Germany

Country Profile

Federal Ministry for the Environment,

Nature Conservation and Nuclear Safety

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Introduction

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 ministry is also responsible for provisions to the European Union. The most important partners 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 Ministry of Economics and Technology. Cooperation takes place at federal, state and district levels right down to local communities.

The Federal 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 Technology. The Federal Biological Research Centre for Agriculture and Forestry (BBA), and the Federal Agriculture 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.

Water Situation of the Country: Resources, Supply and Demand

Owing to the country`s favourable climatic situation, water supply problems in term of quantity do not generally arise in Germany. Although water quantity savings help to reduce the burden on water resources, the main focus in Germany, as densely populated and highly industrialised country, continues to be on improving water quality and the structure of its waters.

In the years on reconstruction following the Second World War, water conservation in Eastern and Western Germany was unable to keep pace with the expansion of industrial activity. By the late sixties and early seventies water pollution had reached a level that gave cause for concern.

In the economically stronger West - the original Federal Republic of Germany – the national and regional authorities made water protection a key area of their work in an early stage. They enforced an initiated a large number of measures to improve the quality of waters as quickly as possible and with lasting effect. In particular, industry causing pollution was required to take far- reaching water conservation measures.

Thanks to the construction of over 8,000 biological sewage treatment plants in the municipal sector and intensive treatment of wastewater and complementary internal measures by industrial facilities, inputs of oxygen-depleting organic wastewater constituents and of pollutants into waters were considerably reduced. This brought about a decisive improvement in the quality of surface waters.

One major task following German reunification on 3.10.1990 was ensuring the same level of environmental protection throughout the country. The technical standard of water supply and disposal in the five New States (Länder) was well below that of the old Länder. The goal was therefore to achieve the same level of environmental conditions throughout Germany by the year 2000.

While the high level of investment in the last ten years has brought substantial improvements, water conservation remains an ongoing task. The general context of the Federal Republic of Germany, i.e. its geographical situation in the centre of Europe, its high population density and high level of industrialisation, continue to call for special efforts in the field of water protection.

Today, almost all citizens have a connection to public drinking water supply. With 93%, the level of connection to public waste water systems has also reached the limits of what makes economic sense. Nearly 100% of that collected urban sewage is treated. In the new Federal States, water consumption has declined sharply. Efficient utilization of irrigation water is achieved by means of water recycling systems.

Country Key Factors of Water Resources Development and Management

Protecting Ecosystems

Water administration, 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. Research and technology improvement are concentrated at universities, research centres and the larger water supply and wastewater 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 and the German Wastewater Charges Act.

Information on water quality and quantity to support sustainable water resources management 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 Working Group of Federal States on Water Problems (LAWA) are examples at the federal level. Data on water level, discharge and quality as well as physiographic data such as digital elevation model (DEM) etc. are available electronically. LAWA efforts and publications are oriented to implementing uniform and comparable sampling, analytical and assessment methods.

As another part of sustainable water resources management, efforts towards awareness – rising being made: One early example for this is the Detergents and Cleaners Act of 1975. Consumers must be informed about constituents and doses of washing agents and detergents. In 1993 the ecolabel award panel “Jury Umweltzeichen” awarded the Blue Angel 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 river basin management plans.

In November 2002, the first ship received a Blue Angel. By awarding the Environmental Label for environment-conscious ship operation emissions and pollutant discharges from

ships into the marine environment shall be reduced. To achieve this goal very high requirements have to be met by the managements of shipping companies and ships (e.g. environmental training for ships` personnel), by the ship design and equipment (e.g. Tributyltin and biocide – free antifoulings), and especially by measures for the reduction of emissions (e.g. Sulphur dioxide emissions).

Shared Water Resources

In the past, the Federal Government has already made transboundary cooperation for the protection of inland waters and the seas a key objective of its environmental work, since responsibility for water does not end at territorial boundaries. Particularly in view of the requirements of the EC Water Framework Directive, the Federal Republic of Germany recognises the continuing challenge of assuming responsibilities in a global environment partnership extending beyond its borders.

Germany is a contracting party to the ECE Convention on the Protection and Use of Transboundary Watercourses 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 and Danube. Bilateral commissions for the management of transboundary watercourses have been established with the neighbouring states The Netherlands, Austria, the Czech Republic, Poland and Denmark. Germany is currently holding the presidency of the Danube River Commission.

The German development co-operation has an extensive water program. Germany assists its partner countries in developing strategies and in implementing them through programs and projects. Parallel to this, Germany supports development projects of non-governmental organisations in these countries. The German contribution to ongoing bilateral projects and programs in the water sector is around Euro 3.5 bn. Integrated into bilateral programs is the political dialogue with partners on water policies and framework conditions.

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. The first conference on the

Petersberg near Bonn from 3 – 5 March 1998 highlighted water as an opportunity for close regional cooperation. Further round tables took place in Berlin, in which representatives of international river commissions exchanged their views, and in Vilnius on transboundary waters management in the Baltic Sea region. The recommendations for action resulting from the Vilnius Round Table were implemented into the framework of the Baltic Sea Action Program/Helsinki Commission. The last conference in September 2001 concentrated on the shared waters of the Nile. Ministers from all Nile states participated in a lively exchange of views and appreciated the work done by the Rhine Commission.

Germany also supports water programs of international organisations such as the World Bank group, Regional Banks, UNDP and others and contributes to the EU development programs in the water sector. Furthermore, Germany is an active member of the **EU-Water-Initiative**.

Managing Risks

Pollution

Groundwater as well as inland surface waters are subject to regular monitoring in Germany to prevent potential danger to human health, to identify the impacts of anthropogenic influences on aquatic ecosystems, to document the present situation with regard to water pollution and to indicate the effectiveness of water protection measures on the basis of quality data.

For the purpose of assessing the conditions of waters, the "Working Groups of the Federal States on Water Problems" (LAWA) regularly makes use of classifications systems for biological, structural and chemical aspects. These water quality classifications provide information about the impacts of substances and of hydromorphological encroachments on the aquatic communities and important uses of water.

In addition to the regular investigations by the Federal States, the Federal Institute of Hydrology undertakes on behalf of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety investigations of the fauna in the German parts of major rivers: the Rhine, the Elbe and the navigable Danube.

A comparison of the biological quality maps for 1975, 1990 and 1995 shows that there has been a continuous improvement in water quality and hence in biological water quality as a result of the increased wastewater purification measures in the Old Federal States since the

1970s and changes in production profiles, the closure of major industrial plants and the construction of new sewage plants in the five New Federal States since 1990. The quality objective of moderate or less pollution has been reached at about 45% of 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 ecological sound living areas for water organisms.

One of the major constraints with respect to freshwater is the pollution of groundwater caused by nitrates from agricultural sources.

Floods

In order to achieve a sustainable reduction of flood damage work is in progress to draw up viable long-term strategies at catchment area level that are based on three main pillars:

- Natural flood water retention both on land areas and in the water.
- Additional flood precautions: Land precautions (no building, changes of use, official conditions in flood-risk areas); construction precautions (building to cater for floods) and behavioural precautions (forecasts, recommendations for action)
- Technical flood prevention (dykes, dams, retention basins)

A reduction in flood damage will largely have to be achieved using the instruments of construction precautions and behavioural precautions. This, however, presupposes that the population affected become aware of their share of responsibility for flood precautions.

An important activity for implementing flood action plans is the integration of these issues in the Local Agenda 21 process, since this process at local level can initiate a broad dialogue between all the players involved, indicate deficits, create sustainable structures, and lead to the drafting and implementation of consensus-based solutions.

Following the severe flooding in August 2002, efforts will be even more reinforced. The Federal Government has launched a flood defence program (“5-Points-Program”) on emergency aid measures and preventative strategies.

It includes the following five elements:

1 - Joint Federal Government and Federal State flood defence program: Natural flood plains have to be maintained to permit rivers to flood on to undeveloped land. Agricultural land on flood plains has to be adopted to prevent soil erosion and water catchment systems should be used to regulate flood water. Rivers should be returned to their natural state, reservoirs should be used to control flooding and the amount of sealed land should be reduced to enlarge flood areas at rivers and to improve drainage. Thus, it is suggested to prohibit new developments in areas prone to flooding (which should be reflected in Federal State legislation).

2 – Inter-state action plans and international conference: Flood prevention strategies should not stop at federal state or national boundaries. Flood defence plans have to include cross-boarder forecasting and warning systems. To improve international cooperation and to develop common strategies, Germany will host an international flood prevention conference in 2004.

3 – European Cooperation: The Federal Government will give political and financial support to flood alleviation projects that require cross boarder development planning. More use should be made of European funding for flood prevention measures in rural areas.

4 – River development: The program requires environmental and conservation authorities to examine plans to develop rivers for shipping for their impact on flood control. The Elbe is lacking a comprehensive development plan. Plans for a series of dams to deepen the Danube will be discontinued.

5 – Immediate flood prevention measures: The program details the package agreed by the Federal Government and the States to help victims of the recent floods and to repair infrastructural damage. The Government has allocated Euro 500m to an emergency aid program for the worst affected. A further Euro 10bn will be raised by delaying the second stage of the Government`s tax reform for one year and raising corporation tax by 1.5% for a year. This will be used to prevent recession in the eastern areas affected by the flooding.

Valuing Water

All drinking water supply (mostly groundwater) in Germany must, in principle, be covered by the price charged for water. This results in regional price differences as the water supply conditions vary from place to place. In 1998, the average price for drinking water in households was Euro 1.69/m³. This price includes value-added tax and the basic price. Thus for a daily consumption of 129 litres the amount paid per head of the population for drinking water was Euro 0.22 per day or Euro 80.27 per year.

The Waste Water Charges Act (1976) provides that a charge shall be payable when wastewater is discharged directly into a body of water. The charge is the first eco-tax levied at the federal level as steering instrument. It ensures that the polluter-pays principle is applied in practice, since it requires direct charges to bear at least some of the costs that their use of the environmental medium water involves. Wastewater charges are payable to the Federal States. They are earmarked for measures preventing water pollution.

Between 1992 and 1995, investments for the improvement and modernization of drinking water plants and networks of some DM 850 million per year were made, of which DM 450 million were invested in rural municipalities and DM 400 million in towns. Investments of the same amount are to be expected at least up to the year 2005 .

Governing Water Wisely

As determined by 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 offices or institutions. However, the principle national framework is given by the Federal Water Act.

The following instruments are used for water resource protection: effluent disposal plans, effluent load plans, surface water and groundwater protection regulations, and the design of flood-prone areas. The Länder have their own water laws and are responsible for enforcement. They coordinate their efforts in the Working Group of Federal States on Water Problems (LAWA). At the river basin level, the Länder have working groups, the Federal government is also involved where international river basins are concerned. The Länder are, inter alia, responsible for establishing pricing policy within the framework set by the Federal Water Act.

The Federal Water Act has been updated in 2002 with the implementation of the European (EC) Framework Directive on Water Policy which was adopted by the EU council on 23 October 2000. The Member States are urged to implement the Directive into their national law by 2003 and 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 shall be reached in 2015.

Efforts are currently made to implement the EC Water Framework Directive in co-operation with the other EC Member States in the EC Common Implementation Strategy.

International Conference on Freshwater

In December 2001 the Federal Ministry for Environment, Nature Conservation and Nuclear Safety and the Federal Ministry for Economic Cooperation and Development 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 organisations and 73 Major Groups agreed on the "Bonn Recommendations for Action", "The Bonn Keys" and the "Ministerial Declaration", which was adopted by all 46 ministers attending the conference.

The Bonn recommendations have been the basis for EU negotiations within the preparatory process for the World Summit on Sustainable Development. Moreover, they influenced the priorities of the EU when positioning itself with its EU Water Partnership Initiative.

The recommendations address four major cross-cutting areas of concern:

- Governance, including Integrated Management and Partnerships
- Mobilizing financial resources
- Capacity building and technology transfer
- Gender

The Conference made substantive progress on the governance issues in water affairs, recognizing that "The essential key is stronger, better performing governance arrangements." (Bonn keys) It underlined the primary responsibility of governments to ensure equitable

access to water, and to set and enforce stable and transparent rules with decentralization as a key element. Several recommendations answer to the need to ensure that water infrastructure and services deliver to the poor.

On the issue of mobilizing financial resources and the role of the private sector, the focus of the debate was shifted from *whether* the private sector should be involved to *how* the private sector should be involved. In Bonn, significant progress was made on the issue of cost recovery: It was agreed that while customers of water services should pay sufficient charges to cover operation, maintenance and capital costs, these cost recovery objectives should not be a barrier to poor people`s access to water supply and sanitation. The conference recommended to use tariff systems which allow social targeting.

In the field of capacity building and technology transfer the Bonn Conference recommended a number of actions for education and training, for research and information management, for better water institutions and for sharing knowledge. The Plan of Implementation of the Johannesburg Summit also takes these aspects into account. The Bonn Conference devoted a plenary session to gender issues. It underscored the need for water management policies which allow men and women equitable access to water resources and to empower women to take up leadership and managerial roles. The importance of gender issues in water management is also reflected in the Johannesburg documents.

The outcome of the Bonn Conference is having a tremendous influence on the international discussions on sustainable development and poverty alleviation in many other international or regional fora, showing that water is the key to socio-economic development, to growth and to quality of life and can not be seen any more as a purely sectoral issue attracting only water engineers and water scientists. In addition, the preparatory process of the Bonn conference served as model for the multi-stakeholder involvement in Johannesburg and the 3rd World Water Forum in Kyoto 2003.

For the German Government it is of particular interest to follow up on the achievements of the International Conference on Freshwater in Bonn 2001 and on the World Summit on Sustainable Development in 2002 and to further develop at the 3rd World Water Forum in Kioto concrete actions – especially in the area of governance, mobilising financial resources and capacity building.

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