



Topics

The water sector

in German development cooperation

Imprint

Published by:

Federal Ministry for Economic Cooperation and Development (BMZ),
Division of Development Education and Information
Adenauerallee 139-141
53113 Bonn
Phone: +49 (0)228/535-0
Fax: +49 (0)228/535-3500
poststelle@bmz.bund.de
www.bmz.de/en

Editors:

Kirsten Dölle, Mijako Nierenköther, Ingo Baum
Final Editing: Steffen Beitz, Martin Kipping

Responsible:

Dr. Manfred Konukiewitz, Hans Hammann

Layout:

design-werk, Wiesbaden

Printing:

Druckerei Koch, Wiesbaden

Photos:

Front page: BMZ Archives, P. 3: BMZ Archives, P. 4: BMZ Archives,
P. 5: BMZ Archives, P. 8: GTZ Benin, P. 10/11: BMZ Archives,
P. 12: GTZ Ghana, P. 13: Marc Latzel/ GTZ Jordan, P. 14: GTZ Yemen,
P. 15: GTZ Zambia, P. 17: BMZ Archives, P. 18: GTZ Archives,
P. 19: GTZ Archives, P. 20: GTZ Yemen, P. 21: Marc Latzel/ GTZ Jordan

Date:

February 2006

Contents

1 Water – a key to achieving the Millennium Development Goals _____	3
2 German development cooperation in the water sector: contributions, partners, actors _____	5
2.1 Bilateral development cooperation _____	5
2.2 Multilateral development cooperation _____	7
3 Challenges and approaches in the water sector ____	8
3.1 Sustainable management of water resources _____	8
3.1.1 Integrated Water Resources Management (IWRM) _____	9
3.1.2 Transboundary water cooperation _____	9
3.2 Giving water sector reforms a poverty dimension ____	10
3.3 Efficient and sustainable water supply and sanitation	12
3.4 Using water efficiently for food production _____	15
3.5 Enhancing effectiveness through cooperation _____	17
3.5.1 European Water Initiative (EUWI) _____	17
3.5.2 ACP-EU Water Facility _____	17
3.5.3 Global dialogue on sustainable dams _____	18
3.5.4 G8 Africa Water Action Plan _____	18
4 The development goals in drinking water and sanitation: What has been achieved so far? _____	19
5 Outlook _____	20
List of abbreviations _____	21
Further Information _____	22

1 Water – a key to achieving the Millennium Development Goals

In September 2000 the heads of state and government of 189 countries assembled in New York for the United Nations Millennium Summit. They adopted the UN Millennium Declaration, which set out the global challenges and the agenda for international policy at the start of the 21st century. From the chapter on development and the environment, eight internationally agreed goals were identified and compiled in the form of a list with concrete targets and indicators – the Millennium Development Goals (MDG). The MDGs mark the first time that the international community has committed to achieving verifiable targets in the struggle against poverty, bringing a new dynamism into development policy. Under MDG 7 the nations of the world have committed to reducing by half the proportion of people without sustainable access to safe drinking water until 2015. In addition, the proportion of people without access to basic sanitation is to be halved until then.

But progress in the water sector also makes decisive contributions towards achieving other MDGs in combating poverty, for example in the areas of health and the environment.

MDG 1 Poverty: Poor people in rural areas and slums in major cities suffer particularly from a lack of safe drinking water and sanitation. The poor themselves often see the lack of access to water as one of the most important causes of poverty. Access to clean drinking water and a reliable supply at affordable cost reduces the number of working days lost due to sickness, and boosts labour productivity and income. Such improved living conditions and resulting opportunities for education are essential if poor people are to free themselves from the poverty trap.

MDGs 2, 3 Primary education and gender equality: The quality of water supply and sanitation affects the social status and opportunities for education of women and girls. Traditionally, it is the women and girls who carry home up to 60 litres of water a day for their families. The time they take for this cannot be used to generate income, attend schooling, undertake vocational training, etc. In addition, public institutions such as schools are frequently not equipped for the presence of women and girls, often lacking separate toilets or any sanitation at all.





MDGs 4-6 Health and fighting disease: Access to safe drinking water and sanitation is an important prerequisite for improved public health. 80 % of all diseases in developing countries are caused by pathogens in water. Diarrhoeal diseases are almost always directly related to contaminated drinking water and lack of hygiene. They are among the most frequent diseases in developing countries and are the second largest cause of death worldwide for children under five. Diarrhoea is also the second most frequent reason for employees taking sick leave in developing countries. In all, water-induced diseases cost developing countries five billion working days a year.

MDG 7 Environment: The protection and preservation of natural environments are neglected in the face of the growing demand for and consumption of water. The expansion of areas under cultivation in particular is threatening natural water reservoirs and regeneration areas. Wetlands are shrinking, lakes, rivers and ground water are overused, water quality is declining. Improved environmental management and investment will ensure sustainable availability of water as a natural resource.

Further information on the MDGs is available at www.un.org/millenniumgoals

One top priority of German development cooperation is to make hygienic water and sanitation services accessible as rapidly as possible to previously undersupplied population groups. However, it is important to ensure that this supply is sustainable and can be maintained by the people locally. These convictions also underlie the approaches in the Programme of Action 2015.

Combating poverty – Programme of Action 2015

The Programme of Action 2015, adopted in 2001, is the German government's contribution to achieving the goals of the Millennium Declaration, and specifically the goal of halving extreme poverty worldwide by 2015. Combating poverty is defined here as the overarching goal of the German government's global structural and peace policy.

Achieving the target of halving poverty is a challenge for all the forces in society. One important task of the Programme of Action 2015 is accordingly to mobilise German public opinion in support of the worldwide struggle against poverty. German government activities and initiatives are not enough by themselves. Partnerships between the government, the private sector and other stakeholders emphasise that the struggle against poverty – and, with it, development cooperation generally – are tasks for society as a whole.

The Programme of Action 2015 puts this new understanding of development policy into action. It includes a comprehensive programme with ten priority thematic headings and a wide range of campaigns by all German federal ministries. The campaigns operate at three levels: within the Federal Republic of Germany, in multilateral policy (international agreements, conferences, committees and institutions), and bilaterally with the developing countries. The German government presents its campaigns and approaches in the water sector under the headings "Ensure access to vital resources – preserve an intact environment" and "Ensure basic social services – strengthen social security".

Further information on the Programme of Action 2015 is available at www.aktionsprogramm2015.de

German development cooperation in the water sector: contributions, partners, actors

Germany is the world's second largest bilateral donor in the water sector with annual funding totalling around 350 million euros for bilateral measures in 28 priority countries.

2.1 Bilateral development cooperation

German development cooperation in the water sector has a long history. In recent years, water-related development projects have been the second biggest area of investment in German development cooperation. The following diagrams show the sectors and regions receiving bilateral funds.

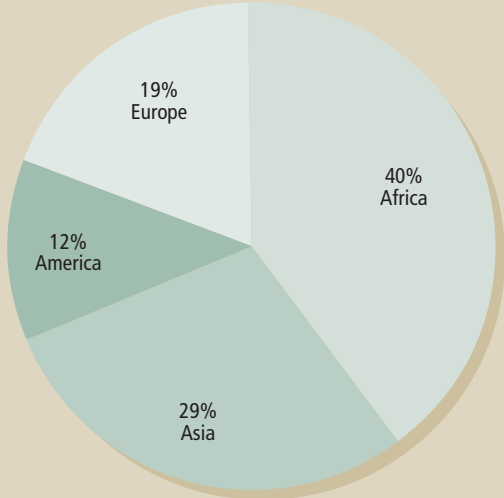
Breakdown of bilateral funds by subsector

Most spending in the water sector was on water supply and waste water management. Around 11 % of funds went to water resources policy, administration and protection.

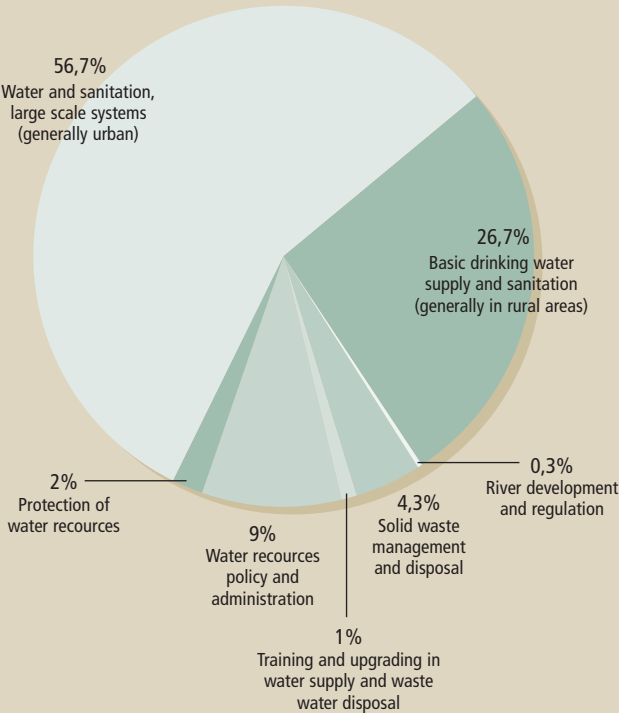
Breakdown by region of German bilateral ODA in the water sector (2003/2004)

In recent years, most German funds in the water sector have been allocated to Africa (40 %) and Asia (29 %), with around 19 % to the South Eastern European nations and 12 % to Latin America and Mexico. Funding concentrated particularly on sub-Saharan Africa and countries in the Near and Middle East.

Percentage breakdown by region of German bilateral ODA in the water sector (2003/2004)



Percentage breakdown of German bilateral ODA funds in the water sector (2003/2004)



Priority countries in the water sector

Currently, Germany supports 70 countries worldwide. Water is a priority in German development cooperation in 28 of these countries, with comprehensive projects and programmes in various subsectors. The promotion of water-related regional cooperation and the assistance to regional organisations have become increasingly important as well.

Overview of partner countries for German development cooperation:

Sub-Saharan Africa	Asia	Latin America	Central, Eastern and South Eastern Europe	Middle East, Mediterranean
Benin	Afghanistan	Bolivia	Albania	Algeria
Burkina Faso	Azerbaijan	Costa Rica	Bosnia and Herzegovina	Egypt
Burundi		Nicaragua	Macedonia	Jordan
Eritrea		Peru	Turkey	Morocco
Guinea				Palestinian territories
Kenya				Syria
Mali				Yemen
Sudan				
Tanzania				
Uganda				
Zambia				

German development cooperation hand in hand

German development policy is formulated by the Federal Ministry for Economic Cooperation and Development (BMZ). It aims to reduce poverty worldwide through policy dialogues, formulating development strategies together with partners and other donors, and managing intergovernmental development cooperation. The BMZ also supports development measures conducted by German NGOs.

German bilateral development cooperation is carried out by implementing agencies, a distinction is hereby made between financial cooperation and technical cooperation.

Financial Cooperation (FC)

The KfW development bank (KfW) is responsible for FC. It promotes investment in economic and social infrastructure, efficient financial systems, agriculture and resource conservation. KfW also finances consulting and advisory services in partner countries. In the field of domestic water services, funding is available for building and expanding drinking water systems, waste water systems and solid waste disposal systems. To ensure the sustainability of the measures promoted, project implementation is tied to implementation of reforms. FC projects are integrated into the national financing strategies of the partner countries.

Technical Cooperation (TC)

TC, implemented by the Deutsche Gesellschaft für Technische Zusammenarbeit GmbH (GTZ) and the German Federal Institute for Geosciences and Natural Resources (BGR), particularly promotes institutional reform in partner countries, together with the development of efficient organisations. Sector reform processes are supported, as is the establishment of standards and monitoring and information systems for sustainable water resources management. A central task is to establish and develop efficient and competent sector organisations, ranging from ministry level to water utilities at the operational level. TC offers consulting and advisory services on complex change processes.

Technical Cooperation in the broad sense

As part of TC in the broad sense of the term, German implementing organisations contribute to capacity building of water sector personnel and institutions. Capacity Building International, Germany (InWEnt) is an implementing organisation, which provides vocational training for experts and managers from developing and transition countries. Its focus is on strengthening management competence in the public and private sectors, and developing and disseminating appropriate approaches to ensure the efficient and effective use of water as a resource. Vocational training is hereby integrated into a systematic overall concept for human resources development in partner



countries. The German Development Service (DED) sends development volunteers, and in particular helps local authorities exercise their functions in the field of water supply, waste water and refuse disposal services.

For most partner countries, cooperation with the German government involves both financial and technical cooperation. The implementing agencies operate in close coordination and with a strategic division of labour, together with the partner government on improving water and waste water management. This way all German actors contribute to achieving the Millennium Development Goals and the ultimate objective of reducing poverty.

2.2 Multilateral development cooperation

Germany's public contributions to development cooperation are also made through multilateral institutions. In all, around one third of the funds from the BMZ budget reach developing countries through multilateral mechanisms.

German commitment to multilateral development cooperation is directed at the following goals:

- Consistent focus on combating poverty and achieving the MDGs in multilateral strategies;
- Helping develop poverty-oriented strategies and improve sector policy in partner countries;
- Further developing German sector policy on the basis of sharing experience with partner countries and other donors;
- Developing coordinated strategies (particularly within the EU) for maximising the efficiency, effectiveness and complementarity of the approaches of different donors in a partner country.

Within the framework of multilateral development cooperation, Germany cooperates closely with international organisations carrying out water sector programmes in developing and transition countries. These include e.g. the Water and Sanitation Program (WSP) and the Global Environment Facility (GEF). In addition, Germany supports institutions such as the Global Water Partnership (GWP) and Joint Monitoring Programme for Water Supply and Sanitation (JMP). Germany is also personally represented on international advisory committees, including the Advisory Board on Water and Sanitation, appointed by UN Secretary General. Within the international policy dialogue Germany supports the Petersberg Process on trans-boundary water management, and hosts international water conferences. In preparation for the World Summit on Sustainable Development in Johannesburg (2002), for example, Germany organised the International Conference on Freshwater in 2001. The conference established the Bonn Recommendations for Action for adoption in Johannesburg. The global sector dialogue has been strongly influenced by the central recommendations of the Bonn Conference on Freshwater and the five "Bonn keys" the conference identified as priorities for the water sector (see also www.water-2001.de):

- 1st key:** Meet the water security needs of the poor
- 2nd key:** Decentralisation
- 3rd key:** New partnerships for better water outreach
- 4th key:** Cooperative arrangements at the water basin level, including across waters that touch many shores
- 5th key:** Better performing governance arrangements.

3 Challenges and approaches in the water sector

Germany helps its partner countries create better framework conditions for the water sector and implement sector reforms. For this purpose, German development cooperation acts at all levels of intervention – government (macro), intermediary institutions and organisations (meso) and local (micro) levels.

In order to achieve a structural impact, German development cooperation links all three levels of intervention. It supports its partner country in formulating a national sector strategy and to implement the respective reforms. German development projects and programmes are then embedded in these strategies with a long-term commitment. However, best chances of succeeding to obtain a sustainable sector environment are by agreeing on step-by-step procedures with the partner government covering several projects.

Many partner countries have already developed their own Poverty Reduction Strategy Papers (PRSP). German development cooperation aligns its priority activities accordingly, as the goal is a coherent development policy. This includes strongly linking FC and TC, and greater flexibility to make it possible to respond to changes within the agreed country approaches and priorities. To enhance the effectiveness of development cooperation, Germany is increasing its involvement in joint programmes and programme-oriented joint financing with other donors.

3.1 Sustainable management of water resources

Water shortages have become a constant challenge in several regions of the world, especially in North Africa, the Middle East and several countries in Eastern and Southern Africa. Growing populations, rapid urbanisation processes and advancing industrialisation are increasing the demand for drinking water, and also for water for the production of food, for industry, mining and tourism. Water pollution and the overuse of renewable water resources are having a devastating impact on the viability of ecosystems, with rivers and lakes failing, the groundwater level dropping and wetlands drying up.

Global climate change is exacerbating adverse natural conditions at regional level. Models developed by climate researchers agree in predicting that many areas suffering from water shortages will face a further decline in their natural water resources. In the last few decades, there has also been an increase in extreme events, such as lasting droughts or floods. Such events not only have catastrophic economic consequences for the affected nations and regions, reaching far beyond the water sector and (in the case of floods) affecting broad areas of the infrastructure (e.g. transport, energy). They have the greatest impact on the poorest sections of the populations, who are least able to protect themselves against extreme events, and frequently live in the areas most at risk. However, societies are by no means helpless victims of these challenges. The key question remains one of water management.

3.1.1 Integrated Water Resources Management (IWRM)

Integrated Water Resources Management (IWRM) is a flexible, process-oriented and holistic approach to the optimal development of water, land and related natural resources. IWRM aims to maximise the benefits of resource utilisation, while emphasising the need for sustainability. The approach has now become – also through the support of German development cooperation – an internationally recognised paradigm in water policy. As such, it is binding for German commitment in the water sector.

The goals of IWRM in detail are:

- Allocate water optimally between the various use sectors and utilise it efficiently (sectoral efficiency of water allocation)
- Sustainably secure water resources for future generations (intertemporal efficiency)
- Resolve conflicts between various users peacefully and rationally (crisis prevention)
- Ensure access for the poor to clean drinking water and appropriate sanitation at socially acceptable prices (social acceptability)
- Curtail water-induced diseases (health)
- Allow ecosystems to retain and develop their vital functions (biodiversity).

3.1.2 Transboundary water cooperation

Water does not recognise political boundaries. Worldwide, over 250 water catchment areas are shared by more than two nations, some 40 % of the world population lives on transboundary rivers, lakes and groundwater reservoirs. There is growing competition for clean water in sufficient quantities between the individual states. Major projects such as irrigation or hydropower projects at the headwaters of a river can have a significant impact on water availability in the lower reaches. Germany has accordingly been promoting cooperation between states sharing cross-border water resources for years, partly through the Petersberg Process. It emerges that transboundary water cooperation has the following effects, among others:



Water cooperation promotes international understanding: Joint agreements on equitable use of water create a framework that prevents unilateral overuse of the resource by any one state at the expense of its neighbours. This creates trust and prevents international crises. In many cases, neighbourly relations between the riparian states improve as a whole.

Water cooperation creates win-win solutions: Optimal investments for the use or protection of transboundary water resources (e.g. improving navigability, flood management, energy production through hydropower, water conservation) are only possible if a number of states participate. Agreements on use rights and coordinated mobilisation of the necessary funding are basic prerequisites for projects promoting the economic and social development of international watersheds.

Water cooperation provides stimuli for the integration of a region: Successful cooperation on cross-border water resources can also act as a catalyst for more intensive regional cooperation and hence for more dynamic macroeconomic development. Cooperation in the water sector creates trust for cooperation in other areas as well.

In transboundary water cooperation Germany supports the establishing and developing of organisations, promotes IWRM, helps establish knowledge management systems and harmonising water policies. It also finances the implementation of these activities, e.g. measuring systems, erosion protection, flood protection, water loss reduction and waste water management.



Ground water management at the Guarani Aquifer in Paraguay

The Guarani Aquifer is one of the world's largest groundwater reservoirs, with an estimated recharging volume of up to 25,000 km³. It crosses the national frontiers of Argentina, Brazil, Paraguay and Uruguay. Advancing industrialisation and urbanisation are leading to increased withdrawals of groundwater with simultaneous growth in potential pollution. For this reason, sustainable joint groundwater management (including groundwater conservation) is essential in order to ensure the future availability of water resources in this region. The project "Environmental Protection and Sustainable Development of the Guarani Aquifer System" is a joint project of the Organisation of American States (OAS), the World Bank and the Global Environment Facility (GEF). With BMZ funding BGR is helping the government of Paraguay establish expertise in the fields of hydrogeology, groundwater analysis and forecasting. It is providing advice and formulates recommendations on groundwater management and the protection of the aquifer. Improved knowledge of the volume of water which can be used sustainably, water quality and forecasts for the future development of these groundwater resources form the starting point for improved sharing of knowledge between the countries involved, with the goal of establishing coherent groundwater management.

Total term: 2003 – 2007

German contribution: 0.8 million euros

World Bank contribution: 11.3 million euros

3.2 Giving water sector reforms a poverty dimension

Inadequate drinking water supply is less a problem of limited availability of water resources than a problem of inadequate sector policy. This is reflected in the lack in many partner countries of adequate standards and codes and planning instruments, e.g. water legislation, water management and sector investment plans. In addition, responsibilities and the division of tasks and competences are frequently fragmented between different ministries and administrative units. Regulatory organs – where they exist at all – are often too weak in terms of human and financial resources to focus adequately on poverty and efficiency. There is also often a lack of competent and motivated decision-makers. To improve access to water supply and sanitation particularly for poor population groups, it is thus crucial to remedy current political and institutional shortcomings.

Germany promotes water sector reforms in many partner countries, which seek to improve the political, legal and organisational environment to establish or develop further viable and efficient organisations and regulations in the water sector. A decisive element is establishing good governance based on transparent public debate, agreement on clear water-policy principles and goals, and the broad discussion of the resulting sector strategy.

A line ministry (e.g. a Ministry of Water) that clearly formulates water policy at national level and has the overall responsibility for sector development and planning, is key for a well-performing water sector, as are competent technical agencies able to implement sustainable management. Ideally, there should also be a regulatory agency to monitor implementation of the sector guidelines by water supply and waste water disposal utilities. The decisions of the regulatory agency must be transparent and be communicated publicly. The clear separation between policy-making, regulatory functions and service provision is designed to reduce inappropriate political influence at all levels (central and local). At the same time, it strengthens the autonomy of service providers, and so improves their motivation and self-responsibility. This is facilitated by a



clear allocation of tasks among the various institutions in the sector, with decentralisation of decisions, competences and funds in line with the context and the capacities involved. The introduction and implementation of sector reforms is a process of social interaction and political negotiation, which is accelerated if national decision-makers invest strong political conviction in it.

Water sector reforms require a sustainable financial basis. Without sound financing mechanisms, sustainable water supply and sanitation are not possible. On one hand, this means that the state must provide the key sector institutions, e.g. ministries, regulatory agencies or water management agencies, with an appropriate budget. On the other hand, it also means that consumers and users must also contribute to sustainable financing of services in the water sector, as far as their financial situation makes this possible. Water supply and waste water disposal fees also provide an incentive to use water more responsibly and economically (demand management).

German development cooperation provides advisory services to its partner countries in the following areas:

- Formulating sector policies and strategies and the legislative basis for these,
- Restructuring, establishment and strengthening of efficient, effective, transparent and well-regulated sector institutions,
- Organisational reform of the water sector through decentralisation and entrepreneurial management.

Besides direct advisory services, German development cooperation is also active in facilitating sector reform dialogues. In this way, coordination and information sharing between the various actors within the sector (e.g. agencies at local and national level, but also bilateral and multilateral donors) are promoted. Within

Water sector reform in Kenya

70 % of the urban population but only 48 % of the rural population in Kenya currently have access to clean drinking water. Around 50 % of the population are connected to central or decentralised waste water systems. To address the problems of the Kenyan water sector, the government resolved in 2002 to undertake a comprehensive sector reform. German development cooperation is assisting the Kenyan government in this process, operating simultaneously at national, regional and local level. Better performing institutions manage water resources, and more users participate in this process. In drinking water supply and waste water disposal, TC at national level is assisting in developing general guidelines for sector regulation. At regional level, TC is helping establish administrative structures (water agencies). Water supply and waste water management utilities implement the new policy at local level. For example, KfW, GTZ and DED are assisting the Lake Victoria North Water Services Board in 12 towns, which are together home to around 670,000 people. Experience gained at regional and local level, for example from the current cooperation projects in the towns of Nyeri and Eldoret which involve upgrading local municipal providers and a private provider in the town of Malindi, can be used to steer national policy formulation processes, and vice versa. To ensure the sustainability of these reforms, suitable associations and user groups are being trained to provide advisory activities in the field of drinking water and waste water management.

Total term: 2005 – 2007

German contribution: 5 million euros for phase 2 (2005 – 2007)



these processes, German development cooperation plays the role of an intermediary and moderator.

3.3 Efficient and sustainable water supply and sanitation

The central challenge in drinking water and sanitation is the low level of access of poor people. In sub-Saharan Africa in 2002, for example, over 42 % of the population was without access to safe drinking water, and 63 % lived without appropriate sanitation.

One important cause of this in many countries is inappropriate political influence on operating decisions, such as personnel policy or tariff setting by providers. This complicates the establishment of effective and efficient supply structures and their sustainability. In addition, small and medium-sized towns and rural areas tend to be less favourably treated in the central distribution of funds compared to major cities.

Besides this, participation of the population e.g. in supervisory boards of utility companies or public stand posts (water kiosks) is often inadequate. This results on one hand in decisions which are out of line with demand, for example in grid expansion, and on the other hand in inadequate ownership on the part of the local population, encouraging poor payment morality, illegal water drawing, manipulation of water meters etc.

At the operating level of water supply and waste water management utilities, which are frequently run by the state or local authority, weak capacity is frequently a central reason for the inadequate supply to the population. Deficiencies in technical systems and inadequate staff training further complicate security of operation. Inefficiency and poor collection management, associated with water prices and sanitation fees

which are often too low, lead to inadequate cost coverage, and so to underfunding. This makes investment in maintenance or grid expansion in growing poorer residential areas virtually impossible. The commercial banks do not consider these operations to be eligible for loans. High water losses in leaky grids lead to wastage and unnecessary costs in water winning and treatment. In rural areas, the situation with regard to the operation of wells and standpipes is similar. These often become unusable after only a short time because of inadequate maintenance.

German development cooperation supports the transformation of inefficient water supply and waste water management utilities into customer-oriented, economically operating service providers, by funding necessary investment and capacity building measures for the operations.

Urban water supply and waste water management

In view of the environmental and infrastructural problems of the metropolitan centres, German development cooperation is active in the field of urban water supply and waste water management. This includes the safe and adequate supply of drinking water to people and the collection, treatment and recycling of waste water. Repair, rehabilitation and boosting the efficiency of existing water supply and waste water management systems generally take priority over creating new capacity. Hygiene and consciousness raising measures are an integral part of all projects and programmes.



To break out of the constellation of problems described above, which is currently a trap for many supply and disposal utilities, requires not only investment but also improvement in the technical and commercial management, closer contact with customers and a general service orientation. In the long term, the decisive factor for success is that the utilities enjoy legitimacy, commercial self-interest and adequate freedom of action. This, in many cases, requires a shift from a utility with bureaucratic nature to a company with its own accounting and supervisory boards with representatives from the area served by the utility. The company should be able to decide on planning and carrying out investment, personnel choice and remuneration.

Assistance with merging a number of local water authorities into an economically more viable district association, with strengthening public water utilities, with outsourcing specific operating functions or transferring the operation of entire water supply and sanitation utilities to private companies, all offer possible ways of overcoming current weaknesses. However, for private-sector participation to succeed it is essential for there to be adequate monitoring capacity in the partner country, careful preparation of the contractual arrangements, and transparent and competitive procedures for awarding contracts.

Water supply and waste water management in Yemen

Yemen is a priority country for German development cooperation and one of four pilot countries for the Programme of Action 2015 to half poverty by 2015. Yemen is one of the regions in the world with least water, and groundwater resources are heavily overexploited. More than half the urban population have to meet their needs from private water sources, which are hygienically suspect and expensive. Improving water supply and waste water management is accordingly an important priority.

In the harbour city of Al Shehr, for example, the urban wells are either drained or contaminated with salt. Almost all the 62,000 inhabitants are connected to the water supply grid, but dilapidated pipelines mean that not even two thirds of the precious water reaches consumers – and this only for a few hours every week. 55 % of diseases among adults are due to contaminated water, and the figure rises to 77 % among children. The sewage flows into the sea from the old city untreated across the beach, where the fishermen sort their catch for sale in the market.

German FC is promoting measures to improve the sanitation situation, which will connect the inhabitants of the old city to a simple sanitation system with pond treatment plants. To reduce the high water losses, the grid is being rehabilitated. This will mean that water supply to the city can be secured for several years without the problems involved in constructing more wells. Extensive assistance with vocational training for technical operating staff is also planned. The Yemeni government has been pursuing a reform process since 1997 which includes decentralisation, commercialisation and expansion of the public water and sanitation system. German TC is assisting the updating and implementation of the reforms. The TC contribution includes advice on sector policy and strategy, capacity building for authorities, water supply and waste water utilities, the creation of water committees and the expansion of popular participation in decision-making processes.

Total term: 2006 – probably 2014

German contribution: 14 million euros FC, 6 million euros TC



Dialogue on private-sector participation in water supply and waste water management

Germany is a co-initiator of a multistakeholder review between industry, governments and NGOs on the question of private-sector participation in drinking water supply and sanitation. The Multistakeholder dialogue is to enable a better understanding of privatisation's successes and failures and to facilitate a more constructive dialogue on this sensitive issue.

The German government is also assisting the development of the local private sector and sharing experience between public utilities, private water companies, politicians and the affected population, e.g. in East Africa.

Rural water supply and waste water management

In rural areas the emphasis is on appropriate, decentralised water supply and sanitation systems, with water users particularly involved in planning, selection, investment and operation of the water supply and sanitation systems. This is important to ensure operation of the systems, which mostly has to be done by user groups after the completion of all external aid. Hygiene and consciousness raising measures are important project elements in rural areas as well.

German development cooperation promotes improved waste water management in rural areas primarily through sanitation and hygiene measures – such as latrines and awareness-raising campaigns –, waste water use, constructed wetlands for sewage treatment, and increasingly through introducing concepts of ecological sanitation. The latter are getting increasingly important in cities as well (see box "Ecosan", p.15).

Rural water supply in the Hai District of Tanzania

In the Tanzanian Hai District on the western slopes of Kilimanjaro, German development cooperation has been promoting the construction of water supply and sanitation systems since the end of the 1980s. This has already resulted in substantial improvement in the health of about 300,000 people living there. After the end of the first project phase in 1998 only 3.6 % of inhabitants suffered from diarrhoeal diseases (as compared to the previous figure of 20 %) and 6 % suffered from worm infestations (as compared to 35 %).

Before the start of the project, even heavily pregnant women had to carry water for hours over long distances in the bush savannah. As an impact study by the German Development Institute (www.die-gdi.de) demonstrated, the project significantly reduced the burden on women's health. Better access to clean water also improved hygienic conditions during and in the first weeks following childbirth.

The most important result of the project, however, is the gain in time. Women can now cultivate small gardens to feed their family. Girls who previously spent much of their time carrying water can attend school instead, reflected in increased school enrolment and lower dropout rates. Equal representation on user committees is also strengthening the role of women. Economical – and hence sustainable – use of water is encouraged by the consumption-related water tariffs and public education campaigns.

Total term: 1998 – 2008

German contribution: 7.5 million euros for phase 4



Ecosan – reuse-oriented wastewater management and sanitation systems

Ecological sanitation (ecosan) is a new paradigm in sanitation that recognises human excreta and household wastewater not only as waste but also as resources that can be recovered, treated where necessary and safely used again. Ideally, ecosan systems enable a complete recovery of nutrients in wastewater and their reuse in agriculture. In this way, they help preserve soil fertility and safeguard long-term food security, whilst minimising the consumption and pollution of water resources. Conventional sanitation technologies are coming under increasing criticism for being economically and ecologically unsustainable. It is evident that the MDGs cannot be achieved by conventional sanitation solutions alone and that alternative approaches are urgently needed.

German development cooperation considers ecosan as a new approach with a high potential to resolve the pressing problems related to the global water and sanitation crisis and to help achieve the MDGs. On behalf of BMZ, GTZ started an international ecosan research and development programme in 2001. The aim of the programme is to establish ecological sanitation concepts as an internationally recognised innovative approach and to contribute to improved sustainability of water and sanitation projects in development cooperation (see also: www.gtz.de/ecosan).

3.4 Using water efficiently for food production

An estimated 600 million people in developing countries are threatened by hunger and 166 million children of preschool age are undernourished. Water plays a central role in food security. Worldwide, the use of water for irrigated farming accounts for over 70 % of total water withdrawals. The fact that the production of one kilogramme of wheat requires around 1,000 litres of water shows clearly how fundamental water is for food production and food security.

High population growth will continue to exacerbate the situation for several decades to come. In 2015, some 2.7 billion people will live in regions of the world where water is scarce. Cultivation of agricultural products such as cereals must be expanded by about 40 % worldwide just to keep up with population growth. Many countries, including those in arid regions, have thus expanded their irrigation systems in order to step up agricultural production for their own population and for export. This results in growing consumption of freshwater. In addition, a large percentage of the irrigation systems work inefficiently. As a result, around half the water used evaporates or drains away in systems which use open and unlined canals.

Securing water supplies for agriculture is closely associated with combating poverty and eradicating hunger, as agriculture is a source of both income and food. Even if agriculture is increasingly competing with industry for water, fighting poverty and ensuring food security for the rural population remain a priority for many developing countries.



German development cooperation accordingly seeks to promote IWRM to help the rural population achieve socially, economically and ecologically sustainable management of their water resources. This comprises institutional reforms in the water and irrigation sector, promoting water-saving by rehabilitating irrigation systems, and setting up user-operated small-scale irrigation systems. Here, the resource situation of the region involved and the use of appropriate technology both play a major role. A fundamental prerequisite is the evaluation of the quantity and quality of the available water resources. In wetlands and flood plains or in regions with sufficient renewable groundwater reserves, improved low-cost water production technologies are options for the development of irrigated agriculture. In regions without sufficient water reserves, by contrast, regional development can be pursued through sustainable cropping techniques, water conservation measures, erosion protection, combating desertification etc. Qualification of the personnel of the relevant state and private-sector service organisations to foster the more efficient management of watersheds through vocational training is essential in this. Within the framework of integrated food security programmes, development cooperation offers measures for sustainable development, the utilisation and conservation of natural resources and for boosting agricultural production and promoting income-generating activities.

Watershed Management in India

The Indian government is giving priority to the development and management of watersheds as an instrument of rural development. In the next 25 years, some 65 million hectares of land are to be developed as rainfed farming regions. This is intended to make a sustainable contribution towards reducing poverty and conserving natural resources, as over 50 % of poor Indians live in semi-arid and arid regions, some of which are massively affected by desertification and soil degradation.

German development cooperation is assisting its Indian partners at national and federal state level as follows:

- The Indian Ministry of Agriculture is being supported in the formulation of a strategy for managing watersheds with a stronger participation of the population. The focus is on innovative forms of partnership between local NGOs and state agencies.
- In Himachal Pradesh, appropriate technical and socioeconomic solutions are being developed for mountain regions.
- In Maharashtra, capacity building is provided in watershed management with the help of an NGO and its network. This will be followed by FC funding for erosion protection measures in selected watersheds.
- In all, the German government is investing some 70 million euros of FC funding in development measures in watersheds in Maharashtra, Andhra Pradesh, Gujarat and Rajasthan. These funds are being channelled to the villages through the National Bank for Rural Development. The activities are already increasing water availability for productive and drinking use.

Village inhabitants today are able to maintain operation of water installations themselves in financial, technical and organisational terms. The creation of women's groups and water committees has strengthened the influence, self-confidence and articulacy of those affected. This has resulted in a significant increase in readiness to pay tariffs and assume ownership. By networking at local and federal levels and mobilising local self-help, watershed development programmes have not only influenced Indian policy (watershed guidelines), but also rank internationally as successful examples of sustainably improving people's livelihood, reducing poverty in rural areas and fostering the long-term conservation of natural resources.



3.5 Enhancing effectiveness through cooperation

The 2005 Paris Declaration on Aid Effectiveness aims at further increasing the effectiveness of Official Development Assistance by harmonising the work of donors and better aligning their assistance to recipient countries' development strategies. This reduces aid's administrative and operational transaction costs to recipient countries. The Paris Declaration intends to put developing countries into the driver's seat by transferring to them more responsibility for policy formulation, implementation and monitoring, thereby strengthening ownership and sustainability.

Germany drew up an action plan for harmonising its development assistance back in 2003. It also took important steps in recent years towards further improving aid effectiveness through consistent prioritisation and the concentration on 70 partner countries. German development policy already collaborates intensively with other donors and partner governments in order to simplify and unify the tendering, appraisal and reporting procedures. Mozambique is a pilot land in this for donor coordination and harmonisation. Germany also participates in budget financing and sectoral programmes involving several donors ("Sector-wide Approaches" or SWAPs) in partner countries. Under budget financing in the water sector, funds are made directly available to the cooperation partners, who then invest it into water and sanitation at their discretion and in accordance with certain criteria, depending on the form of the budget financing. SWAPs involve cooperation between the government, interest groups and various donors in the respective sector. They are pursued under the direction of the partner government and necessitate an expanded dialogue on strategies and the development of a joint financial and sectoral approach covering both the public and private sectors.

3.5.1 European Water Initiative (EUWI)

At the World Summit on Sustainable Development, the EU launched a European Water Initiative (EUWI) to contribute to the achievement of the MDG targets for drinking water and sanitation, taking into account the principles of IWRM. The EUWI has been designed as a catalyst and a policy forum on which future joint action can be built. It assists partner countries in developing sector policies and strategies to which donor countries can align their activities.

Germany is a member of the EUWI Steering Group and Africa Working Group. In this working group, Germany is holding a country dialogue in Zambia to analyse the water sector and identify obstacles and progress in achieving the MDGs. The dialogue serves as an instrument to sharpen the focus of donor activities on the country's most urgent problems and to improve coordination between donors. In 2006 Germany is chairing the Africa Working Group.

3.5.2 ACP-EU Water Facility

The EU's creation of a water facility for the countries in Africa, the Caribbean and the Pacific (ACP) in 2004 established a financing instrument intended to mobilise additional resources for the water sector. In this sense, the ACP-EU Water Facility constitutes an operational arm of the EUWI.

The focus of the ACP-EU Water Facility is on innovation and flexibility. Grants are used to promote new projects and facilitate the establishment of partnerships between the public sector and private initiatives. The facility is based on a demand-driven approach, under which project proposals are selected in a competitive procedure on the basis of their impact on poverty and sustainability. Civil society organisations



can also apply. This approach makes it possible for actors in the ACP states to collaborate more extensively on formulating and implementing water projects.

A total of 500 million euros is devoted for the facility from the reserve of the 9th European Development Fund. Germany is thus contributing around 117 million euros to the ACP-EU Water Facility. All the funds are to be allocated by the end of 2007.

3.5.3 Global dialogue on sustainable dams

The German government has supported the work of the World Commission on Dams (WCD), and was one of the first governments to make the recommendations in the WCD final report "Dams and Development" (2000) binding in its development cooperation. This expresses the conviction of the German government that conflicts over dam projects can only be resolved in dialogue with all the interested parties. The WCD recommendations are accordingly being consistently followed in planning and implementing German development projects. They also constitute a yardstick for the BMZ when evaluating project proposals of multilateral development banks and the German export credit agency.

The global debate on the potentials and risks of dams has continued after the publication of the WCD report. At global level, the dialogue is taking place within the framework of the "Dams and Development Project" (DDP) under the aegis of the UN Environment Programme. The goal is to improve the decision-making, planning and management mechanisms for dams. Germany is supporting the work of the DDP and is participating actively in both the Steering Committee and the Governmental Advisory Consultative Group. Besides the global dialogue, there are numerous regional and

national initiatives (including ones in Germany), which propose improved planning and decision-making mechanisms regarding dams, in cooperation with all the interest groups involved, and taking into account the WCD recommendations.

3.5.4 G8 Africa Water Action Plan

In 2002 the eight leading industrial nations adopted the G8 Africa Action Plan with their African partners at the summit in Kananaskis, Canada. In 2003 the Action Plan was supplemented with a specific Water Action Plan in Evian, France. This contains a list of concrete measures seeking to answer how enough water can be made available on a sustainable basis in all African states and for all user sectors (households, industry, agriculture etc.).

The German government has taken the lead on transboundary water cooperation, where it is assisting African institutions in the joint management of water resources. The political partner of the German G8 initiative is the African Ministers' Council on Water (AMCOW). The aim is to consolidate the current regional initiatives on cross-border water management and IWRM at continental level and make them available to AMCOW as best practices.

At the G8 summit in Gleneagles, Scotland, in July 2005, the German government reemphasised its commitment to implementing the G8 Africa Water Action Plan. The contribution of the German government gives clear priority to cooperation with its African partners in the water sector.

4 The development goals in drinking water and sanitation: What has been achieved so far?



The clear targets set out in the Millennium Development Goals (MDG) increasingly raise the questions of what progress has actually been made in development and the measurability of the results of development cooperation. Documenting progress on the MDG targets for drinking water and sanitation is the task of the WHO-UNICEF Joint Monitoring Programme (JMP), which is supported by the German government. Together with other donors, the BMZ supports improving mechanisms for monitoring progress and results achieved in the water sector. Together with experts from Norway, France and the Netherlands, for example, a report was produced on monitoring in the water sector and presented to the international community. The full report is available for download at <http://www.irc.nl/page/12932>.

The latest report of the JMP (available at <http://www.wssinfo.org/en/welcome.html>) shows the following trends:

Access to drinking water

Between 1990 and 2002 the proportion of the world population without access to clean drinking water dropped from 23 % to 17 %. However, the differences between the individual countries remain large. The region with the greatest progress was South Asia. Much of the success here is due to India, where the

proportion of people with access to clean drinking water rose from 68 % to 86 % in the period 1990-2002. Progress was also made in sub-Saharan Africa, where the share of the population with access to clean drinking water rose from 49 % to 58 %. However, the figure is still very low in comparison to other regions. In East Asia, considerable progress was made in rural areas, but in urban areas the proportion of people with access to clean drinking water actually declined. Oceania is the region with the lowest share (52 %) of people with access to clean drinking water. North Africa, Latin America, the Caribbean and West Asia have reached a figure of around 90 %. Despite all the progress made, two thirds of all those without access to clean drinking water live in Asia.

Access to basic sanitation

The proportion of people without access to toilets and sanitation decreased from 51 % to 42 % between 1990 and 2002. Although progress has been made, the percentage of people without access to sanitation is thus still very high. In South Asia, for example, almost two thirds of the population is without access to basic sanitation, although the number of sanitary installations rose by 85 % over the period 1990 - 2002. The situation has actually deteriorated further in several regions, for example in West Asia. In Oceania and the Commonwealth of Independent States (CIS) too, the share of people with access to basic sanitation fell in rural areas. In 2002, 2.6 billion people were without access to toilets and sanitation. If the MDGs are to be achieved, around one billion slum dwellers and 900 million people living in remote rural areas must gain access to sanitation by 2015.

Overall, however, the data is not always reliable, because of the many problems with data gathering and political intervention, and should be treated with caution. It also deals exclusively with quantitative aspects of water supply, providing no information on qualitative aspects. However, it does show clearly the large regional differences in progress on water and sanitation, and particularly the major challenges in sub-Saharan Africa.

5 Outlook

German development cooperation is constantly faced by the need to enhance further the effectiveness of its contributions and approaches. In the water sector, the German government will give even more emphasis in the coming years to:

Poverty orientation and participation: The MDGs give new emphasis to the importance of consistently involving the poor in all water supply and sanitation projects. To meet this need, poor residential districts must be included even more specifically in planning measures to improve water supply and sanitation. Given that these districts are frequently administratively undocumented and illegal marginal areas, this will not be easy. Participation is crucially important here in order to identify appropriate solutions, as the population know their own needs best. Women in particular are generally responsible for running the home and for the health of the family, and need more say. Their participation can help avoid errors in planning and make clear what is still missing. The poverty and gender aspects of projects must thus be kept in mind, even in the face of sometimes difficult technical and administrative challenges. Greater ownership by the partner and the participation of the population and local NGOs are essential to provide sustainable water supply and sanitation for all.

Donor coordination: Political initiatives like the European Water Initiative and the G8 Africa Action Programme show the need to coordinate development assistance better, also in the field of water resources management. In Africa in particular there is a need to enhance the effectiveness of aid through the coordination of priorities, regions and concepts, and participation in national programmes, thereby reducing transaction costs to partners and donors. German development cooperation is actively involved in these initiatives and the international sector dialogue. In this way, it is seeking to improve donor coordination on the basis of the OECD-DAC principles. The goal is to jointly increase coordination, coherence and complementarity of development cooperation.



Coupling financial assistance and sector reform:

Many partner countries still lack the institutional and human resources that would allow them to make effective use of increased financial transfers. The reasons for this are weak or non-existent regulation, monitoring and resources management, inefficient water utilities, inadequate financial management at local level, and often a lack of public control. Financing initiatives undertaken by the international donor community must therefore go hand in hand with corresponding sector reforms in order to improve the absorption capacity and implementation capability of the national structures.

Mobilisation of local funds: There is a funding gap of 10 – 30 billion euros a year for achieving the MDGs in water and sanitation. There are many reasons for this underfinancing – inadequate public investment in the water sector, water tariffs which do not cover costs, poor collection management, ineffective or non-existent regulation and monitoring. This is compounded by the perception in the international private sector that risks are unacceptably high (political risk, foreign exchange risk), resulting in declining private investment in water supply and sanitation, particularly in Africa. Official Development Assistance alone – although increasing – will not be able to cover this funding gap. The financial shortfall can only be made up if significantly more funds are mobilised locally. German development cooperation is currently developing suitable instruments for this purpose.

List of abbreviations

ACP	African, Caribbean and Pacific partner states of the EU
AMCOW	African Ministers' Council on Water
BGR	Federal Institute for Geosciences and Natural Resources
BMZ	Federal Ministry for Economic Cooperation and Development
DAC	Development Assistance Committee (OECD)
DC	Development cooperation
DED	German Development Service
EDF	European Development Fund
EU	European Union
FC	Financial cooperation
G7/G8	Group of the seven major industrialised nations: Germany, France, UK, Italy, Japan, Canada, USA (G8: plus Russia)
GEF	Global Environment Facility
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit GmbH
GWP	Global Water Partnership
InWEnt	Capacity Building International, Germany
KfW	KfW development bank
MDG	Millennium Development Goals
MSD	Multistakeholder Dialogue
NEPAD	New Partnership for Africa's Development
NGO	Non-governmental organisation
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PPP	Public-Private Partnerships
PRSP	Poverty Reduction Strategy Paper
SADC	Southern Africa Development Community
SWAP	Sector-wide Approach
TC	Technical cooperation
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
WHO	World Health Organization
WSP	Water and Sanitation Program

For more information, please contact:

BMZ – Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung

Federal Ministry for Economic Cooperation and
Development
Division 313 – Water, Energy, Urban Development

Bonn Office

Adenauer Allee 139-141
53113 Bonn

Phone: +49 (0)228/535-0

Fax: +49 (0)228/535-3500

Berlin Office

Stresemannstraße 94
10963 Berlin

Phone: +49 (0)30/2503-0

Fax: +49 (0)1888/535 25 01

E-Mail: poststelle@bmz.bund.de

Internet: www.bmz.de/en

BGR – Bundesanstalt für Geowissenschaften und Rohstoffe

Federal Institute for Geosciences and Natural Resources
Raw Materials and International Cooperation Division

Stilleweg 2

30655 Hannover

Phone: +49 (0)511/643-0

Fax: +49 (0)511/643-2304

E-Mail: poststelle@bgr.de

Internet: www.bgr.bund.de

Deutscher Entwicklungsdienst gGmbH

German Development Service

Tulpenfeld 7

53113 Bonn

Phone: +49-(0)228/2434-0

Fax: +49-(0)228/2434-111

E-Mail: poststelle@ded.de

Internet: www.ded.de

GTZ – Deutsche Gesellschaft für Technische Zusammenarbeit GmbH

Environment and Infrastructure Division

Dag-Hammarskjöld-Weg 1-5

65760 Eschborn

Phone: +49 (0)6196/79-0

Fax: +49 (0)6196/79-1115

E-Mail: info@gtz.de

Internet: <http://www.gtz.de>

InWEnt – Internationale Weiterbildung und Entwicklung gGmbH

Capacity Building International, Germany

Tulpenfeld 5

53113 Bonn

Phone: +49 (0)228/2434-5

Fax: +49 (0)228/2434-766

E-Mail: water@inwent.org

Internet: www.inwent.org

KfW development bank

Sector and Policy Division Water Resources and Solid Waste

Palmengartenstraße 5-9

60325 Frankfurt am Main

Phone: +49 (0)69/7431-4260

Fax: +49 (0)69/7431-3363

E-Mail: info@kfw-entwicklungsbank.de

Internet: www.kfw-entwicklungsbank.de



**Federal Ministry for
Economic Cooperation
and Development (BMZ)**

Bonn Office
Adenauer Allee 139-141
53113 Bonn
Phone: +49 (0)228/535-0
Fax: +49 (0)228/535-3500

Berlin Office
Stresemannstraße 94
10963 Berlin
Phone: +49 (0)30/2503-0
Fax: +49 (0)1888/535 25 01

E-Mail: poststelle@bmz.bund.de
Internet: www.bmz.de/en