policy dialogue on standards in sustainable agriculture.

Agriculture and rural development in bilateral German development cooperation

In its promotion of rural development, German development cooperation pursues a comprehensive system- and process-oriented approach which takes account of the multifunctionality of rural regions and the realisation of the right to food. In this context, the various factors influencing conditions of life in rural regions must be systematically addressed. In 2006, total net spending on rural development exceeded EUR 500 million.

The agricultural and food sector is the most important branch of the economy in sub-Saharan Africa, both in terms of supplying the local population and for export, and also offers the greatest direct potential for poverty reduction. The aim of German development cooperation is to identify the development potential of agricultural production and processing and open up ways of integrating broad sections of the rural population into local, national, regional and international markets. Cooperation with the countries of sub-Saharan Africa is a special focus. Here, Germany is cooperating with 13 countries at present (Ethiopia, Burkina Faso, Ghana, Kenya, Mali, Benin, Côte d'Ivoire, Congo, Democratic Republic of Congo, Nigeria, Republic of South Africa, Zambia and Senegal).

Germany is supporting, in particular, the establishment of framework conditions which encourage competitiveness in the agricultural and food sector. The targeted promotion of (sub)sectors and regions aims to improve the level and distribution of profits along the value chain and finance the requisite services from the value added that is generated. The provision of infrastructure (roads, markets, irrigation, etc.), strengthening and advising producer organisations, integration into overarching strategies for the development of the rural regions and the sustainable management of natural resources all help ensure that agriculture can fully exploit its potential to reduce poverty. Through policy advice and dialogue, German development cooperation is contributing to the establishment of a clear and consistent agricultural policy framework for the development of farming.

New challenges but also opportunities for the development of the rural regions are reflected in more intensive activities to combat bird flu and in measures to support adaptation to the impacts of climate change.

For example, the Federal Ministry for Economic Cooperation and Development is supporting two partner countries, Indonesia and Vietnam, in their efforts to combat bird flu by establishing country-wide early warning and monitoring systems, with each country receiving EUR 4 million in funding. A further EUR 4 million is available primarily for urgent action in Africa.

African farming is already exposed to additional risks due to increased climate variability, and traditional knowledge of formerly adapted cultivation methods has lost much of its value. The social and economic vulnerability of the farming population has already increased greatly as a result. A dramatic worsening of the already catastrophic

food situation can therefore be expected unless agriculture can be adapted to these changed conditions in time.

International agricultural research faces a major challenge here: in the short term, it must improve forecasting mechanisms, agricultural extension systems and supply management. In the medium term, research is required to ensure that crops and animals that are adapted to the changed local conditions are available for the human food supply in future too. Given that time periods of up to 25 years are required to bring selective breeding research and trialling of appropriately adapted cultivation methods to the point where they can be deployed in practice, massive investments are required today.

Germany has made the adaptation of African agriculture to the impacts of climate change a research priority, with funding of EUR 10 million from international agricultural research.