

FRESHWATER COUNTRY PROFILE GERMANY

Decision-Making

General:

The Federal government consists of the Federal Chancellor and the Federal Ministries, the former determining the general policy guidelines. At the federal level the Federal Ministry for Environment, Nature Conservation and Nuclear Safety and the Federal Ministry for Cooperation and Development are – in close cooperation with the Federal Foreign Office - jointly in charge of co-ordinating the Johannesburg follow-up process. On the local level, over 2,000 municipalities, including almost all major cities, have introduced local Agenda 21 processes. In its Basic Law, Germany has enshrined the protection of vital natural resources as a state objective – in terms of responsibility for both present and future generations. The German government's ministries and departments co-operate closely. Integration of development in decision-making has been developed further in recent years: The Ministry for Cooperation and Development is now a member of the Federal Security Council that decides, among other things, on arms exports. In addition, all new German laws will be examined in future in terms of whether they touch upon development policy concerns; this includes their relevance for poverty reduction. For certain fields of sustainable development, special inter-ministerial bodies have been established, examples of which include the national climate protection programme and the national sustainable development strategy. In addition, there is highly developed planning legislation in Germany that also prescribes the rational use of land and soil as well as consideration of nature conservation concerns. In addition, Environmental Impact Assessments (EIA) is required for all projects with particular environmental relevance.

The German government has elaborated a national sustainability strategy in 2002, which then was presented at WSSD. The State Secretaries' Committee for Sustainable Development ("Green Cabinet"), which comprises state secretaries from 10 ministries, was commissioned with the task of developing this strategy. The Green Cabinet is currently working on the first progress report which should be finalized by September 2004. A national Council for Sustainable Development advises the German government and promotes the dialogue within the society on the goals and measures of sustainable development.

Current measures for integrating environmental protection and development policy concerns into other policy areas include: Ecological tax reform started on 1 April 1999, introducing an eco-tax on energy and fuel consumption, the revenue of which is used to decrease social security contributions.

Water resource management. The general principle of German water policy is to manage water in such a manner that the common good is served and that every avoidable harmful impact is prevented. The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety deals with basic questions of water resources management as well as with transboundary cooperation in this field. It is responsible, inter alia, for the Federal Water Act and the Wastewater Charges Act. The revenue from wastewater charges is earmarked for measures that prevent water pollution. The Ministry is also responsible for provisions of the European Union. The most important partners of the Federal Environment Ministry are the Federal Ministry of Consumer Protection, Food and Agriculture; the Federal Ministry for Health; the Federal Ministry of Transport, Building and Housing; the Federal Ministry of Education and Research; the Federal Ministry for Economic Cooperation and Development; and the Federal Ministry of Economics and Labour. Cooperation takes place at Federal, state and district levels. Regulations for water resource management are exclusively a matter for the federal states and their municipalities.

The Federal Environment Ministry is assisted by other Federal authorities and research institutions, including the Federal Environmental Agency in Berlin, the Federal Agency for Nature Conservation in Bonn and the Federal Office for Radiation Protection in Salzgitter, all of which report to the Federal

Environment Ministry. In addition, the Federal Institute for Hydrology at Koblenz, the Federal Institute for Navigation and Hydrography in Hamburg, the Federal Institute for Waterway Engineering in Karlsruhe and the German Meteorological Service in Offenbach report to the Federal Ministry of Transport, Building and Housing. The Federal Institute for Geosciences and Natural Resources in Hanover reports to the Federal Ministry of Economics and Labour. The Federal Biological Research Centre for Agriculture and Forestry (BBA) and the Federal Agricultural Research Centre (FAL) report to the Federal Ministry of Consumer Protection, Food and Agriculture. There are national as well as European (EC) regulations affecting water resource management issues.

As determined by the Basic Law, in the field of water policy the Federal government only has the right to enact general provisions (framework competence). Freshwater-related issues are to be decided, in principle, by state authorities or institutions. However, the principal national framework is laid out by the Federal Water Act (Wasserhaushaltsgesetz), which has been updated to implement the EC Water Framework Directive. The following instruments are used for water resource protection: effluent disposal plans; effluent load plans; surface water and groundwater protection regulations; and the designation of flood-prone areas. The federal states have their own water laws and are responsible for enforcement. They coordinate their efforts in the federal states' Working Group on Water Problems (LAWA). At the river basin level, the federal states have working groups; the Federal government is also involved where international river basins are concerned. The federal states are, inter alia, responsible for establishing pricing policy within the framework set by the Federal Water Act.

The European (EC) Framework Directive on Water Policy was adopted by the EU Council on 23 October 2000. The implementation of the Directive into German law is expected to be accomplished by mid-2004. The Member States are also urged to describe the characteristics of their river basin districts by 2004. With the help of river basin management plans (to be implemented by 2009), a good status of surface and groundwater is to be reached in 2015.

Programmes and Projects:

A. Integrated Water Resources Development and Management: Efforts are currently being made to implement the EC Water Framework Directive in cooperation with the other EC Member States in the EC Common Implementation Strategy.

Integrated management of land resources: Methods of good agricultural practice are seen as being essential for environmentally sound and resource-efficient production methods. But it should be kept in mind that profitability is essential for staying in business and complying with responsibilities in terms of sustainable development. In the interests of supporting efficient, competitive, market-oriented and environmentally sound agriculture and forestry, Germany promotes, for example, attempts to overcome structural deficits, the use of farmland for non-food renewable commodities and methods of good agricultural practice, sustainable forest management and organic farming. Furthermore, programmes have been launched to foster the economic and social development of disadvantaged rural areas, especially those located in the eastern part of Germany, through improved infrastructure, promotion of economically viable farms, job procurement schemes and farm-income combinations, e.g. direct marketing, rural tourism, off-farm employment opportunities.

B. Water Resources Assessment: See under *Information*.

C. Protection of Water Resources, Water Quality and Aquatic Ecosystems: The precautionary principle, the polluter-pays principle and the cooperation principle form integral parts of German water policy.

Great stress was also laid on the fact that integrated pest management involves higher requirements and serves as a model with which practical plant protection is to be gradually aligned.

Integrated watershed management: As one of the seven Alpine countries, Germany actively co-operates with the other signatories to the Alpine Convention in the interests of sustainable development in the Alpine Region. The work performed by farmers and forest owners as well as the services of the water and forest administrators in terms of the care and preservation of the mountain forests and watersheds as well as the protection against harmful effects of snow movements are crucial for the sustainable development in the Bavarian Alpine region. It is this approach that allows the long-term settlement of mountain zones. The Federal government participates in the United Nations Food and Agriculture Organisation/Economic Commission for Europe (FAO/ECE) Working Group on the Management of Mountain Watersheds and in the Ministerial Conference for the Protection of Forests in Europe, which *inter alia* deals with mountain development.

There are a variety of forest-related programmes in specific areas, such as reduction of airborne pollution, conservation of genetic resources or promotion of renewable resources. In 1983, the Federal government initiated a "Save the Forest" campaign to combat new types of forest damage. It involved the reduction of harmful emissions. Through these measures and additional activities, the emissions of several pollutants have been noticeably reduced over the last 20 years. The National Programme on the Conservation of Forest Genetic Resources has been revised in the year 2000. The National Programme on the Conservation of Forest Genetic Resources has been revised. The focal point of the programme is in-situ conservation through natural regeneration and protection of important resources. A proven, wide and diverse body of legislation exists in this area. It has gradually developed over the last few decades, taking into account the experience of a long history of German forestry.

The Bavarian State Forest Administration has been implementing a rehabilitation programme for protective forests since 1986 in close cooperation with the water management authorities. This programme is aimed at the rehabilitation of ill-functioning protective forests. It is intended to last for some 25 years and covers a financial contribution of approximately €265million from the State Forest Administration and €53million from the Water Management Administration. The programme also provides for the reduction of excessive game populations and the settlement of harmful forest pasture rights. In addition, the owners of agricultural and forestry land receive substantial financial support in the form of government subsidies. The programme for the conservation of forest genetic resources and the programme for the conservation of biological diversity also apply to mountain areas.

D. Drinking Water Supply and Sanitation: Almost all citizens have a connection to public drinking water supply. At 93%, the level of connection to public wastewater systems has also reached the limits of what makes economical sense. Nearly 100% of collected urban sewage is treated. In the new federal states, water consumption has declined sharply.

E. Water and Sustainable Urban Development: See under D. Drinking Water Supply and Sanitation.

F. Water for Sustainable Food Production and Rural Development: Efficient utilisation of irrigation water is achieved by means of water saving sprinkler irrigation and water recycling systems.

G. Impacts of Climate Change on Water Resources: Climate and atmospheric research in Germany is particularly concerned with the problems of global change. The focus has so far been on the investigation of the physical basis of climate change, and less on climate research. Climate impact research currently focuses on only a few research activities for the purpose of testing methodological approaches and clarifying newly emerging issues of interdisciplinary cooperation. The pilot project undertaken jointly by

BMBF and the five German coastal federal states (“Climate change and the coast”) studies the German coastal regions for possible climate impacts, including potential socio-economic consequences.

Status

Socio-economic aspects: It may be assumed that, in general, “absolute poverty” (defined as a situation in which survival is uncertain) no longer occurs in Germany. In Germany, this type of material poverty (extreme/absolute poverty) is prevented by the existing social security systems. Within the system of social security, social assistance constitutes the ultimate safety net for all those who do not have sufficient income or assets. In Germany, therefore, extreme poverty (resulting, perhaps, from a failure to claim the social assistance benefits to which one is entitled) is to be found only in exceptional cases. However, if one applies a broader definition of poverty, those living under particularly difficult circumstances must also be taken into account. Unemployment, homelessness, and a heavy burden of private debt or problems of addiction may bring about these difficult circumstances.

The turnover of the German tourist industry is about €204 billion annually. The total of employees is approximately 3 million. The contribution of tourism to GNP is between 7 and 8 %.

Land use: More than 80% of Germany’s land surface is devoted to agriculture and forestry, and 54% of the total area is agricultural land. Around 21% of all jobs in Germany are to be found in agriculture and related economic areas. Thus agriculture plays a crucial role for sustainable development and contributes significantly to the economic viability of rural areas. In view of the high intensity levels in crop and animal production (in terms of mechanization and chemical inputs), and of output-oriented and yield-oriented practices, much had and has to be done to bring about better harmony between the agricultural sector and environmental protection, nature conservation, consumers’ nutritional and health demands, and animal welfare.

Combating deforestation is not relevant in Germany. All kinds of forest owners have to conserve their forests and manage them sustainably. The principle of sustainability is accepted by all forest owners and the public. Where required and appropriate, forest cover is to be expanded. Since 1960, the total forest cover in Germany has increased by about 500,000 ha, promoted by granting subsidies and financial incentives from the government and the EU. On the basis of both improved legislation, particularly embodying best practices of forestry, and many years of experience, “close to nature forestry” is becoming the leading management principle for an increasing number of forest enterprises in Germany.

Water resources: The German Alpine Region, including the foothill area, covers 11,153 km² and is located in the federal state of Bavaria (the area of the German Alpine region proper is 5,300 km²). The most important rivers in the mountain area are the Inn, Isar, Lech, and Iller.

One of the major constraints with respect to freshwater is the pollution of groundwater caused by nitrates from agricultural sources. The biological water quality of rivers has continuously improved since 1975 in the old federal states in the west and since 1990 in the new federal states in the east. The quality objective of moderate or less pollution has been reached on about 45% of the river stretches. Only 9% of the stretches were severely or excessively polluted in 1995. Among hazardous substances, the pollution with heavy metals (from agricultural soil erosion and urban storm waters) and pesticides (from agriculture) is still problematic. The intensive use of rivers for shipping and energy supply as well as the maintenance of brooks in agricultural areas created an unnatural river morphology lacking in ecologically sound living areas for water organisms.

The primary sources of land-based marine pollution are industry, agriculture and transport.

A comparative study of environmental pollution caused by private consumption in households over the past 10 years has shown reduction in water consumption (-8.5%) and waste water (-4.5%). Water quality control measures have significantly reduced the pollution of nature in Germany in recent years.

Capacity-Building, Education, Training and Awareness-Raising

Water administration (See under Decision-Making), management and research are highly developed in Germany. Several universities include water-related education, oriented towards technology, urban and watershed management or toxicology. Some of the most well-known faculties are situated at the Universities of Aachen, Berlin, Darmstadt, Dresden, Hamburg, Karlsruhe and Munich.

One of the examples of awareness-raising is the Detergents and Cleaners Act of 1975. Consumers must be informed about constituents and doses of washing agents and detergents. In 1993, the eco-label award panel "Jury Umweltzeichen" awarded the Blue Angel environmental symbol to a component-system detergent for the first time. With the implementation of the EC Water Framework Directive, public information and consultation will be further enhanced, especially in the production, review and updating of the river basin management plans.

Since the late 1980s, the Federal Environment Ministry has, as part of its environment education programmes, funded projects conducted by social actors and lobby groups on the promotion of sustainable consumption and production patterns, with the objective of anchoring the subject matter in large groups of society through measures that enhance general awareness. In addition, a large number of consulting and education projects were implemented to enhance individual players' effectiveness in these areas of activity.

Since 2001 the Federal Ministry of Education and Research awards German and foreign scientists with scholarships for internationally oriented water related postgraduate studies. Seven universities are currently participating with about 70 scholarship holders from 29 countries. The Federal Ministry of Education and Research also spends about €12 million for projects to adapt drinking water and sanitation technologies to the situation in developing and newly industrialized countries, including capacity building and knowledge transfer.

Germany publishes a wide range of informational material on the promotion of sustainable consumption and production patterns. Apart from subject-specific environment reporting, the majority of available information is based on the work of the Federal Statistics Office and the above-mentioned research programmes. The general public also has access to diverse information on a variety of issues and instruments such as life-cycle assessments, product-related eco-labelling and substance databases. Consumer protection agencies (e.g. Stiftung Warentest) are another reliable source of information on this subject.

Information

Germany uses a surveillance system to monitor implementation of relevant laws and regulations. Geographic Information Systems are also used for these purposes.

Water quality and water quantity: Information on water quality and quantity is summarized in reports for the Federal, state and district levels. The "Data on Environment 2000", the brochures "Water Resources Management in Germany" (2001) and "The Water Sector in Germany" (2001) published by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and the Federal Environmental Agency as well as several publications about the state of waters by the federal states' Working Group on Water Problems (LAWA) are examples at the federal level. Data on water level, discharge and quality as

well as physiographic data, such as a digital elevation model (DEM) etc., are available electronically. LAWA efforts and publications are oriented towards implementing uniform and comparable sampling, analytical and assessment methods.

Integrated land management: Information on integrated land management and sustainable use of land are available to potential users at www.landentwicklung.de. Land resource information systems are traditionally well developed. It is planned to establish soil information systems. A procedure is in place for the planning of dumping grounds, which provides for publication of plans, comments from concerned agencies, hearings, and public discussion.

Indicators: A focal point of future work is to improve the coherence of existing indicator systems and systems currently under development at the national and international levels. Furthermore, options are to be created for increased aggregation of indicator systems. This includes greater consideration of data and indicator work in industry and at the municipal level. In addition, options for improving the communicability of indicators and indicator systems using modern communication means and media are to be examined.

Research and Technologies

Research and technology improvement are concentrated at universities (See under *Capacity-Building, Education, Training and Awareness-Raising*), research centres and the larger water supply and wastewater treatment companies. Special research and technology improvements were brought about by amendments to the EC Directive on the Quality of Water for Human Use and the German Drinking Water Ordinance as well as the EC Urban Wastewater Directive, the German Wastewater Ordinance and the German Wastewater Charges Act.

Most needed are Environmentally Sound Technologies (ESTs) in the economic sectors of transportation and private energy consumption. In Germany's experience, the selection, transfer and application of ESTs are mainly the task of the private sector. Environmental advice, related technology and know-how transfers are increasingly becoming an integrated part of activities of German industry and its self-governing organizations acting on an international level.

Financing

Between 1992 and 1995, investments for the improvement and modernization of drinking water plants and networks amounting to some €434 million per year were made, of which €230 million was invested in rural municipalities and €204 million in towns. Investments of the same amount are to be expected at least up to the year 2005. Up to the end of the nineties investments in water supply amounted to approximately €2,5 billion per annum. In the following years investments were reduced to some €1,8 billion. 2/3 of this amount is used for the mains. Investments of an equal magnitude are to be expected for the near future.

€7,15 billion is invested annually in wastewater disposal in Germany, approx. 70% for the construction and maintenance of sewage systems, and 30% for the construction and operation of wastewater treatment plants. Despite the high connection percentage, an average annual investment of €6,6 to 7,66 billion will be needed in future. The focal point of this investment will be in rural areas and in upgrading wastewater treatment plants and sewage systems in the new Federal states.

Cooperation

The German government considers that protection of freshwater resources - i.e. ground and surface waters within national borders but also cross-border water resources - is of decisive importance in preserving the environment, peace and the fundamental basis of life, both now and in the future.

In December 2001 the Federal Ministries for Development and for the Environment jointly convened the International Conference on Freshwater in Bonn, which served as a preparatory step on freshwater issues for the World Summit on Sustainable Development in Johannesburg. The delegates from 118 states, 47 UN and other International Organizations and 73 Major Groups agreed on the “Bonn Recommendations for Action”, “The Bonn Keys” and the “Ministerial Declaration”, which was adopted by the 46 ministers attending the conference. The focal points of these documents lie on the fields “governance”, “mobilizing financial resources” and “capacity building and technology transfer”. The principles adopted in Bonn have been seen as a significant step on the road to the World Summit in Johannesburg.. Germany is strongly committed to the goals set by the Plan of Implementation of the Johannesburg Summit and has thus taken up the role of a lead country in the EU on the topic of water and sanitation in the preparation process for CSD 12.

Germany is a contracting Party to the ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes and has signed the UN Convention on the Law of the Non-Navigational Uses of International Watercourses. Moreover, Germany is a member state of the International Commissions for the protection of the rivers Rhine, Moselle and Saar, Elbe, Oder, Danube and Maas. Bilateral Commissions for the management of the transboundary watercourses have been established with the neighbouring states of the Netherlands, Austria, the Czech Republic, Poland and Denmark.

The German government supports sustainable, pro-poor water resource management in Germany’s international development policy and cooperation, in which poverty alleviation is an overarching framework. German development cooperation has an extensive water programme. Germany assists its partner countries in developing strategies and in implementing them through programmes and projects. Parallel to this, Germany supports the development projects of non-governmental organizations in these countries. The German contribution to ongoing bilateral projects and programmes in the water sector is around 350 Million annually. The political dialogue is integrated into bilateral programmes with partners on water policies and framework conditions. Africa is one of the target regions, where 42% of the financial resources of the bilateral development cooperation is used.

In the Central Asian and Caucasian transition countries, the German government supports the countries in resolving cross-border conflict over resources including through capacity building, exchange of information, biodiversity protection, and water and land management.

Shared Water Resources are a focal point of German activities. In cooperation with the Foreign Office, the Federal Ministry for Economic Cooperation and Development, the World Bank and the Federal Ministry for Environment, Nature Conservation and Nuclear Safety initiated the Petersberg Process to discuss the issue of transboundary water management from a global perspective. Another roundtable on river basins in the Balkans is envisaged for Spring 2005. In the frame of the G8 Africa Action Plan, Germany implements an initiative of knowledge management of shared river basins in Africa.

Germany also supports the water programmes of international organizations such as the World Bank group, regional banks, UNDP and contributes to the EU development programmes in the water sector. Furthermore, Germany is an active member of the EU Initiative Water for Life.

For the German government it is of particular interest that the following recommendations be integrated into the follow-up of the World Summit on Sustainable Development in Johannesburg in 2002: Water policy in the developing countries must, above all, result in improved access for the poor and be gender sensitive.; Water resources should continue to be public goods, but it should be an option for private enterprises to deliver water supply and sanitation services. Cost-covering tariffs should be introduced for water services if it is simultaneously guaranteed that the poor will be able to meet their minimum water needs. As a prerequisite for managing water supply and sanitation professionally, decision-making structures need to be organized in a decentralized, transparent, and results-oriented manner and based on clear responsibilities.

Future cooperation in the field of urban development will continue to focus on the broad spectrum of infrastructure (water, sanitation), among others. Special importance will be attached to establishing and strengthening the capacities of municipal service providers (utility model). Cooperation between municipal administrations and the private sector (public-private partnership) will gain added significance in that area, too, and capacity building among the public bodies responsible for supervision and quality management will need to be engaged in at the same time.

Integrated management of land resources: Bilateral cooperation in the context of land management takes place with Germany's immediate neighbours, the countries of Central and Eastern Europe, the Commonwealth of Independent States (CIS), and with developing countries in the context of development cooperation. Joint commissions have been established with several neighbouring countries to co-ordinate individual regional development plans and to even develop joint land use plans. In the countries of Central and Eastern Europe and the CIS, numerous projects for local and regional development have been developed, aimed at promoting democratic and participatory regional planning structures. An ecologically oriented land use planning project is at present being implemented at Lake Baikal in Siberia in the Russian Federation. The concept of participatory land use planning has been incorporated into German development cooperation since the late 1980s. Land use planning is an important instrument of bilateral development cooperation and is frequently combined with other instruments, such as geographical information systems, regional outline planning and participatory rural appraisal. Successful participatory land use planning and management programmes have been supported in the Philippines, Burkina Faso, Colombia, Zambia, and other countries. Land use planning is also an important issue in national environmental and/or forestry programmes supported by Germany.

Technology transfer: To improve the transfer of technology to developing countries, the International Centre for Transfer of Environment Technology (ITUT) was established in Leipzig. In addition to this, a special project is under preparation to assist small and medium-sized enterprises with the introduction of environmentally oriented management methods. The ERP Environmental and Energy Conservation Programme grants loans at favourable conditions for commercial investment projects aiming at lowering or avoiding pollution. These projects are related to the following fields: waste management (avoidance, use, and disposal of waste and measures to clean up pollution from the past); sewage treatment (water treatment, protection of water resources, avoidance of sewage and hazardous waste transport, purification and treatment of sewage); clean air measures (avoidance or considerable reduction of emissions, fuel gas purification and the filtering of emissions, as well as the reduction of noise, odours, and vibrations); and energy conservation (conservation and efficient use of energy and investments in the use of renewable energies).

* * *