

## **Answer**

**By the Federal Government**

**To the Major Interpellation**

**Tabled by Members of the Bundestag Dr. Uschi Eid, Nicole Maisch et al and the Alliance 90/The Greens parliamentary Group**

**UN International Year of Sanitation 2008 – the opportunities and potential of sanitation**

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### **Preliminary remarks of the Federal Government**

In its answer the Federal Government argues that access to a sustainable supply of drinking water and sanitation is a key factor in fighting poverty and can contribute decisively to the implementation of the Millennium Declaration adopted in New York in September 2000 by the heads of state and government of the 189 member states of the United Nations. This forms the basis for the millennium development goals (MDGs) formulated by the United Nations in which the international community sets itself the goal of halving the number of people who have no access to improved sanitation and drinking water by 2015.

According to the World Health Organization (WHO) and UNICEF (the UN Children's Fund), 2.5 billion people in the world have no access to basic sanitation. The situation is particularly grave in Sub-Saharan Africa and in Southeast Asia. Central factors which stand in the way of progress in the area of basic sanitation include a lack of political will, the taboo nature of the subject, a lack of capacity and lack of funds. WHO estimates that inadequate water supply, sewage management and hygiene are responsible for 5.5% of deaths and 7.7% of diseases in developing countries.

Improving water supply and sanitation is therefore an important goal of the Federal Government and a priority area of its international cooperation. The Federal Government is guided in this process by the millennium development goals and the principles of integrated water resources management. Germany, which contributes an average of 350 million Euro per year, is one of the three biggest bilateral donors in the water sector in the world and the biggest in Africa. Roughly 40% of this amount is used for measures in the area of sanitation and sewage management. Drinking water projects also generally include a wastewater component. In its current projects in the areas of sanitation and sewage management, German development cooperation reaches roughly 35 million people.

Development policy must deliver help for self-help if improvements such as access to drinking water and sanitation are to be sustainable and accessible to all. The Federal Government believes that the only way of achieving these goals on a lasting basis is by strengthening national capacities for action through structural reforms in the medium and long term. It therefore pursues an overall strategy which includes capacity building, sectoral reforms, improving political and legal overall conditions

and investment. In addition, it promotes a process of scientific exchange between German universities and research institutes and partners worldwide and funds advanced training and study courses in the water sector, thereby making an important contribution to capacity building.

The Federal Government also promotes sustainable sanitation in international negotiations, organisations and initiatives; such occasions include the 16<sup>th</sup> session of the UN Commission on Sustainable Development in New York, the G8 Summit of the eight leading industrialised nations in Japan in August 2008 and a side event on the subject of water and sanitation co-organised by Germany at the UN High Level Event on the millennium development goals in September 2008. The Federal Government also actively supports sustainable sanitation within the framework of the EU Water Initiative as well as in the dialogue with the African Ministers' Council on Water (AMCOW) by stressing the importance of sanitation for public health, environmental protection and sustainable development.

The Federal Government supports the German Water Partnership founded in 2008, thereby promoting a stronger international commitment on the part of the German water industry and German water research, not least in the sewage and sanitation sector.

As a contribution to the UN International Year of Sanitation, the Federal Government has supported the establishment of the Sustainable Sanitation Alliance (SuSanA) in which more than 100 international organisations, non-governmental organisations, universities and companies are represented. The Alliance works worldwide to promote sustainable sanitation.

**1. What is the Federal Government's assessment of the view expressed by the former UN Secretary-General, Kofi Annan, that water and sanitation are key to fighting poverty and what consequences does it draw from this for its international cooperation?**

The Federal Government shares the view that water and sanitation are key to fighting poverty and can be a decisive factor in the achievement of the millennium development goals (MDGs) as a whole. For this reason, the water and sanitation sector has for years been one of the most important areas of German development cooperation. With average funding of 350 million Euro per year, Germany has for many years been one of the three biggest bilateral donors in the water sector. In environmental and scientific and technical cooperation, too, the water sector occupies a key position.

**2. How does the Federal Government rate the measures and decisions it has taken since 2005 in the area of sewage policy to implement Chapters 18 and 21 of Agenda 21 (UN Conference on Environment and Development, Rio de Janeiro, 1992) and the subsequent decisions adopted at the World Summit on Sustainable Development in Johannesburg in 2002 both at international level and internally?**

International level

The new water sector strategy paper published by the Federal Ministry for Economic Cooperation and Development (BMZ) in 2006 relates to the entire water sector as well as adjacent areas and is geared explicitly to the spirit of Chapter 18 of Agenda 21: "Protection of the quality and supply of freshwater resources: application of integrated approaches to the development, management and use of water resources".

The sector strategy is based on the internationally recognised principle of integrated water resources management (IWRM). It gives clear guidelines as to how integrated water resources management is to be implemented in German development cooperation projects. One important pillar in this process is transboundary water management which the Federal Government promotes within the framework of numerous projects, particularly in Sub-Saharan Africa.

Chapter 21 of Agenda 21 deals with the environmentally sound management of solid wastes and sewage-related issues focusing on the four areas of minimising wastes, waste reuse and recycling, environmentally sound disposal and treatment and extending service coverage. Through its development cooperation projects the Federal Government supports waste water avoidance (polluter-pays principle), energy production (biogas from sludge digestion) and the reuse of treated wastewater and sewage sludge in agriculture. In all projects the environmentally sound treatment and disposal of sewage and faecal sludge is an important concern. In 2001, the Federal Government also set up a sectoral project on the subject of "economically and ecologically sustainable sanitation systems (ecosan)" run by GTZ (German Agency for Technical Cooperation).

National level:

With the entry into force of the 7<sup>th</sup> Amendment of the Federal Water Act (*Wasserhaushaltsgesetz, WHG*), the European Water Framework Directive was implemented under federal law and the regulations regarding sewage in the Federal Water Act were supplemented. In terms of sewage disposal, the Council Directive concerning urban wastewater treatment and the Directive concerning integrated pollution prevention and control are of particular importance. The Federal Government is engaged in numerous activities to produce a new version of the Wastewater Ordinance. This new version, resulting from the national implementation of the two directives, is designed to update the state of the art harmonised in the Federal Water Act, the Federal Emission Control Act and the Closed Substance Cycle and Waste Management Act, taking into account national and international information.

The integrated, cross-media approach to defining the state of the art is expressed in concrete requirements regarding the discharge of wastewater. The criteria laid down in Annex 2 to Article 7a (5) of the Federal Water Act are designed to promote a sustainable water management system which is geared to future requirements and lays particular stress on avoiding shifting burdens to other environmental media, reducing emissions and consumption, increasing energy efficiency and conserving resources. The Federation and the *Länder* have developed a guide for reviewing and adapting best possible technology on a branch-specific basis taking into account the integrated cross-media approach referred to in Section 7a of the Federal Water Act. The hierarchy of objectives defined in Chapter 21 of Agenda 21 also applies in principle to the procedure to determine the state of the art. The first objective accordingly is to minimise waste, the second to recycle waste and produce energy from it, and the third to dispose of it only if this represents the more environmentally acceptable solution.

Also in harmony with the integrated, cross-media approach are, inter alia, the ban on sending organic waste to landfill brought into force by the Federal Government in 2005 in accordance with the Technical Instructions on Waste from Human Settlements and Supplementary Recommendations and Information (Administrative Provision, 1993) and the Ordinance on the Environmentally Compatible Storage of Waste from Human Settlements and on Biological Waste Treatment Facilities (2001). This measure contributed to the development of new methods of sewage sludge treatment and disposal. Since 2006 no organic waste has been dumped in landfills in Germany. At present the Federal Government is supporting the development of processes to minimise the volume of sewage sludge and proportion of organic dry matter, to increase biogas production and to minimise energy use and to enable and ensure comprehensive recovery and reuse of recyclable material including water. This is an important step in minimising and/or preventing the negative impact of the wastewater/sewage sludge path (transfer of heavy metals, organic trace substances, micro pollutants and bacterial load) on other parts of the environment.

The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and the Federal Ministry of Education and Research have since 2004 been promoting the use of new large-scale technical processes for the recycling of phosphorus from municipal sewage sludge, municipal wastewater, slurry, animal meal and other organic material containing phosphorus within the framework of a joint funding initiative on “recycling for plant nutriment – especially phosphorus”. This initiative is a step towards realisation of the framework programme “Research for sustainability” and is aimed at stimulating innovative processes to manufacture fertilisers, fertiliser components or ingredients for fertiliser production using recycling products. The reclaimed products must as a minimum comply with statutory requirements, e.g. the specifications of the Ordinance on the permissible composition and labelling of fertiliser. In addition to research and development projects, funding may also be available, with the support of the Federal Environment Ministry, for investment projects for the large-scale technical demonstration of the suitability for everyday use of processes which have already been developed.

### **3. What is the Federal Government's assessment of the probability of achieving the Millennium Development Goal (MDG) on sanitation and what main obstacles stand in the way of progress?**

In all probability countries of Sub-Saharan Africa and South Asia in particular will not achieve the goal of halving the number of people without access to adequate sanitation by 2015 unless there are radical changes to the setting of political priorities in the developing countries and corresponding funds are made available. According to the WHO and UNICEF figures, 69% of the population in Sub-Saharan Africa and 67% of the population in South Asia – a total of more than 1.6 billion people - live without improved sanitation<sup>1</sup>. The number of people without access to adequate sanitation has actually risen sharply in Sub-Saharan Africa to around 160 million as a result of rapid population growth since 1990.

Some countries in other regions too, for example Bolivia, Nicaragua and the Yemen, are likely to have great difficulties in achieving the goal.

The reasons for the continuing poor level of sanitation and lack of public attention to the subject are complex. A lack of political will, the taboo nature of the subject, lack of capacity and lack of funds are the central obstacles standing in the way of sustainable progress in the area of sanitation. According to estimates contained in a WHO study, the annual cost of achieving the MDGs on sanitation and water (halving the number of people worldwide without access to improved drinking water and sanitation by 2015) is around 11.3 billion US dollars.<sup>2</sup>

The challenges are at national political, local, corporate and individual level. At the political level, the responsibility for wastewater management and hygiene is generally divided between a large number of institutions (health, infrastructure, local government, NGOs). A lack of or inadequate laws and sets of regulations make it difficult to improve the situation. Where there are laws regulating the handling of waste, excrement and wastewater, they are frequently not implemented. In most cases, there is no strategy or policy to promote efficient structures and institutions. If the system is decentralised, responsibility may be devolved to smaller administrative units but funds are not always automatically provided. Reforms are generally slow.

In addition to political challenges, operational deficits play a central role. Frequently, responsibility for wastewater management rests at local level where there is a lack of qualified personnel and where sewage and waste collection charges are for the most part inefficiently collected so that services cannot be delivered economically. Political influence often leads to fees being set too low –

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<sup>1</sup> WHO/UNICEF: Progress in Drinking-water and Sanitation: Special focus on sanitation. World Health Organization and United Nations Children's Fund Joint Monitoring Programme for Water Supply and Sanitation, New York and Geneva, 2008

<sup>2</sup> Hutton, G.: Haller, L.: Evaluation of the costs and benefits of water and sanitation improvements at the global level. WHO, Geneva 2004.

ostensibly as a concession on the part of the politicians to the people. The few sewer systems and central treatment plants in towns often serve only the urban centres while those who live in the outskirts of towns often do not even have adequate toilet systems. In poor districts, this is often a result of uncertain rental and ownership conditions. Finally, at individual level, people are often unaware of the importance of hygiene – those whose lives are precarious do not generally regard investing in better sanitation in their own houses as a priority.

**4. How can the contribution made by progress in achieving the sanitation goal to the achievement of other MDGs be quantified (please itemise)?**

The effects in the water and wastewater sector are multiple. The provision of drinking water and sanitation helps, among other things:

- to reduce the money and time spent by households in fetching drinking water. The time saved can be used for other economic activities while the costs of treating diseases which are caused by dirty drinking water and lack of hygiene are cut. Household income can increase as fewer days are lost to illness. In addition, nutrients recovered from wastewater and treated excrement can be used in agriculture, thereby boosting production and hence income and food security (**MDG 1: fighting poverty**);
- to ensure that years of schooling are no longer lost, thereby increasing training opportunities. There is evidence that school attendance, particularly for girls and young women, is substantially increased when there is no longer a duty to fetch water and when sanitary facilities are installed in schools. Improved health also increases the training opportunities of boys and girls. Adequate toilets in schools additionally increase school attendance by girls after the onset of menstruation (**MDG 2: education**);
- to promote gender equality. A safe place in which to go to the toilet enhances quality of life and lessens the dangers of sexual attack for women and girls. Fetching water and looking after the sick take up a lot of the time of women and girls in particular. Shorter distances and improved family health release time in which they can contribute to the family income or to the life of society (user committees), thereby reinforcing their social status (**MDG 3: gender**);
- to improve health and hence save lives. In developing countries the lack of water supply, wastewater management and hygiene is responsible for numerous diseases. Children suffer particularly under these circumstances. 1.8 million people die every year from the consequences of diarrhoea, over 90 per cent of them children under five years of age. Clean drinking water and hygiene offer protection against diarrhoeal diseases as well as skin and eye diseases. Improved water management reduces

mosquito habitats and hence cuts the incidence of malaria (**MDGs 4-6: health**);

- to protect natural resources. Untreated wastewater from households, agriculture and industry poses a threat to wetlands, lakes, rivers and groundwater. At present there is little safe hygienic recovery of fertiliser materials (e.g. phosphorus) and energy (e.g. biogas) present in wastewater and excrement; instead they are left to pollute and harm humans and the environment. Integrated water resources management coupled with sensible waste and wastewater management, where appropriate with a closed-loop element, can protect water and soil resources and remove environmental risks. (**MDG 7: environment**);

Quantification is possible only in a few cases at present because of a lack of internationally available data. Figures are available, for example, on the effects on health and household income and hence on the MDG on poverty reduction, see questions 4a) and d). It is, nevertheless, evident from the circumstances described that achieving the sanitation target is important for the achievement of the MDGs as a whole.

**a) What is the extent of losses to national income from lack of sanitation in developing countries globally, as well as in Africa, Asia and Latin America, and to what extent could achievement of the sanitation goal reduce this in each case?**

High rates of disease in the population have a negative effect on the national economy. A study by the WHO considers days lost on account of diarrhoea, the direct costs of treating the illnesses, the burden of increased child mortality, educational deficits due to absence from school and attention deficits in the case of chronically sick children (worm infections) and the time lost because of a lack of toilets.<sup>3</sup> It is generally women and girls who bear the burden of looking after the sick, with the result that they do not have enough time to look for employment or attend school regularly, causing further losses to national economies. In the literature the estimates of these economic costs vary considerably. The above-mentioned study puts a very high value on the time lost through poor water supply and sanitation (229 billion US dollars per year worldwide) and puts figures of 34 billion US dollars per year on the other costs to the economy.

A study published by the Water and Sanitation Program (WSP) estimates the cost of deaths slightly higher but the time lost much lower and also takes into account the costs of dirty water and losses for tourism.<sup>4</sup> Deaths in this study account for around half of economic costs, estimated as a

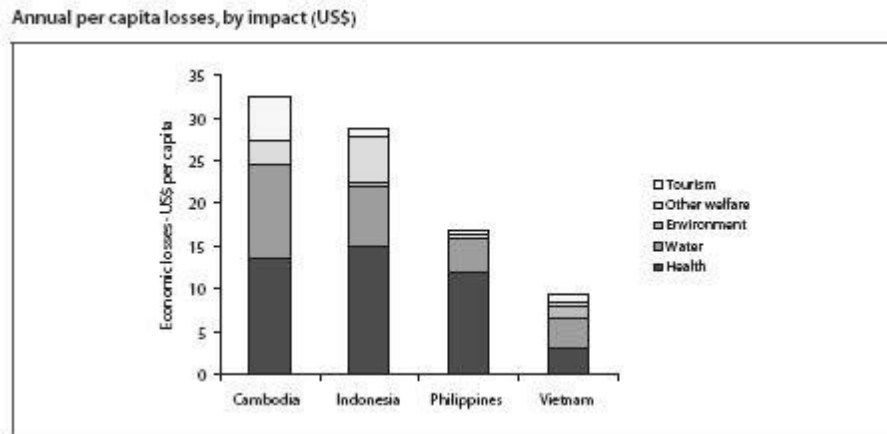
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<sup>3</sup> Hutton, G.: Haller, L.: Evaluation of the costs and benefits of water and sanitation improvements at the global level. WHO, Geneva 2004.

<sup>4</sup> Water and Sanitation Program: Economic Impacts of Sanitation in South East Asia, Jakarta 2007.

proportion of GDP, and stand at 1.3% for Vietnam, 1.5% for the Philippines, 2.3% for Indonesia and 7.2% for Cambodia (see Figure 1).

No comparable studies are available for other regions of the world. Economic costs are likely to be particularly high in regions with a high level of water-related diseases (see question 4b).



**Figure 1: Economic Impact of Sanitation in South East Asia (Source WSP, 2007)**

**b) What importance does the Federal Government attach to sanitation with respect to the health situation in developing countries?**

Access to clean drinking water, sewage disposal and sanitation is crucial to the health of people in developing countries and a key to sustainable development. According to WHO estimates, deficits in water supply, wastewater management and hygiene in developing countries are responsible for 5.5% of deaths and 7.7% of diseases.<sup>5</sup> Rural areas and urban slums are particularly affected. In areas with a lack of sanitation (where people defecate in the open) or with latrines which infiltrate the groundwater, the surrounding drinking water wells are often polluted with faecal bacteria. As well as contaminated drinking water, lack of hygiene is one of the main causes of diseases which affect children in particular. It is estimated that every year more than 1.5 million children under the age of five die from diarrhoeal diseases, which represent the third most common cause of death among children of this age group.

In terms of health the Federal Government places a high value on intersectoral approaches because in addition to improvements to infrastructure in the area of sanitation, measures to alter behaviour also have a major influence on health. Promoting individual hygiene measures such as hand washing is very important. Studies have shown that regular hand washing with soap can cut the risk of diarrhoeal diseases by up to 47% if clean water is available. Within the framework of development

<sup>5</sup> WHO: "Water, sanitation and hygiene", Geneva 2007



cooperation, education projects therefore ensure that activities involving hygiene promotion are incorporated in school programmes. Because of their multiplier effect, schools are a particularly important place for health promotion. Health promotion measures are also included in water and sanitation projects.

**c) Does the Federal Government believe that sanitation is sufficiently represented in international development policy in the health sector?**

The importance of sanitation for health, particularly for children, has been long recognised, and health promotion measures, including changing hygiene behaviour, have played an important role for a long time, at least since the Alma-Ata Declaration "Health for All by the Year 2000" 30 years ago.

The health sector and sanitation are increasingly perceived as being interconnected; this is reflected in the staffing and location of working groups and organisations. Consequently, the Joint Monitoring Programme which monitors and reports on the worldwide water and sanitation situation is operated jointly by the World Health Organization (WHO) and UNICEF. The Water Supply and Sanitation Collaborative Council (WSSCC), too, has its seat in the WHO headquarters in Geneva. Nevertheless, the subject areas are still split in many programmes and institutions, making it impossible to adopt an integrated perspective and method. There is therefore a need to continue to raise awareness of the relevance of intersectoral cooperation and to strengthen international efforts by linking sanitation with health promotion elements.

Within German bilateral development cooperation there is already an increasing emphasis on measures aimed at both the water and the health sector.

**d) How much could achievement of the sanitation goal potentially contribute to reducing health costs borne by the public exchequer and individuals in developing countries?**

A WHO study estimates the annual costs of achieving the sanitation and water goal (halving the number of people without access to improved water supply and sanitation by 2015) at around 11.3 billion US dollars. With these funds, 546 million, i.e. around 10%, of the estimated 5.4 billion cases of diarrhoea each year could be prevented. According to this estimate, the annual savings each year in the health sector would work out at more than 6.9 billion US dollars, with additional savings in excess of 340 million US dollars with respect to individual patient costs (treatment and transport). If the high indirect costs (time off due to illness, preventable deaths, etc.) are also factored in, the total cost savings run to around 84 billion US dollars per year. The WHO estimates the cost-benefit ratio of

water and sanitation measures *in toto* at between 5 to 11 US dollars per US dollar invested.<sup>6</sup>

The level of health costs borne by the individual is difficult to calculate, particularly if direct costs (e.g. for the purchase of drugs) and indirect costs (e.g. time lost) are included. The direct costs for the individual also depend on the type of health system.

**e) How does the Federal Government explain and assess WaterAid's statement that global ODA (official development assistance) for health and education has virtually doubled since 1990 while ODA for water and sanitation has decreased despite the fact that 80% of diseases are water related?**

The Federal Government points out that not 80% of all diseases in developing countries are water-related but that almost 90% of all diarrhoeal diseases in developing countries are attributable to dirty water and a lack of sanitation and hygiene.

According to OECD-DAC data, the proportion of ODA commitments to the water and sanitation sector has not shrunk since 1990 but actually rose from 3.2% in 1990 to 3.9% in 2006. The share of German ODA pledged to the water and sanitation sector rose in the same period from 3.5% in 1990 to 5.2% in 2006.

During the 1990s, infrastructure investments were a low priority for the donor community. Demand from partners was also low. Global development policy focused on human development and concentrated support on the health and education sectors. Because of the close link between education and hygiene behaviour, this approach has helped considerably in many countries to cut infections, including water-related diseases.

Since the beginning of the new century, infrastructure commitments have risen again, focusing attention once more on the positive impact of a proper water and sewage infrastructure on education and health.

In many cases, partner countries still fail to give sufficient priority to the water and sewage sector – particularly in relation to competition with other sectors. This is reflected among other things in low levels of budget funds allocated and weak institutions in the sector.

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<sup>6</sup> Hutton, G.: Haller, L.: Evaluation of the costs and benefits of water and sanitation improvements at the global level. WHO, Geneva 2004

## **5. How does the Federal Government rate the importance of sanitation and sewage treatment for the quality of global freshwater resources?**

A high standard of sanitation, coupled with sewage treatment, are basic prerequisites of good ecological and chemical quality as well as of the general usability of freshwater resources in heavily populated river basins.

At the present time, 90 to 95% of wastewater from industry and households around the world is discharged untreated, polluting many bodies of surface water and supplies of groundwater. One litre of wastewater pollutes on average eight litres of freshwater. Microbacterial pollution of water resources by household sewage has risen sharply over recent decades. Fertiliser and pesticide inputs from the farming sector constitute an additional problem. This means that in some partner countries making water resources usable entails high treatment costs. Sewage treatment therefore has an important role to play in protecting resources.

Increasing pollution is also accelerating the degradation of ecosystems and compromising their ecological efficacy since they are reliant on a sufficient quantity and quality of water. Ecosystems play a key role in the water cycle and provide important water stores, e.g. wetlands, tropical forests and lakes. The United Nations Educational, Scientific and Cultural Organization (UNESCO) forecasts a further dramatic reduction in per capita freshwater availability as a result of continuing strong population growth and increasing water consumption.

Local conditions in river and groundwater catchments areas should determine what systems are to be used.

Important aspects include:

- Decentralised treatment systems can be beneficial to rural areas which are relatively remote from major rivers and which do not have sewage systems providing they demonstrably provide adequate protection of groundwater. Such systems also help in arid areas to support the landscape hydrology.
- Sewage systems without a treatment plant very often pose a significant hygiene and ecological threat to the receiving rivers. Biological treatment plants are the minimum requirement.
- Removal of phosphorus and sometimes also nitrogen is generally necessary in the case of slow flowing rivers or inflow into barrages, lakes or coastal waters.

Because of the high bacterial load, wastewater from traditional mechanical biological treatment plants poses a danger to human health. Treated waste water contains 10 to 100 million bacteria per litre. Although there may be no

requirements in Germany in terms of wastewater hygiene, in sensitive regions where hygiene is an issue (drinking water protection zones, drinking water reservoirs, bank-filtered waters, bathing waters or coastal areas with beaches, mussel banks, extraction points for seawater desalination), more extensive sewage treatment processes which remove pathogens and nutrients should be used.

**6. In the estimate of the Federal Government, what importance do sanitation systems have in terms of minimising the increasing incidence of flood disasters in cities related to climate change and the consequences for humans and the environment?**

Against the background of climate change and the projected increase in extreme weather events, precipitation management adapted to current water management conditions is of particular importance. Particularly in the event of heavy rainfall, sudden very heavy discharges from sewage systems overload surface waters and can cause smaller rivers and streams to become swollen.

In future wastewater drains must be decoupled from rainwater, particularly in cities. Wherever possible, unpolluted rainwater should be returned to the water cycle *in situ* (unsealing of surfaces, rainwater percolation). A proper decentralised rainwater management system contributes to flood protection, particularly in cities and small catchment areas. It also assists groundwater replenishment, improves the micro-climate and relieves sewer networks. The Federal Government is therefore working to establish a national regulatory framework for the treatment of unpolluted and polluted rainwater which also takes into account the demands of groundwater protection.

**7. What opportunities and potential does the Federal Government see in the International Year of Sanitation for giving renewed impetus to efforts to improve sanitation?**

The Federal Government attaches high importance to the UN International Year of Sanitation (IYS), regarding it as an opportunity to raise political awareness of this subject and encourage national governments and international donors to step up funding for sanitation. The first positive effects of the International Year of Sanitation are already apparent at political level. Sanitation took centre stage at high-level regional conferences (LatinaSan 2007 and AfricaSan 2008), at the 16<sup>th</sup> session of the UN Commission on Sustainable Development and during side events on water and sanitation co-organised by Germany at the High Level Event on the UN millennium development goals in New York in September 2008. Sanitation also shared equal billing with water supply in the G8 process under the Japanese presidency and during the African Union summit on water supply and sanitation. By initiating and promoting the Sustainable Sanitation Alliance (SuSanA), in which more than 100 international organisations, NGOs, universities and companies are represented, the Federal Government has taken the opportunity to highlight the importance of sustainable solutions in this area and promote their implementation internationally.

**a) What contributions is the Federal Government making for what purpose and to what organisations to support the International Year of Sanitation either at national or international level?**

The water and sanitation sector is traditionally one of the most important areas of German development cooperation. Measured in terms of its annual bilateral funding of 350 million Euro, Germany has for many years been one of the biggest donors internationally in the water and sanitation sector. Around 40% of the bilateral ODA for the water sector is used for measures in the wastewater sector.

In November 2007, to kick off the International Year of Sanitation, the Kenyan Water Ministry and the Federal Ministry for Economic Cooperation and Development staged a regional conference on the subject of wastewater management and sanitation organised by GTZ (the German Agency for Technical Cooperation) and the *Kreditanstalt für Wiederaufbau* (KfW) banking group. In October 2008, the Federal Government supported the International Symposium "Coupling Sustainable Sanitation and Groundwater Protection" staged by the Federal Institute for Geosciences and Natural Resources (BGR). In addition, a total of eight meetings of the Sustainable Sanitation Alliance and one regional water and wastewater conference for emerging economies organised by Georgia and the KfW were supported in 2007 and 2008.

Furthermore, the sector project to promote economically and ecologically sustainable sanitation concepts (ecosan), as a core competence centre in this field, was this year extended by a further three years.

The Federal Government also supports the work of the United Nations Secretary General's Advisory Board on Water and Sanitation (UNSGAB) through specialist advice provided by the Vice Chair, Dr. Uschi Eid, Member of the German Bundestag. Special attention is paid to UNSGAB's core function of promoting the sanitation sector at the highest political level and helping to strengthen political will.

(For support at international level, please refer to the answer to question 7d)

**b) Is it prepared to take a leading role in an international initiative to reinvigorate efforts to achieve the sanitation goal by 2015 – against the background of the fact that Germany was instrumental at the International Water Conference in Bonn in 2001 in having sanitation included retrospectively in the list of Millennium Development Goals at the UN Conference on Sustainable Development in Johannesburg in 2002? If so, how does it envisage shaping such an initiative? If not, why not?**

As already stated under a), the Federal Government has already taken a leading role in a number of different international initiatives in this area. It must be pointed out in this context that Germany, in collaboration with Sweden,

initiated the Sustainable Sanitation Alliance (SuSanA) in January 2007 following the United Nations' proclamation of the International Year of Sanitation. The SuSanA network contributes specifically to achievement of the sanitation goal through sustainable solutions. Members now include more than 100 organisations – ranging from international institutions (such as UN-Habitat, UNICEF and the World Bank Water and Sanitation Programme) through to national and regional organisations (cf question 61). By supporting the SuSanA alliance and spreading sustainable sanitation systems internationally, the Federal Government is making an important contribution to the discussion and further development of policies and strategies in the International Year of Sanitation and beyond.

Other current initiatives of the Federal Government include:

- **Focus on basic sanitation in the survey parameters used by the Development Cooperation Directorate of the Organisation for Economic Cooperation and Development (OECD-DAC)**

The Federal Government advocates refining the OECD-DAC survey parameters in the water sector to enable better recording of sanitation data. The aim here is to enable separate reporting of spending on wastewater management in the statistical process. This is an important step since it is the only way of making investments in the area of wastewater management internationally transparent and open to discussion (see also questions 15, 43 and 63).

- **Refining the monitoring of the MDGs**

Together with other donors, the Federal Government has launched an initiative to develop and refine the monitoring of the MDGs in order to improve the quality of the data used in the Joint Monitoring Programme. The aims of this initiative are: (I) to make specific improvements to the current monitoring system, (II) to enable clear communication of the reasons for divergence between the data from national monitoring systems and JMP data and (III) to establish long-term cooperation on a more appropriate monitoring system after 2015.

**c) What initiatives has the Government taken and with what success to move sanitation further up the international development policy agenda?**

As already stated in response to questions a) and b), the Federal Government has taken a whole series of initiatives and helped to move the subject of sanitation further up the political agenda internationally. Germany has been instrumental in ensuring that the subject of basic sanitation was represented and discussed prominently during the African Water Week and the summit of the African Union (AU) as well as within the framework of the European Water Initiative (EUWI). The Federal Government also helped ensure via SuSanA that basic sanitation was the central theme of this year's Stockholm World Water Week. Sustainable approaches promoted by German development

policy also featured prominently at high political level at AfricaSan 2008 and LatinaSan 2007.

**d) What voluntary contributions to the United Nations does the Federal Government plan to make (see answer to written question 12/194) at what level and to what organisations in connection with the IYS and for what will the funds be used (please itemise)?**

The Federal Government attaches great importance to the International Year of Sanitation (IYS) and sees in it an opportunity to raise political awareness of this subject area.

The Federal Government's central concern for the water sector in the UN is better coordination of the activities of the 25 different UN institutions which are active in this area. This coordination is the responsibility in particular of UN-Water, the umbrella organisation. To this end, the Federal Government is providing up to 500,000 Euro per year in funding for an initial three years (2007 to 2009) to support the work of the UN-Water Decade Programme on Capacity Development (UNW-DPC), which has its headquarters in Bonn. One of the main purposes of this funding is to encourage a coherent approach to capacity development in the water sector and hence also in the sanitation sector.

The Federal Government also provided 200,000 Euro per year in funding between 2006 and 2008 to support the Joint Monitoring Programme run by WHO and UNICEF which monitors progress in achievement of the millennium development goals in the water and sanitation sector. Moves are being made to continue this support. In view of the fact that the findings of the JMP, a global system, frequently diverge from data provided by national ministries in the sector, the Federal Government, working with other donors, has launched an initiative to further develop and improve the MDG monitoring process.

**e) Which are the policy dialogues and conferences to which the Federal Government referred in its answer to written question 12/194), who is organising them and in what way are they supported by the Federal Government?**

The large number of events on the subject of basic sanitation include in particular regional conferences such as the East Africa Regional Conference "Fast Tracking Sanitation in Africa", the East Asia Ministerial Conference on Sanitation and Hygiene (EASAN), the Asia-Pacific Water Summit, AfricaSan+5 and Asian Water 2008. They also include international forums and exhibitions such as EXPO Zaragoza 2008, the Stockholm World Water Week and the 5<sup>th</sup> World Water Forum. Sanitation also features as a topic at one-off events such as World Toilet Day and in multilateral processes such as the G8 summit. The Federal Government is actively involved – in some cases providing financial support – in all these processes.

**8. In what way has the Federal Government complied with its commitment under the Johannesburg Plan of Implementation, Chapter 4, Paragraph 25 to launch an action programme for the achievement of the Millennium Development Goals on water and sanitation?**

The Johannesburg Plan includes, among other things, the agreement to halve the number of people without safe access to clean drinking water and those without access to basic sanitation by 2015.

The Federal Government has undertaken to take an active role in helping to achieve the goals set out in the Millennium Declaration, the Monterrey Consensus and the Johannesburg Plan of Implementation. The interdepartmental Programme of Action 2015 is the Federal Government's central response to meeting these commitments. The programme centres on 10 approaches to implementing the Millennium Declaration and the associated millennium development goals.

The measures required under Chapter 4, paragraph 25 a)-e) of the Johannesburg Plan of Implementation, which are to be carried out at all levels, were immediately subsumed in several of the programme points detailed in the 2015 Programme of Action. Points 5 to 9 of the Johannesburg Plan of Implementation are particularly relevant to the sanitation sector:

- 5. Guaranteeing basic social services and strengthening social security*
- 6. Ensuring access to vital natural resources and fostering an intact environment*
- 7. Realising human rights and respecting core labour standards*
- 8. Fostering gender equality*
- 9. Ensuring the participation of the poor in social, political and economic life and strengthening good governance*

Guaranteeing basic social services such as basic education, basic health care, food, sanitation and clean water as well as corresponding reforms to sectoral conditions are particularly important elements of poverty reduction and the Programme of Action 2015. The White Book on Development Policy published by the Federal Government in June 2008 confirms this path. The Federal Government also supports partner countries in their efforts to develop water resources management and sanitation which is sustainable and oriented to poverty reduction (see also question 13).

**9. What international action plans to achieve the Millennium Development Goals for water and sanitation which have a global reach is the Federal Government aware of?**

**a) How does it rate these?**

- The Hashimoto Action Plan (HAP) is the working document produced by the UN Secretary General's Advisory Board on Water and Sanitation



(UNSGAB) convened by the UN Secretary General Kofi Annan in 2003. The HAP published in March 2006 identifies clearly defined actions to achieve the millennium development goals. Since then the Advisory Council has used its political weight to drive forward implementation of the HAP. Important targets including the proclamation of the International Year of Sanitation have already been achieved.

- The Global Sanitation Fund was set up in March 2008 by the Water Supply and Sanitation Collaborative Council (WSSCC), with its seat in Geneva. The budget for the first two years is roughly 10 million US dollars. The funds are to be used for the achievement of the sanitation goal, with the countries selected on the basis of greatest need – measured in terms of the number of people with inadequate access to water and sanitation as well as the infant mortality rate.
- The G8 Water Action Plan adopted in Evian in 2003 commits the G8 countries to giving high priority to access to drinking water and sanitation in the allocation of ODA. Particular support is to be given to partner countries which are themselves making strenuous efforts to improve drinking water supply and sanitation in the framework of the fight against poverty. The Evian Water Action Plan encompasses all the major questions in relation to water supply and sanitation. Like the G8 Africa Action Plan, the Water Action Plan is being implemented within the framework of the existing development cooperation of the various member states in the water sector. At the G8 summit in Hokkaido, the G8 countries undertook to publish a progress report on implementation of the G8 Water Action Plan by the next G8 summit in 2009. The regional focus of the Water Action Plan is Africa (which means that there is an overlap with the water and sanitation section of the G8 Africa Action Plan).

**b) How does it support the implementation of these plans and their sponsors?**

The Federal Government supports the implementation of the **Hashimoto Action Plan**. Dr. Uschi Eid, in her capacity as vice-chair of UNSGAB, receives regular updates on the six priority themes of the Hashimoto Action Plan: 1) partnerships between water operators, 2) financing, 3) sanitation, 4) monitoring and reporting, 5) integrated water resources management and 6) water and disaster. Germany also supports the regional dialogues which UNSGAB conducts with different guest institutions and countries. UNSGAB, together with the competent ministries and other relevant stakeholders in the region, uses these regional dialogues to highlight the activities which serve to advance the achievement of the MDGs on water and sanitation in the region in question.

The Federal Government supports implementation of the G8 Water Action Plan. While rating its function as a global plan positively, the Federal Government believes, however, that it is not sufficiently partner-oriented or regionally embedded in its current form. For this reason, the Federal Government called during the 2008 G8 negotiations for the G8 to work with

African partners to formulate an implementation strategy. The G8 summit declaration makes reference to this subject.

With reference to support for the G8 Africa Action Plan and the G8 Water Action Plan, see the comments on questions 29 and 67.

**10. What is the Federal Government's reaction to the call made in the 2006 UNDP Human Development Report for a global action plan on water and sanitation and what international efforts to realise this is it aware of?**

The Global Action Plan on Water and Sanitation which was submitted by the UK Department for International Development (DFID) in 2006 (and which forms the basis for the UNDP proposal) contains the following five goals: i) one annual monitoring report presenting progress towards achieving the water and sanitation MDG targets (supplementing the Joint Monitoring Programme sponsored by the World Health Organization and UNICEF), ii) one national water and sanitation plan, iii) one water and sanitation coordinating group at national level, iv) one lead UN water and sanitation body identified at national level in the water sector, v) one annual high-level water sector meeting.

The Federal Government is already supporting the first of these four targets. In principle, the Federal Government advocates national and regional processes in this context, supplemented by global initiatives. The goals formulated in the Global Action Plan can frequently already be effectively pursued using existing tools. The Federal Government takes an active part within various forums and contexts in coordinating processes which follow these objectives, e.g. within the UN Commission on Sustainable Development (CSD). The fifth target – initiating an additional annual high-level water sector meeting – is also being discussed internationally at the present time. In view of the large number of existing high-level conferences and events (for example the Stockholm Water Week and World Water Forum), the Federal Government has so far adopted a reticent position on this.

**11. What concrete conclusions does the Federal Government draw from the announcement made by UN Secretary-General Ban Ki-moon in his speech to the World Economic Forum in Davos in January 2008 that what was done last year for climate change now needs to be done in 2008 for water and development?**

The Federal Government welcomes the UN Secretary-General's determination to focus more attention on the subject of water in UN activities and in the public debate. As stated in the answer to question 1, the water sector has been an important priority of international cooperation for the Federal Government for many years.

**12. Does the Federal Government regard access to basic sanitation as a human right and what steps is it taking to strengthen this in international law?**

The Federal Government is committed to universal recognition of the right to non-discriminatory access to drinking water and sanitation. It believes that this right also encompasses access to basic sanitation. This right derives from the right to life, the right to health, the right to food and the right to an adequate standard of living. It is a view also shared by the Office of the High Commissioner for Human Rights in a study commissioned by the UN Human Rights Council on the initiative of Germany and Spain. This study, which was submitted in September 2007, also notes, however, that there are aspects of the right to non-discriminatory access to drinking water and sanitation which require further substantive clarification. This applies in particular to the aspect of sanitation as a part of this human right. This is one of the reasons why clarifying this right is an important part of the newly created mandate of an Independent Expert on the right to access to safe drinking water and sanitation of the HRC. On 24 September the UN Human Rights Council, at its 9<sup>th</sup> session, appointed Catarina de Albuquerque from Portugal as an Independent Expert under a mandate created on the initiative of Germany and Spain. Germany will support the Independent Expert and hopes for further clarification of outstanding issues relating to sanitation as a part of the human right to non-discriminatory access to drinking water and sanitation.

**13. What goals is the Federal Government pursuing in the area of sanitation by 2015 as the target year for the MDGs as well as for the period after 2015 within the framework of its own development cooperation and together with international partners?**

The Federal Government is committed to playing an active role in advancing the realisation of the goals set out in the Millennium Declaration, the Monterrey Consensus and the Johannesburg Plan of Implementation. The interdepartmental Programme of Action 2015 is the Federal Government's central instrument in this regard (see answer to question 8).

Numerous bilateral agreements have already been signed for the period beyond 2015 (see also question 8).

The Federal Government will bring pressure to bear to ensure that within the United Nations the subject of sanitation will continue to be a priority for the achievement of the MDGs beyond the target year of 2015, and that efforts to give more people access to water and sanitation will be intensified.

**14. How does the Federal Government plan to use the meetings of the Commission on Sustainable Development in 2008 and 2012 strategically for the achievement of the MDG on sanitation?**

This year's meeting of the Commission on Sustainable Development (CSD 16) was held in New York and dealt with the subjects of agriculture, rural development, land, drought, desertification and Africa. The organisation of a separate meeting on progress in implementing the water-related resolutions of CSD 13 was the CSD's first attempt to systematically monitor previous decisions. Even though this was only partially possible due to lack of monitoring, it sends out an important signal for the CSD as a whole. The Federal Republic of Germany played an important role both in the lead-up to and during the meeting. Expectations with respect to Germany in the area of water and sanitation remain high. The Bonn Freshwater Conference in 2001 was mentioned repeatedly as a benchmark in terms of both process and outcomes.

The discussion at the meeting on water and sanitation covered both integrated water resources management (IWRM) and implementation of the water and sanitation MDGs. The head of the German delegation (State Secretary Matthias Machnig, Federal Environment Ministry) proposed that water and sanitation be included in the negotiations of CSD 17 in 2009 in order to translate the momentum from the meeting into concrete resolutions. The EU expressly took up this proposal which aims to intensify work on achieving the MDGs in its closing statement.

For 2012, the Federal Government, as matters stand at present, is focusing its efforts on two main goals: (1) mobilising all the forces of the international community for the achievement of the water and sanitation MDGs and (2) shaping the international framework of action for the water and sanitation sector for the post-2015 period. It is hoped that the Federal Government's initiative to modify the criteria of the Joint Monitoring Programme will have led to concrete results as early as 2012. Ultimately the Federal Government seeks to facilitate a paradigm shift internationally away from disposal-oriented and towards ecologically sustainable closed-loop sanitation systems.

**15. What have been the results of the Federal Government's bilateral cooperation since 2002 and how many more people have been given access to sanitation as a result of this?**

From the Federal Government's viewpoint, strengthening national capacities for action through structural reforms is the only way in the medium to long term of achieving quantitative targets on a sustainable basis. The Federal Government therefore, within the framework of a coherent and integrated development policy, advocates an overall concept which includes capacity building, sectoral reforms, improvement of political and legal conditions and investment.

Within the framework of financial cooperation, the Federal Government currently provides a total of around 1.5 billion Euro of funding for 130 investment projects in the sewage sector in 39 partner countries. It should be pointed out, however, that the MDG definition of access to sanitation does not include the entire sector of sewage management and human settlement hygiene. This is because in terms of measuring the MDGs, it is not relevant whether, in addition to immediate access to a toilet or hygienic latrine, there is also an environmentally friendly wastewater disposal system which does not pose a threat to health. This aspect is, however, crucial both in terms of health and also environmental impact. It is therefore important to see the MDG target 7.10 in the overall context of MDG 7 (environmental protection and sustainability).

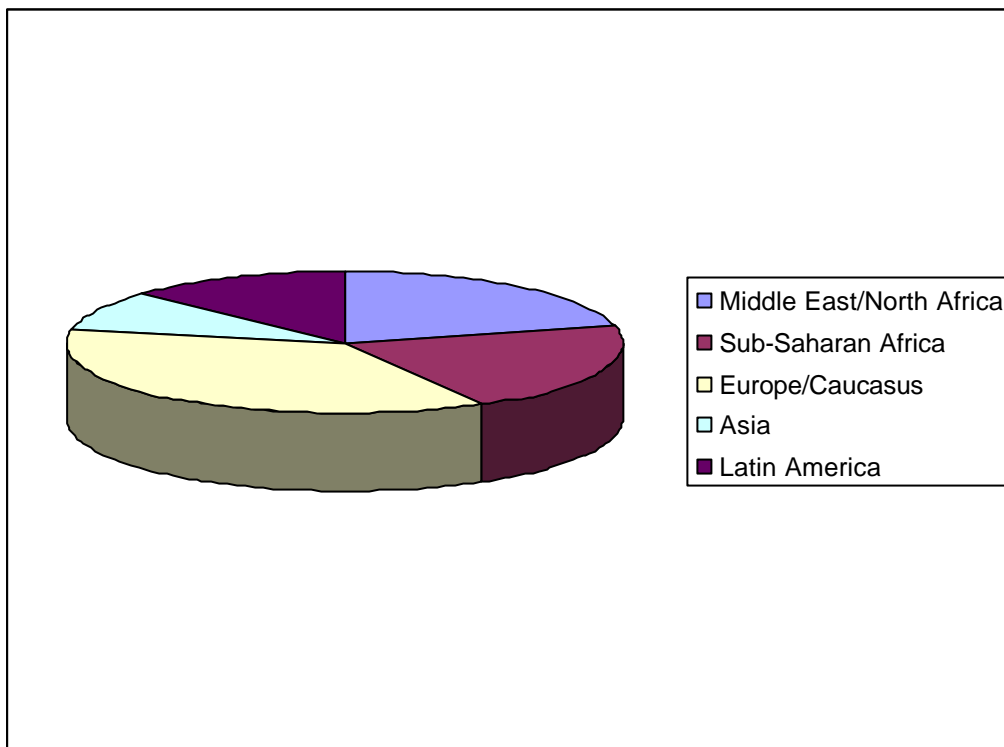
Many measures therefore are targeted on improving wastewater management (e.g. expansion of sewers and construction of sewage treatment plants) and refurbishing existing (but non- or poorly functioning) plants.

Current projects in the area of sanitation/wastewater management are improving the living conditions of 35 million people. With the commitments made since 2002, there is the potential to reach around 11 million people (see figure 1). Some of these projects have not yet been completed.

In the area of technical cooperation, GTZ, on behalf of the Federal Ministry for Economic Cooperation and Development, is running projects to improve sanitation in 24 countries, focusing in particular on capacity development in the sectoral institutions and improving the political and legal framework in the water and sanitation sector in partner countries. A further priority area is strengthening regional water institutions on a lasting basis to relieve the major water-related pinch points in the regions. This method has proved effective since it is impossible to provide sustainable water supply and sanitation for the poor without corresponding institutional and structural measures at national level. This involves, for example, providing organisational and technical advice to institutions and firms, developing sanitation strategies and making decision-makers and the population aware of the importance of hygiene and sustainable sanitation. The aim is to work together with our partners to change structures and processes in such a way as to bring sustainable improvements to the lives of the people. The current sanitation projects being run by GTZ on behalf of the Federal Ministry for Economic Cooperation and Development have a volume of almost 60 million Euro.

## Size of target groups in relation to wastewater management as from 2002

Total: 11 million people



**Figure 2: Size of target groups in relation to wastewater management as from 2002 (Source KfW)**

**16. In which countries is cooperation in the area of water a priority subject of technical and financial cooperation, in what countries is sanitation an explicit element of cooperation and which of these countries are on track to achieve the MDG on sanitation and/or water supply (please itemise)?**

German bilateral development cooperation supports 39 countries in the area of wastewater management and sanitation. A total of around 40% of total bilateral ODA in the water sector is invested in the wastewater area.

Sub-Saharan Africa	Asia	Latin America	Southeast Europe	Middle East / Mediterranean
<b>Benin**</b>	<b>Afghanistan**</b>	<b>Bolivia**</b>	<b>Albania**</b>	<b>Egypt**</b>
<b>Burkina Faso**</b>	<b>Philippines**</b>	<b>Nicaragua**</b>	<b>Bosnia-Herzegovina</b>	<b>Yemen**</b>
<b>Burundi**</b>	<b>India**</b>	<b>Peru**</b>	Kosovo*	<b>Morocco**</b>
<b>Kenya**</b>	<b>Vietnam**</b>	Costa Rica	Montenegro*	<b>Palestinian Territories**</b>
<b>Mali**</b>			Serbia*	<b>Syria**</b>
<b>Zambia**</b>				<b>Algeria**</b>
<b>Sudan</b>				Jordan**
<b>Tanzania**</b>				Lebanon**
<b>Uganda**</b>				<b>Tunisia**</b>
<b>DR Congo**</b>				

**In bold: partner countries where water (incl. sanitation) or the environment is a priority area of cooperation**

Non-bold: engagement within regional and subject-related programmes

Dark grey: on track for sanitation according to JMP; light grey: not on track; white: insufficient data

\*\*Sanitation is an explicit component of German development cooperation here

\*Wastewater management included in the priority area of public infrastructure promotion

**Figure 3: Partner countries of German development cooperation in the areas of water (incl. wastewater management) and the environment, status as per June 2008.**

Around a half of the countries listed above are not on track at present according to up-to-date figures provided by the Joint Monitoring Programme, i.e. progress in terms of coverage is not enough to ensure achievement of the millennium target.

**17. How does the Federal Government incorporate sanitation in relevant sectoral policies (e.g. in the areas of health, education, women's affairs, economic development and the environment) and how does it ensure that appropriate single-sex toilet facilities are made available in all the projects it supports?**

The Federal Government incorporates sanitation primarily in education, health, local government promotion and environment sectors. The water sector strategy paper stresses the importance of sanitation for health, the environment, education and gender equality.<sup>7</sup>

In the area of child health, children are particularly vulnerable to worm and diarrhoeal diseases as a result of lack of access to basic sanitation; this has ongoing effects on nutrition and health. Since childhood is a period of intensive physical and mental growth, children are particularly susceptible to these effects. For this reason, German development cooperation promotes health and hygiene education in schools through instruction in the hygienic use of toilet facilities and the purification and treatment of drinking water. Educating children in the beneficial effects on health of hand washing and personal hygiene is central to these efforts.

The quality of sanitation also affects educational opportunities because girls often stay away from school after they start menstruating if there are no sanitary facilities. In addition, frequent illnesses in the family, caused among other things by lack of sanitation, create an additional burden particularly on girls which may keep them away from school and training. In terms of appropriate single-sex toilets in the planning and implementation of water and sanitation projects, the water sector strategy paper includes binding specifications. Sanitation measures are accordingly tailored to user groups. While toilets planned for households are not gender-specific, community toilets, for example in slum districts, markets or in schools, are required to be single-sex. Development projects in the area of water and sanitation also, however, include support and capacity development for women so that they can bring their specific interests and needs to decision-making processes.

In environmental projects environmentally sound sewage and waste management plays an important role in many countries, e.g. in Morocco, Tunisia, Kosovo, Montenegro, Serbia and Vietnam.

Adapted technology is important in terms of gearing projects to poverty reduction and sustainability. Water and sanitation systems therefore need to be adapted to, among other things, factors of settlement geography and hygienic and hydro-geological conditions as well as to the cultural and social context and must foster the sustainable use of resources such as water, soil, nutrients and/or energy.

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<sup>7</sup> Strategy papers of the Federal Ministry for Economic Cooperation and Development No. 143 (September 2006): Water sector strategy paper



**18. What proportion of German development cooperation in the area of sanitation is spent in rural areas and urban areas respectively and how does the Federal Government justify this?**

The Federal Government gears its bilateral development cooperation closely to partners' strategies, as called for in the Paris Declaration adopted by the donor community at the Conference on Aid Effectiveness in March 2005. Some 70% of German bilateral ODA for water and sanitation projects is currently allocated to urban areas. Around 15% goes to regional projects and/or sectoral reform programmes which cover both urban and rural areas. A further 15% goes to rural projects. In most of the Federal Government's partner countries, the water and sanitation situation in the towns and cities, particularly in the slums which are growing in uncontrolled fashion, is worse than in rural areas. Although there are more people who have no proper supply of water and sanitation in rural areas than in the towns and cities, the effects of the lack of access in urban areas are more serious because of the higher population density.

Particularly in Sub-Saharan Africa the focus of measures in urban areas also reflects the need for a greater division of labour between donors and greater specialisation. Germany's largest presence in this context is in the area of urban water supply and basic sanitation, particularly in the outskirts of towns as well as in small and medium-sized towns.

**19. In what ratio are funds allocated by the Federal Government for sanitation split between ecological approaches (ecosan) and conventional systems, as well as between decentralised and central systems (please itemise separately)?**

Allocation of funds to support ecological approaches to sanitation (ecosan):

There are three categories of ecosan projects: (A) comprehensive closed-loop wastewater and sanitation systems, (B) partial closed-loop wastewater and sanitation systems and (C) disposal-oriented wastewater and sanitation systems (see key). 15% of funds are used for category A projects, 35% for category B and 50% for category C (see table).

Volume of current projects	(A) Comprehensive closed-loop systems	(B) Partial closed-loop systems	(C) Disposal-oriented systems
<b>Total</b> Financial & technical cooperation (Euro)	Approx. 240 million (220 + 20)	Approx. 550 million (530 + 20)	Approx. 780 million (750 + 30)
[%]	Approx. 15%	Approx. 35%	Approx. 50%

Key – Allocation of different sanitation systems to the three categories:

**A: Comprehensive closed-loop systems** (large-scale recovery of energy, nutrients and water) are systems which enable the hygienic, comprehensive recovery and recycling of energy (e.g. via biogas production) and nutrients contained in faeces and household wastewater as well as the reuse of water (e.g. for domestic use or for irrigation).

Examples include household biogas plants in Nepal which take in toilet sewage and dung from cows and then supply cooking gas for the family as well as fertiliser for farming. Further examples are urine-diversion dehydration toilets in which urine and composted faeces are recovered for agricultural use, and treatment plants without nutrient elimination (e.g. constructed wetlands and sewage ponds) which use treated wastewater for irrigation and sludge as fertiliser for farming.

**B: Partial closed-loop systems** (partial recovery of energy, water and nutrients) enable recovery and reuse of particular streams.

A partial closed-loop system is created, for example, when faecal sludge from cesspits is collected, treated and returned for use in farming as a soil improver or the energy and fertiliser is recovered from sewage sludge in central sewage treatment plants. The materials contained in the leachate and treatment plant effluent, however, are not recovered.

**C: Disposal-oriented systems** are systems which, while they are not geared to recycling, help to protect public health and/or the environment. Typical examples are central or decentralised wastewater systems which dispose of faeces and sludge from treatment plants into landfill or elsewhere and discharge the treated wastewater into surface waters.

Not all cases in reality fit completely into this scheme.

Funds allocated by the Federal Government to support central and decentralised sanitation systems:

Sanitation systems can be categorised as follows: (X) decentralised sanitation systems, (Y) semi-central systems and (Z) central systems (see key). At present 2% of funds are allocated to decentralised systems, 5% to semi-central and mixed systems and 93% to central systems (see table).

Volume of current projects	(X) Decentralised sanitation systems	(Y) Semi-central and mixed systems	(Z) Central wastewater systems
Total Financial & technical cooperation (Euro)	Approx. 30 million	Approx. 80 million	Approx. 1,500 million
[%]	Approx. 2%	Approx. 5%	Approx. 93%

Key: Allocation of different sanitation systems to the categories in question:

**X: Decentralised systems**

These range from pit latrines (with or without adequate treatment of faecal sludge) to systems such as urine-diversion dehydration toilets and household biogas plants. This amount does not include projects in other sectors with a basic sanitation component, such as slum renewal, sanitation systems in schools or health centres and rural energy supply, e.g. the over 300,000 biogas plants in Nepal (22 million euro of financial cooperation).

**Y: Semi-central systems**

These include sanitation systems with small sewer networks and in some cases attached treatment plants for small settlements or town districts (e.g. sewage ponds, constructed wetlands, anaerobic baffled reactors, etc).

**Z: Central systems**

These generally comprise a central sewer network with an attached treatment plant (frequently sewage ponds or treatment plants using an activated sludge process).

What category a system is allocated to does not indicate whether or not it is a closed-loop system. Large central systems in countries where water shortage is not an issue are more frequently disposal-based since the treated water is not needed for irrigation purposes and the reuse of nutrients may be limited if, for example, it is possible that sludge may be contaminated with industrial toxins in systems where household and industrial wastewater are mixed.

**20. What efforts is the Federal Government making to substantially expand the use of the ecosan approach?**

In the Federal Government's understanding, the ecosan approach describes a method which aims at achieving the greatest possible level of sustainability and maximising the recovery and reuse of water, nutrients and organic material. In addition, the energy contained in wastewater, excrement and solid organic waste can be made usable by producing and capturing biogas in anaerobic processes.

Technical ecosan solutions always have to be adapted to the location. They can include a large number of different technological components and be designed as decentralised, semi-central or central systems. One example of a decentralised system is urine-diversion dehydration toilets at household level coupled with grey water purification systems in the form of planted soil filters. Examples of semi-central closed-loop systems are biogas plants or biological treatment systems for smaller urban districts which make do with a simplified sewer system. The separation of material streams (e.g. separating grey water and faeces) can also be a sensible option here. Examples of central systems are energy-efficient treatment plants in which the treated wastewater is used for agricultural irrigation and sewage sludge is turned into biogas or fertiliser. The quality of fertiliser from

sewage sludge is particularly good if urban industrial wastewater is collected separately.

In its financial cooperation measures, the Federal Government already gives considerable support to central closed-loop approaches (see question 19 on expenditure on current projects).

In order to expand the ecosan approach, the Federal Government set up the ecosan sector project in 2002 which is currently in its third project phase (2008 to 2011). The total volume of support for the period 2008 to 2011 stands at 5,450,000 Euro. The paramount aim of the project is to create the foundations for the spread of sustainable sanitation concepts through the further development of ecological sanitation concepts, capacity building and pilot measures. Current activities include: organisation of networks and working groups (since 2007 in particular the Sustainable Sanitation Alliance, see below), technical papers and studies, implementation of pilot projects, the development and adaptation of technologies, suitable organisation models and recycling concepts and dissemination of knowledge using different information management tools as well as general public relations work.

The overarching goal is to embed ecosan concepts in national strategies and approaches, e.g. in curricula in educational institutions, in national political strategies, guidelines and standards and in national funding programmes. The Indian Government, for example, decided that the head of its successful nationwide "total sanitation campaign" should be trained in the ecosan approach. Likewise in the Philippines, a law on the targeted promotion of ecosan systems is currently being drafted.

As a result of these efforts, Germany today – alongside Sweden, the Netherlands, Norway and Switzerland – leads the field in Europe in the subject of ecosan and sustainable sanitation.

In January 2007 the Sustainable Sanitation Alliance (SuSanA) was established in order to promote the spread of sustainable sanitation concepts. SuSanA is a strategic alliance formed to speed up the mainstreaming of sustainable sanitation and is promoted via the ecosan sector project and cooperation with German organisations including DED (the German Development Service), BGR (Federal Institute for Geosciences and Natural Resources), the banking group KfW, BORDA (Bremen Overseas Research and Development Association), TTZ (Technology Transfer Centre) and a number of universities.

The SuSanA network, which now comprises more than 100 international partners (as at August 2008), shares knowledge and brings together the most important organisations in the field of sustainable sanitation. The Alliance, which according to its definition does not work solely on the basis of ecological sustainability criteria, has 12 thematic working groups. Activities include project analysis carried out using internet-based presentation software and project data sheets, provision of comprehensive information on the SuSanA homepage and joint

appearances at conferences. The evolution of a common understanding of sustainable sanitation among the organisations involved and a common commitment helps to advance the spread of sustainable sanitation concepts – both within the organisations which belong to the network and to third parties via information events and lobbying work.

Assistance is also given to promoting research in the area of ecological sanitation. One example of this is the Valley View University Project in Accra, Ghana, which receives funding from the Federal Ministry of Education and Research. The concept for the first ecologically planned university in Africa encompasses the reuse of urine and composted faeces as fertiliser and the use of grey water and rainwater. It is intended that parts of this concept relating to adapting to the consequences of climate change will receive funding under the Federal Environment Ministry's International Climate Protection Initiative.

An example of a research project in Germany is the model "DEUS 21 Decentralised Urban Infrastructure Systems" project in Knittlingen near Pforzheim in the south-west of Germany, which includes a vacuum sewer system, decentralised wastewater treatment and rainwater treatment.

**21. To what extent does the Federal Government see the need for action, including in Germany, to take further steps at federal level with respect to sewage disposal and reuse and human settlement hygiene?**

The Water Framework Directive, together with the adoption in the Water Resources Act of the goals of the two directives on integrated avoidance and reduction of environmental pollution, as well as environmental impact assessment with respect to particular public and private projects, significantly expand the scope of the Wastewater Ordinance bringing it closer to the requirements of integrated environmental protection. The aim here is to take greater account of the total impact and/or total emissions arising from wastewater treatment.

As part of the reform of Germany's federal system, comprehensive legislative authority in relation to sewage disposal was transferred in September 2006 to the Federation. Against the background of the integrated, cross-media approach, the following federal measures are currently being pursued with respect to sewage disposal:

- Review of the more than 50 annexes to the Wastewater Ordinance to investigate possibilities of simplification and the need to adapt them to the state of the art
- Review of the requirements relating to rainwater management
- Stipulation of minimum measures to increase energy efficiency in treatment plants
- Reclamation of raw materials (e.g. phosphorus and nitrate) from wastewater and sewage sludge.

Among the particular dangers to humans in this respect are harmful micro-organisms, the emissions of which are subject to restriction under the directives on the avoidance and reduction of environmental pollution. Classical wastewater treatment processes cannot eliminate, at least not completely, hygienically suspect germs (viruses, bacteria, parasites, including germs with multiple resistances to antibiotics) or other micro pollutants. In addition to local measures, e.g. with respect to bodies of water also used for bathing, steps also have to be put in place to sanitise wastewater. The use of membrane filtration plants meets the requirements of wastewater treatment as well as hygienic safety (guaranteeing virtually total removal of pathogens).

### **The role of the developing countries**

#### **22. What significant obstacles to progress can the Federal Government identify in developing countries?**

A lack of political will, lack of finances (solvency), the taboo nature of the subject and a lack of capacity are the central obstacles to sustainable progress in the area of sanitation. Progress also depends, particularly in relation to decentralised systems, on the demand and the priorities of private households in terms of what they want to spend their money on. A lack of knowledge of the economic benefits of investments in sanitation and of the importance for sustainable development as a whole is a significant obstacle. See also the answer to question 3 in relation to main obstacles.

##### **a) What role is played in this context by the taboo nature of the subject and a lack of capacities?**

The taboo nature of the subject and a lack of knowledge and capacities play a central role. One example of the problems caused by the taboo nature of the subject is the fact that lack of adequate sanitation disadvantages girls and women in particular. If there are no sanitary facilities, women often have to wait until nightfall to relieve themselves, a time when they are more vulnerable to sexual attack. The absence of or lack of cleanliness of school toilets also often means that girls leave school at the onset of menstruation.

The numerous activities in the International Year of Sanitation 2008 have already led to the subject being discussed very openly at international and regional conferences. Examples here in addition to the regional conferences (see question 7) are the AU Summit on Water and Sanitation, the G8 process under the Japanese presidency and the EU-AMCOW Statement on Sanitation.

##### **b) What is the Federal Government doing to help remove these obstacles?**

The aim of all German development cooperation in the water sector is to remove the obstacles standing in the way of sustainable water supply and sanitation. The answers to question 7 describe the approaches undertaken by the Federal Government to raise political awareness of the subject and to

make available funds for implementation. One important factor here is the readiness of players to commit on a long-term basis since it takes time to bring about radical changes of behaviour and change social norms.

**23. How and to what extent does the Federal Government support the development of national strategies and plans drawn up by developing countries for their water supply and sanitation?**

Promoting reforms in the water sector is an important task of development cooperation in many countries. Sanitation and wastewater management – both in urban and rural areas – are pivotal to the overall reform of the water sector. In most countries reforms entail:

- clarifying responsibilities: i) at ministerial level (between the various ministries – water, health, environment, etc.), ii) between the sectoral political and operational level (relevant ministry frequently intervenes in operational tasks, particularly in rural areas), and iii) between the central state and local authorities;
- defining sub-sectoral goals within the framework of the MDGs and national cross-sectoral strategies (PRSP etc.);
- improving the information and monitoring system in the sector;
- determining technological orientation and standards for the planning and selection of investments (central or decentralised, ecological sanitation, etc.);
- financing sanitation on a sustainable and poverty-oriented basis: e.g. combined charge for sanitation and drinking water supply, grants from national budget, international ODA funding, private investment.

In the Middle East and North Africa and in Europe and Asia, wastewater management has played an important role for a long time while in Sub-Saharan Africa the main focus thus far has been on water supply. Since many partner countries have established the above-mentioned foundations for progress in this area, they are now also giving more priority to sanitation.

**a) In what way is the Federal Government supporting reforms to the sanitation sector in developing countries?**

In most countries a distinction is made between i) urban water supply and sanitation, ii) rural water supply and sanitation and iii) water resources management. Thus the reforms relate to the sub-sectors which include sanitation. In addition, there are reforms to the overall water sector which includes water supply and the sewage sector.

Reforms are supported in all the areas named above. In the Middle East and North Africa and in the regions of Europe and Asia wastewater management has played an important role for a long time, while in Sub-Saharan Africa the focus so far has been on water supply. Since the foundations for progress (e.g. clarification of responsibilities) have been laid down in this area in many partner countries, there is now more emphasis on the sanitation sector there too.

**24. How and to what extent does the Federal Government support the inclusion of water supply and sanitation in national Poverty Reduction Strategy Papers (PRSP)?**

The following partner countries of the Federal Government, where water is a priority, already have Poverty Reduction Strategy Papers in place: Afghanistan, Benin, Bolivia, Burkina Faso, Burundi, Congo, Kenya, Mali, Tanzania, Uganda, Yemen and Zambia. The national governments set their own development priorities in the PRSP. In terms of the formulation of the PRSPs, the German Federal Government is actively involved in the policy dialogue on priority areas for human development (e.g. water and sanitation). Water supply and sanitation, however, are also promoted in countries which do not have a PRSP. In these countries, the Federal Government advocates the integration of the subject in national and sectoral development strategies.

**a) How does the Federal Government assess what progress has so far been achieved in this area?**

As can be seen from annex 1, water supply and sanitation have been recognised in many of the Federal Government's partner countries as an important sector in poverty reduction and incorporated in their PRSPs as priority measures.

**b) In which of our partner countries where water is a priority area of cooperation which have received debt relief under the HIPC Initiative was sanitation part of the poverty reduction strategy from the outset, in which countries did it become so subsequently and where is it completely absent?**

Of the above-mentioned countries (see question 24), Benin, Burkina Faso, Burundi, Mali, Tanzania, Uganda, Zambia, Bolivia, Nicaragua and Afghanistan have received debt relief under the HIPC<sup>8</sup> initiative. In all these countries – with the exception of Afghanistan – the national poverty reduction strategies provide for measures in the area of sewage disposal and basic sanitation. In Afghanistan, the (interim) PRSP of 2006 did not at first include any concrete sanitation measures. This has since been corrected and the 2008 PRSP for Afghanistan now contains specific measures in the area of sanitation.

**25. To the knowledge of the Federal Government, to what extent is sanitation included in national IWRM plans, as provided for under Chapter 2, Paragraph 8g of the Johannesburg Plan of Implementation, and is it assisting our partner countries – particularly those in which water is a priority area of cooperation – to do so?**

The extent to which sanitation is included in national IWRM (integrated water resources management) plans varies considerably according to region and partner country. The following results of a country survey involving a number of

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<sup>8</sup> HIPC = Heavily Indebted Poor Countries



important partner countries where water is a priority area of cooperation provide an overview of the inclusion of sanitation in IWRM plans.

### **Inclusion of sanitation in the national IWRM plans of our partner countries**

<b>Country</b>	<b>Sanitation in national IWRM plans</b>
<b>DR Congo</b>	- A strategic concept for reorganisation of the water sector taking into account IWRM is in development. Reforms to the urban water sector have been initiated.
<b>Zambia</b>	- Integrated development of water supply and sanitation and hygiene education is promoted to strengthen the impact on health
<b>Tanzania</b>	- A comprehensive integrated planning structure for water resources management and at the same time water and sanitation is in force.
<b>Afghanistan</b>	- There is consensus in the Ministry of Water that IWRM contributes to poverty reduction. Up to now, however, no specific document has been produced. The split of sectoral responsibilities between several ministries makes it difficult to reach agreement.
<b>Egypt</b>	- Sanitation is a firm and important element of the National Water Resources Plan in Egypt as well as of the restructuring plan "Vision and Strategy on Institutional Reform" in the water sector, both of which have as their aim the introduction of IWRM.
<b>Morocco</b>	- Morocco's IWRM strategy is aimed at bringing improvements and increasing efficiency in relation to irrigation as well as improving and guaranteeing sustainable access to drinking water and sewage disposal. Water management associations in the river catchment areas are responsible for implementation.
<b>Philippines</b>	- At national level the Philippine IWRM Directional Framework Plan was published in 2007, requiring the formulation of provincial IWRM plans. No national IWRM Plan is proposed. - Water and sanitation are part of the IWRM plans. - Water and sanitation have equal priority in the IWRM plans. - GTZ is supporting the drafting of the IWRM plans in the pilot provinces of Bohol and Negros Oriental and the implementation of initial measures.
<b>Vietnam</b>	- The principles of IWRM are substantially endorsed in the Vietnamese National Strategy on Water Resources to 2020. - The Ministry of Natural Resources and Environment is responsible for IWRM. It has delegated this task to the Department for Water Resources Management (DWRM)

and the Center of Water Resources Planning and Investigation (CEWAPRI).

- The Federal Institute for Geosciences and Natural Resources (BGR) is working with CEWAPRI on a project to reinforce the integration of aspects relating to wastewater management in IWRM.

**26. To the knowledge of the Federal Government, which action plans to implement the NePAD peer review reports contain actions in the area of basic sanitation and how is the Federal Government offering to support such actions in line with the preferential partnership pledged to the NePAD countries?**

Germany supports the reform projects of the New Partnership for African Development – NePAD – Initiative within the framework of the G8 Africa Action Plan. NePAD's priority infrastructure projects on the African continent also include water and sanitation. German involvement in the water sector ties in with these African initiatives. Germany is the largest bilateral donor in the water sector in Sub-Saharan Africa.

Germany is currently focusing its efforts in 10 priority countries on the following key areas:

- Water and sanitation, particularly in small and medium-sized towns
- Reforms to the water sector
- Strengthening water resources management.

Thus Germany's development policy is aligned to the needs of partner countries as well as of the political institutions in Africa responsible for water (AMCOW, AfDB) and contributes its particular expertise within the framework of the international division of labour.

The NePAD peer review country reports refer to sanitation in the socioeconomic section. The following is a selection of findings from these reports by way of example:

- Ghana: The report for Ghana refers to the subject of improving basic sanitation in relation to extending access of poor sections of the population to social institutions, especially health, education, water and sanitation. The Programme of Action recommends that sanitation be adapted to population growth.
- Benin: Although the peer review report highlights problems in relation to sanitation and calls for more attention to be paid to the subject, the Programme of Action contains no concrete proposals to improve implementation of sanitation programmes.
- Algeria: The Algerian Programme of Action includes the subject of sanitation and recommends implementation of sanitation projects.
- Kenya: The Programme of Action calls for reforms to the water sector, which also include sanitation, to be speeded up.

- South Africa: The Programme of Action for South Africa calls for a massive expansion of sanitation infrastructure in order to guarantee better sanitation coverage for the population.

It is now up to the peer review countries to incorporate these findings in the national dialogue on water and sanitation. Where Germany is active in this sector, it will seize on these points in the sector dialogue and work with others to seek to support implementation.

**27. How much would need to be spent on basic sanitation in our partner countries where water is a priority area of cooperation – measured both in terms of GDP and as a percentage of the national budget – in order to achieve the MDG and what global target does the Federal Government recommend?**

According to the Human Development Report of 2006, less than 0.5% of GDP was invested in water and sanitation in 2005. The same report recommends that at least 1% of GDP should be invested in this sector.

In the eThekweni Ministerial Declaration adopted at AfricaSan, the African water ministers commit themselves to a specific amount of public spending on sanitation and hygiene measures. The target agreed by them was at least 0.5% of GDP.

There is widespread consensus in the international discussion that a part of the national budget in developing countries should be earmarked explicitly for sewage management and sanitation. It is impossible to specify on a flat-rate basis what the percentage should be since even if the amount is increased, the conditions have to be right and the money has to be used correctly. The key issues therefore are whether there is a strategy for the sanitation sector, whether the responsibilities have been clarified, whether cooperation mechanisms exist between the responsible ministries and whether the general public is involved in the planning and implementation processes.

**28. To the knowledge of the Federal Government, how much are the governments of developing countries, in particular our partner countries in which water is a priority, investing in sanitation and what is it doing to persuade them that this should be increased?**

There is very little data available on how much the governments of partner countries are investing in sanitation. At best there is data on public spending on the entire water sector. Typically this spending amounts to less than 0.5% of GDP.<sup>9</sup> The proportion of this amount spent on sanitation is often not documented. Estimates suggest that in Sub-Saharan Africa the percentage is very low while in Asia, Latin America, Southeast Europe and the region of the Middle East and North Africa it has risen sharply in recent years (e.g. China, Vietnam, Egypt, Morocco, Tunisia, Syria). In the poorest countries the main burden of funding

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<sup>9</sup> United Nations Development Programme: Human Development Report, New York 2006.

rests with donors, while newly industrialised countries mainly use their own budget funds.

The Federal Government is pressing in the sectoral dialogue with partner countries for an increase in the budget for wastewater management and basic sanitation.

**29. How does the Federal Government intend to support implementation of the eThekweni Declaration signed by ministers at the AfricaSan Conference on Sanitation and Hygiene in February 2008 and the Declaration of the African Ministers' Council on Water on Accelerating Water Security for Africa's Socioeconomic Development of March 2008?**

The greater part of German ODA committed to the water sector goes to Africa where Germany is the biggest bilateral donor in the water and sanitation sector. Within the framework of this commitment, the Federal Government is making a significant contribution to strengthening the position of this subject on the agenda in the regional sectoral dialogue as well as in national and regional sector strategies. The focus here, in addition to comprehensive investments in sanitation infrastructure, is principally on establishing regional institutions and sustainable operator structures, sector policy reforms, capacity building and raising awareness in partner countries.

The eThekweni Declaration (2008) contains wide-ranging and specific commitments made by the African water ministers. The Federal Government expressly welcomes these commitments and also supports these objectives within the sectoral dialogue. Commitments such as the development of sector strategies and the use by partner countries of their own public funds reflect basic positions of German development cooperation in this sector.

The Federal Government supports partner governments in the implementation of the eThekweni Declaration through financial and technical involvement in the African water and sanitation sector and through support for AMCOW.

Germany is intensively engaged in the international water dialogue on Africa and involved with regional partners in a series of measures to promote international cooperation. One central element of this is efforts to strengthen the political role and efficacy of AMCOW as the most important regional political partner in the African water sector. This support is helping, among other things, to implement the regional components of the eThekweni Declaration. The Federal Government also welcomes the monitoring role for AMCOW proposed in the Declaration.

## **Capacity development and sanitation marketing**

### **30. What role does the Federal Government consider capacity development has to play with respect to the MDG on sanitation, what deficits does it see in this area and how is the Federal Government helping in its development cooperation to remove these?**

The Federal Government considers that capacity development plays a crucial role, particularly for the achievement of the MDG on sanitation. The aim is to strengthen capacities at both institutional and individual level in order to guarantee the effective and sustainable deployment of national and international resources. When coordinating activities with other donors and in particular with the World Bank, the Federal Government always stresses the need for greater support for capacity development.

Capacity development is an important element and aim of German development policy. The effectiveness of Germany's support for capacity development within its development cooperation measures is widely acknowledged. The peer review of Germany in 2005 by the OECD-DAC, for example, gives a very positive rating to German activities in the area of capacity development and calls on Germany to take a leading role internationally in this area.

For German development policy, building theoretical and technical expertise to ensure safe and sustainable sanitation is a central concern. German development cooperation in this area focuses in particular on Sub-Saharan Africa, the Middle East and North Africa and Europe. Support is provided to partner countries at political, institutional, national, regional, local government and local level. Stakeholders in the water sector which receive capacity building support from Germany include state institutions, water and sanitation operators, the private sector and its associations, user groups and initial and continuing training establishments.

German development policy supports these stakeholders through coordinated measures in relation to the sector dialogue, training, framework plan development, advice on strategic human resources development and regional knowledge networks. These activities and political counselling go hand in hand in this process with investments in infrastructure development in order to promote the sustainability of the development processes in the water and sewage sector and ensure ownership on the part of the stakeholders. Demand for capacity development is currently greater in the area of wastewater management and sanitation than for water supply.

Integrating capacity development measures in national and sectoral strategies and the development by partner countries of their own capacity development strategies is becoming increasingly important. Germany has been involved in the drafting of these strategies in a large number of countries within its development cooperation activities.

### **31. How does the Federal Government assess the potential and the extent of current capacity building efforts in**

#### **a) the local craft sector and the private sector?**

There is a great as yet unexploited potential for capacity building in the local craft sector and regional private sector. Experiences to date of involving the local private sector have been overwhelmingly positive. In many countries, however, there is no local private sector which has the necessary capacities to take over more complex tasks in the area of sanitation.

The development projects supported by the Federal Government work closely together with the local craft sector and the private sector in order to embed know-how for building and maintaining sustainable hygienic and environmentally sound sanitation systems. These include initial and continuing training programmes which serve to improve the private sector's performance in the countries of the Middle East and North Africa. The Sustainable Sanitation Alliance supported by the Federal Government is currently establishing an internet database which will include details of courses and training programmes on sustainable sanitation available worldwide.

Despite many capacity development initiatives and successes in some areas, there is still a failure to fully exploit the potential of private industry and the water and sanitation operators, which in many cases are part privatised, to guarantee an adapted, countrywide state of the art sanitation system in partner countries.

#### **b) employees in the area of water and sanitation?**

Initial and continuing training courses form an important component of development projects in the sewage sector. They are aimed at both employees in the public sewage utility companies and also private craftsmen and service providers. The programmes also include continuing training courses in Germany in which participants from the private sector as well as employees from public water and sewage utilities spend several months in water and sanitation utilities and manufacturing companies in Germany, gaining broad practical experience. At the same time, participants forge contacts with the private sector and trade associations in Germany which are then intensified through alumni programmes.

In many cases, great value is also attached to involving staff from non-governmental organisations in the projects in order to be able to specifically reach poorer sections of the population and, in particular, to respond to the needs of women and girls.

The Federal Ministry of Education and Research also supports projects in which courses for engineers, operating personnel and decision-makers in administrations are held by German lecturers from tertiary education

establishments, administrations and the private sector. This enables rapid, targeted and effective transfer of efficient German high-tech solutions in the sanitation sector.

**c) traditional methods of sanitation?**

Sub-question c) is answered together with sub-question d) below.

**d) ecosan approaches to sanitation?**

The water sector strategy paper (2006) published by the Federal Ministry for Economic Cooperation and Development stipulates that support will be given in principle for the use of traditional methods of sanitation. This policy decision reflects the great potential which the Federal Government sees in traditional and recycling-based approaches to sanitation. Capacity development plays a central role in realising this potential.

Particularly in agrarian-based societies, closed-loop concepts often have a long tradition including in the sanitation sector e.g. in China, Vietnam and also Germany. Because it is possible to link in to locally accepted practices and local knowledge, the potential for capacity development is very high in these instances. In other regions, capacity development has to be targeted at other levels, and there must be a focus on information and education. In the medium to long term, however, the potential is still great.

In recent years many countries have received support to establish efficient, high-performance sewage companies and improve the potential and capacities of stakeholders in order to enable them to operate practical environmentally sound solutions for sustainable central or decentralised sanitation systems. In many projects funding is provided for awareness-raising measures, capacity building and project planning through to the implementation of sustainable wastewater management and ecosan techniques.

Possibilities of reusing energy (e.g. biogas) and fertilisers from excreta and wastewater are investigated and, wherever hygienically safe and expedient in terms of sustainability criteria, support is given to enable these solutions to be disseminated or further developed into suitable approaches which can be spread more widely. The reuse of treated wastewater in farming and also in industry or for groundwater enrichment is becoming increasingly important, particularly in countries of the Middle East, North Africa and Asia. Capacity building measures in this field can range from workshops for the many different ministries charged with the subject, awareness-raising and information campaigns for farmers, organising of users and the development of appropriate guidelines for wastewater treatment and reuse.

**e) politicians and administrative staff at all political decision-making levels?**

As explained in the answers to questions 3 and 22, lack of capacity continues to be a problem. Yet the Federal Government believes that the potential to contribute in the long term to sustainable development through capacity development is very high. For this reason, capacity development is a central part of German development cooperation. In this process, the Federal Government adopts a multi-level approach; i.e. capacity development measures are targeted at stakeholders at all levels and in different organisations such as ministries, technical bodies and regulatory authorities.

Capacity building, particularly in the state sector, is a long and painstaking process, not least because in many cases the organisational conditions to enable proper planning and management of sanitation are not in place. Raising the awareness of decision-makers responsible for allocating the required personnel and funds for sanitation therefore remains a key element of capacity development in the water sector.

**f) the scientific and research community?**

Continuing training and capacity development measures in partner countries are planned and implemented in cooperation with higher education institutions or training establishments, for example. This makes efficient use of the scientific/academic institutions and their expertise and at the same time promotes closer cooperation and exchange of experience between the scientific community and practitioners in partner countries. Technical partnerships, including with German teaching and research institutions and associations, ensure that teaching content and methods can be discussed and exchanged with partner countries.

In Syria, the Federal Government, under its financial cooperation measures, is currently supporting the establishment of an applied science university of water management. In addition, pilot wastewater treatment plants are being built at applied science universities in a number of countries in the Middle East and North Africa in order to ensure that training is practice-related, and to support research.

In 2001 the Federal Ministry of Education and Research launched an initiative entitled "Sustainable and Competitive Water Management in Germany". Within the framework of this concept, the IPSWaT project (International Postgraduate Studies in Water Technologies) was established with a view to transferring knowledge at international level, enhancing the qualifications of young scientists in this sector and making a contribution to sustainable development.

The granting of scholarships and fellowships to young scientists from Germany and abroad who are working for a Masters or to complete a Ph.D. programme at a German university creates opportunities for a bilateral



knowledge flow. It lays the groundwork for future cooperation in the transfer of knowledge and technologies at international level and contributes to the education and integration of potential decision-makers of the future in developing countries and emerging economies. In the process, lasting contacts are established which provide a firm foundation for future cooperation. In addition, scientific personnel from partner countries are seconded within the framework of bilateral cooperation projects to German partners generally for periods of one year to receive training in process development.

**g) How is the Federal Government supporting the said actors and methods?**

German development policy supports the said actors in a variety of ways including coordinated measures relating to the sectoral dialogue, training courses and workshops, measures to accompany investments, consultancy, curriculum development and the setting up of e-learning courses and web-based discussions forums, advice on strategic human resources development, as well as regional and international knowledge networks. Capacity building creates synergies with infrastructure development and hence supports the sustainability and dynamism of development processes in the water and sewage sector in the priority countries of German development cooperation.

See also the answer to question 30.

**32. What activities is the UN-Water Decade Programme on Capacity Development, opened in 2007 with its headquarters in Bonn, conducting in the area of sanitation and what has been done to ensure a proper balance of activities in relation to water supply and sanitation?**

The UN-Water Decade Programme on Capacity Development (UNW-DPC) began work in mid 2007 and was working to full capacity by mid 2008. UNW-DPC is one of three programme offices set up to improve the coherence, credibility and effectiveness of UN-Water. UN-Water is a coordinating mechanism in the water sector which is supported by 25 UN member states and additional partners.

UN-Water adopted a work plan identifying the fields of activity of UNW-DPC in Rome in January 2008. The activities of UNW-DPC are not limited to any specific sub-sector of water but ensure an across-the-board approach to water-related education, training and institutional capacity development at international level.

Based on this work plan and IWRM (integrated water resources management), UNW-DPC takes a holistic approach to water and sanitation measures. This means that aspects of sanitation such as access to adequate sanitary facilities and protection of water resources can be treated adequately, depending on demand within the UN system.

Examples of UNW-DPC activities relating to basic sanitation include expert group meetings, journalist workshops and continuing training courses. These are

staged in collaboration with the United Nations Human Settlements Programme (UN-Habitat), the United Nations Department of Economic and Social Affairs (UNDESA) and the World Health Organization (WHO).

Linking in to such themes as poverty reduction, hygiene, health, aspects of urban life, quality of life and the protection of water and ecosystems, sanitation is a very important element of the IWRM approach in the water sector. This is why it is important for all those involved to place the importance of improved sanitation at the centre of international discussions.

For the Federal Ministry for Economic Cooperation and Development, the water sector strategy paper, which attaches a very high priority to the subject of sanitation, is also a benchmark for cooperation with multilateral players in the water sector. Accordingly, the Federal Ministry advocates a proper balance between water and sanitation in its work with UNW-DPC.

### **33. How does the Federal Government rate and support UN-Habitat's Water Operators' Partnership, which developed out of an UNSGAB initiative?**

Capacity building for water and sanitation operators is regarded as an effective way of enhancing the effectiveness and efficiency of water and sanitation. This is also the core concern of the Water Operators' Partnership (WOP). The aim of the global Water Operators' Partnership Centre, which is run by UN-HABITAT, is to strengthen the capacities of public water operators and improve their effectiveness and efficiency. The Federal Government supports the objectives of the WOP within the framework of its bilateral cooperation.

In general, the Federal Government rates the closer networking of operators for the purposes of exchanging experiences and technical and management know-how positively. It therefore welcomes the broad approach of the WOP which includes public-public as well as public-private partnerships. It should be pointed out, however, that the effectiveness of water operators also depends on general framework conditions and that the necessary extensive reforms to the sector must go beyond strengthening the performance of individual operators.

At regional level, there are already various initiatives with similar aims, e.g. the Arab Countries Water Utilities Association (ACWUA) and the African Water Utility Partnership (WUP), which also in part receive funding from German ODA. To avoid the risk of duplication it is important, therefore, that WOP work on a strictly complementary basis to existing initiatives.

The Federal Government also supports UN-HABITAT through the payment of contributions to the UN. In addition, it made available around 100,000 US dollars in 2007 for an associate officer to work at UN-HABITAT.

**34. What importance does the Federal Government attach to promoting the demand for basic sanitation with respect to the achievement of the MDG in this sector and how is this reflected in its development policy in this sector?**

Worldwide it can be observed that demand for clean water is very high while on the other hand less importance is attached at both state and individual level to sustainable sanitation. The main reason for this in many cases is a failure of the people involved to correctly assess the correlation between sewage, dirty drinking water, lack of hygiene and disease.

For this reason, the Federal Government attaches great importance to promoting demand. At international as well as at national, regional and local level therefore German development policy works to create an awareness of these connections and hence to increase demand in the medium term. In addition to the staging of regional and national conferences, it also conducts educational and hygiene awareness measures in a large number of countries. In this context, the water sector strategy paper adopted by the Federal Ministry for Economic Cooperation and Development stresses in particular the integration of educational and consciousness-raising measures in national educational systems for the purpose of improving demand and the hygiene situation on a long-term basis.

**35. How is the Federal Government supporting efforts to raise awareness of and promote the social marketing of sanitation?**

**a) What modern approaches to changing behaviour (e.g. community-led total sanitation) does the Federal Government regard as particularly effective and how is it including these approaches in its development cooperation?**

German development policy has had good experiences with socio-political periphery management in its partner countries. As well as aspects of community development and citizen participation, this also includes environmental and hygiene education and conflict prevention. Applied in the sanitation sector, this form of management is aimed at developing the ability of social organisations, community administrations and water utilities to develop sanitation in a sustainable and participatory form. German development policy has had particularly good experiences with this form of cooperation in partner countries in Latin America and India. Elements of the approach are applied in many German development projects.

**b) What lessons can be learned for sanitation from successful approaches to de-stigmatising AIDS and to what extent does the Federal Government include these in its development cooperation?**

As with the fight against HIV, the task of improving sanitation requires approaches which tackle taboo subjects in a sensitive and culturally appropriate way. German development policy promotes and develops such culturally sensitive approaches. Experiences with the fight against HIV have

also shown that taboo subjects can often only be tackled if a climate of openness and engagement is also displayed at high political levels. Open discussion of the subject in the media is also very important.

Experiences with tackling HIV have shown that winning over prominent political and religious personalities is also necessary for the purpose of improving sanitation. The Federal Government has learned the lessons from unstigmatizing approaches in particular in the context of socio-political periphery management (see also question 35a) and in the political dialogue presses for the subject of sanitation to be moved up the political agenda and discussed openly.

**36. How does the Federal Government ensure that the users of basic sanitation, particularly women but also slum-dwellers and similar, play a central role in designing the sanitation measures it supports?**

Participation and target group orientation are important bases for the sustainability of German development projects both in terms of planning and during the operational phase. The most important target group for German development cooperation in the water sector are the poor who up to now have had no or only inadequate or overly expensive access to drinking water and basic sanitation and who suffer most from deficient settlement hygiene and a polluted environment.

German development policy in this context is particularly responsive to the concerns of women which are extremely relevant to sanitation in particular. In addition to the fact that women and girls are responsible for questions of health and hygiene in most households, having their own toilet at home gives them greater protection from sexual attacks. A lack of or unsanitary school toilets also often cause girls to leave school at the onset of menstruation. Since women are also generally responsible for gardening, feeding the family and collecting firewood, they also benefit particularly from being able to use faeces as fertiliser or to produce biogas. By explicitly involving women in decision-making processes it is possible to identify solutions which respond to a particular extent to their needs.

The process of orienting projects to the target group begins in the planning stage, for example when selecting project areas, and includes deciding on the system of charges, selecting sanitation systems and involving the target group in choosing locations. People's desire for health, comfort and social status is taken seriously. Processes, goals and instruments are designed to be as transparent as possible. The purpose of socio-political periphery management is to enable people in the project area to make well-informed decisions. Activities include public awareness work in official agencies and among the local population and also hygiene education.

All new projects are examined in relation to their impact on such issues as poverty reduction and gender equality and given a corresponding identification.

In projects in rural areas and outlying urban areas, support is given to user groups since it has been proved that ownership of the project and local structures can be strengthened in this way. Target groups are also involved in the projects through public relations and information events, public hearings and by inclusion of user representatives in water utilities' supervisory bodies.

**37. What steps is the Federal Government taking to ensure with respect to its funding decisions that approved projects in the area of sanitation including sewage treatment will have access locally and on a lasting basis to the personnel and technical know-how needed to maintain, operate and monitor the systems?**

In German development cooperation, one-off projects today are generally incorporated in a long-term plan of involvement in the sector in which different instruments are used on a complementary basis on different levels (multi-level approach).

Substantially improved corporate governance in relation to water and sewage utilities is a central element and goal of German development policy in the water sector. Corporate governance is fundamental to improving the quality and efficiency of supply, supply rates and lead time to customers. In many partner countries there is a need for reforms to companies, institutions and associations and improvements in business management and technical capacities as well as human resources management.

In many cases, corporate governance receives active support by way of advisory and investment measures. It is important in this context that advice is provided simultaneously on improving legal conditions and strengthening sectoral and regulatory institutions at national level.

Choosing the appropriate technology is also crucial to the sustainability of projects. In German development cooperation, technologies must

- be adapted to geographical, hygiene and hydro geological conditions in the settlement as well as to the individual cultural and social context;
- promote the sustainable management of water, the soil, nutrients and/or energy, and
- be appropriate to the human resources, organisational, technical and financial capacities of the operators and the ability and willingness of the target group to pay.

**Financing**

**38. What level of finance does the Federal Government estimate is needed to achieve the MDG on sanitation and what sums does it estimate need to be provided by national governments, the private sector and official development assistance?**

Since 2000, series of studies have attempted to estimate the cost of achieving the sanitation goal. The estimates range from 9 billion US dollars per year up to

30 billion US dollars per year. This wide span can be attributed to differences of method in relation to determining unit costs, choice of technology and the definition of an appropriate service.

The latest estimates of the World Health Organization calculate the funding requirement worldwide to achieve the sanitation MDG at around 357 billion US dollars for the years 2005 to 2014 (see figure 4 below)<sup>10</sup>. Access costs alone to meet target 10 are put at 142 billion US dollars, which is equivalent to per capita spending of 28 US dollars and an annual requirement of around 14 billion US dollars. To maintain existing sanitation systems it is estimated that an additional 216 billion US dollars (2005-2014) is needed.

Table 7

**Total spending on new and existing sanitation coverage to meet MDG target 10<sup>a</sup>, excluding programme costs**

WHO subregion	Total spending (US\$ million) <sup>a</sup>	Context (%)		Cost item (%)		Coverage type (%)	
		Rural	Urban	Capital	Recurrent	New	Existing
AFR-D	27 272	48	52	58	42	57	43
AFR-E	29 700	58	42	63	37	62	38
AMR-B	44 303	12	88	19	81	14	86
AMR-D	7 575	25	75	32	68	27	73
EMR-B	3 300	29	71	10	90	4	96
EMR-D	24 124	50	50	34	66	30	70
EUR-B	11 242	29	71	18	82	12	88
EUR-C	15 622	22	78	19	81	14	86
SEAR-B	16 550	49	51	31	69	26	74
SEAR-D	76 141	60	40	56	44	55	45
WPR-B	101 656	37	63	44	56	42	58
<b>All</b>	<b>357 485</b>	<b>41</b>	<b>59</b>	<b>43</b>	<b>57</b>	<b>40</b>	<b>60</b>

<sup>a</sup> Total spending includes operation and maintenance of existing supply; periodic replacement of existing infrastructure; and the costs of increasing coverage to existing and increased future populations so as to meet the MDG target. Totals may not add up as a result of rounding.

<sup>10</sup> Source: Hutton, G., Bartram, J.: Regional and Global Costs of Attaining the Water Supply and Sanitation Target (Target 10) of the MDG, Public Health and Environment, World Health Organization, Geneva 2008.

## Annex A : WHO epidemiological subregions

Region <sup>a</sup>	Mortality stratum <sup>b</sup>	Countries
AFR	D	Algeria, Angola, Benin, Burkina Faso, Cameroon, Cape Verde, Chad, Comoros, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Madagascar, Mali, Mauritania, Mauritius, Niger, Nigeria, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Togo
	E	Botswana, Burundi, Central African Republic, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Eritrea, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, Swaziland, Uganda, United Republic of Tanzania, Zambia, Zimbabwe
AMR	B	Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Brazil, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, El Salvador, Grenada, Guyana, Honduras, Jamaica, Mexico, Panama, Paraguay, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela
	D	Bolivia, Ecuador, Guatemala, Haiti, Nicaragua, Peru
EMR	B	Bahrain, Cyprus, Iran (Islamic Republic of), Jordan, Kuwait, Lebanon, Libyan Arab Jamahiriya, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Tunisia, United Arab Emirates
	D	Afghanistan, Djibouti, Egypt, Iraq, Morocco, Pakistan, Somalia, Sudan, Yemen
EUR	B	Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Georgia, Kyrgyzstan, Poland, Romania, Serbia, Slovakia, Tajikistan, The former Yugoslav Republic of Macedonia, Montenegro, Turkey, Turkmenistan, Uzbekistan
	C	Belarus, Estonia, Hungary, Kazakhstan, Latvia, Lithuania, Republic of Moldova, Russian Federation, Ukraine
SEAR	B	Indonesia, Sri Lanka, Thailand
	D	Bangladesh, Bhutan, Democratic People's Republic of Korea, India, Maldives, Myanmar, Nepal
WPR	B	Cambodia, China, Cook Islands, Fiji, Kiribati, Lao People's Democratic Republic, Malaysia, Marshall Islands, Micronesia (Federated States of), Mongolia, Nauru, Niue, Palau, Papua New Guinea, Philippines, Republic of Korea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, Viet Nam

<sup>a</sup> AFR = WHO African Region; AMR = WHO Region of the Americas; EMR = WHO Eastern Mediterranean Region; EUR = WHO European Region; SEAR = WHO South-East Asia Region; WPR = WHO Western Pacific Region.

<sup>b</sup> B = low adult, low child mortality; C = high adult, low child mortality; D = high adult, high child mortality; E = very high adult, high child mortality.

#### Figure 4: Spending requirement on sanitation to meet MDG 7, target 10

As far as the Federal Government is concerned, it cannot be assumed that covering the estimated funding requirement is sufficient on its own to guarantee achievement of the MDG. It is necessary at the same time to increase the absorption capacity in the respective countries and sectors to ensure that money can be invested sustainably and effectively. The fact that the capacity for implementation is generally lowest in countries with the greatest need poses a particular problem.

The main sources of financing for water and sanitation in most countries are public funds and user charges. One exception to this is very poor countries and extremely fragile states in which ODA funds represent the main source of finance. The main burden in terms of building individual toilets generally rests with private households. Private sector investments are of subsidiary importance in water and sanitation. Recently growing in importance, however, is the contribution made by donors outside the OECD (China, India and Arab partners) who are particularly involved in infrastructure sectors in fragile African countries.

**39. What level of finance does the Federal Government estimate is needed to upgrade and maintain existing sanitation systems?**

The most recent estimates on maintaining existing sanitation systems come out at 216 billion US dollars for the period 2005 to 2014 (see question 38).

In the case of (conventional central) sewage systems, the cost of maintaining and upgrading the systems each year is in the region of 5% of capital costs. A lack of maintenance and capital expenditure over a period of several years on replacement projects can lead to an increase in upgrade costs. The aim is therefore to enable development projects in the area of maintenance to be self-financing on a sustainable basis through institution-building measures and support for appropriate framework conditions (cost-covering tariffs).

**40. What strategies is the Federal Government pursuing to help close existing funding gaps?**

The investments made in the framework of development cooperation also help reduce the funding gap. In addition to financial support, the Federal Government also works to promote absorption capacity in order to ensure the sustainable and effective deployment of funds.

In the long term, however, funding gaps can only be closed by measures taken at national level. The principle which applies to all development projects, therefore, is that of financial sustainability, in particular cost coverage. This necessitates measures to improve operating efficiency through reforms and modernisation and the introduction of private sector management methods and incentive structures. In this way, cost cutting measures can cut the amount of finance needed.

Within the framework of financial cooperation, investments in a number of regions with good economic development can be funded to a greater degree by loans. This means that market funds are included in the financing, hence reducing the amount of support needed. Market funds now account for 8% of the funding extended under financial cooperation in the water sector. In addition partner countries make a contribution of their own which mobilises further funds.

Financial cooperation in wastewater management is focused on very water-poor regions (Middle East, North Africa) as well as on emerging economies which face the challenge of managing their economic growth in a way which is environmentally compatible and sustainable (Southeast Europe, East Asia). Parallel to this capacities in partner institutions are being strengthened and the sustainability of projects secured.

In Sub-Saharan Africa the economic effect of increased financial support can be very great if, within the framework of national strategies, not only sanitary facilities but also hygiene behaviour is improved and capacities developed.



41. How has the amount of international ODA (as a proportion of total ODA and nominally) for water and sanitation as well as for sanitation alone increased year on year since 1990 and how does the Federal Government assess this?

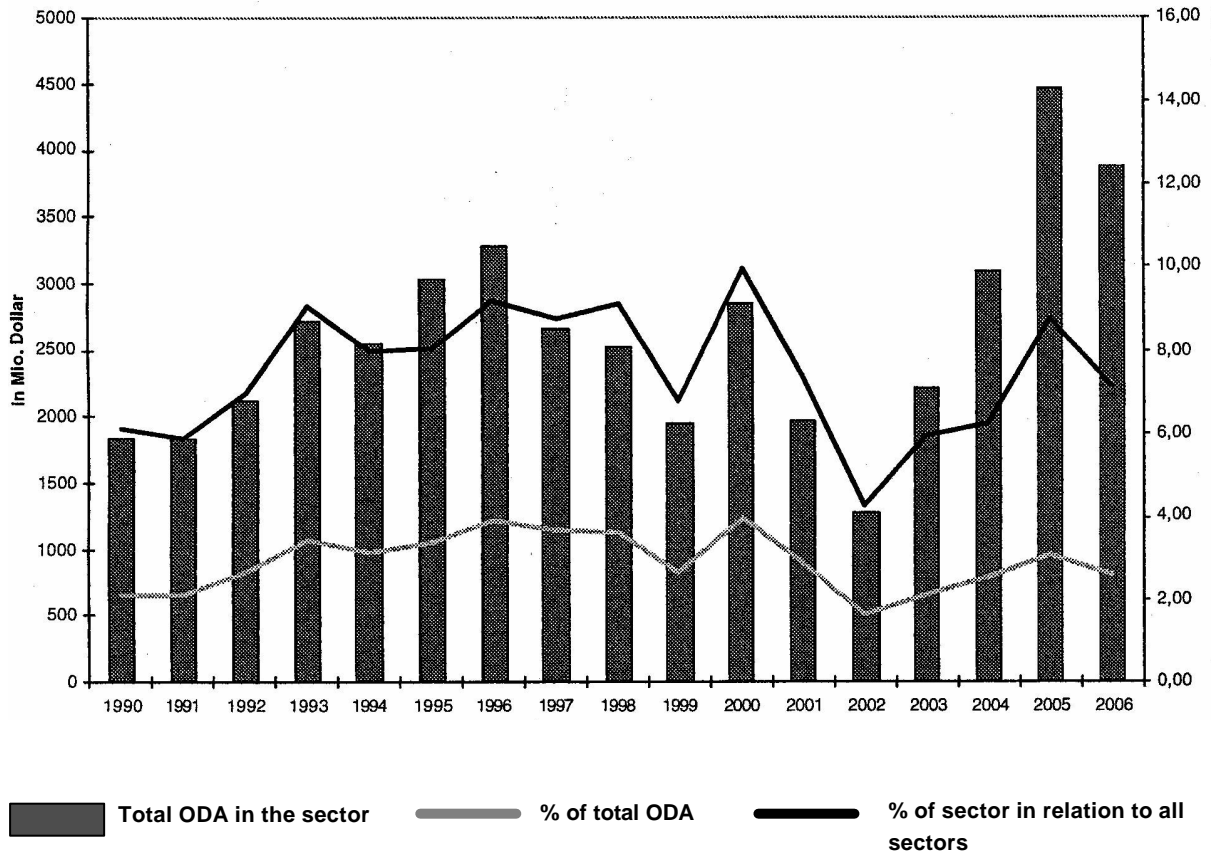
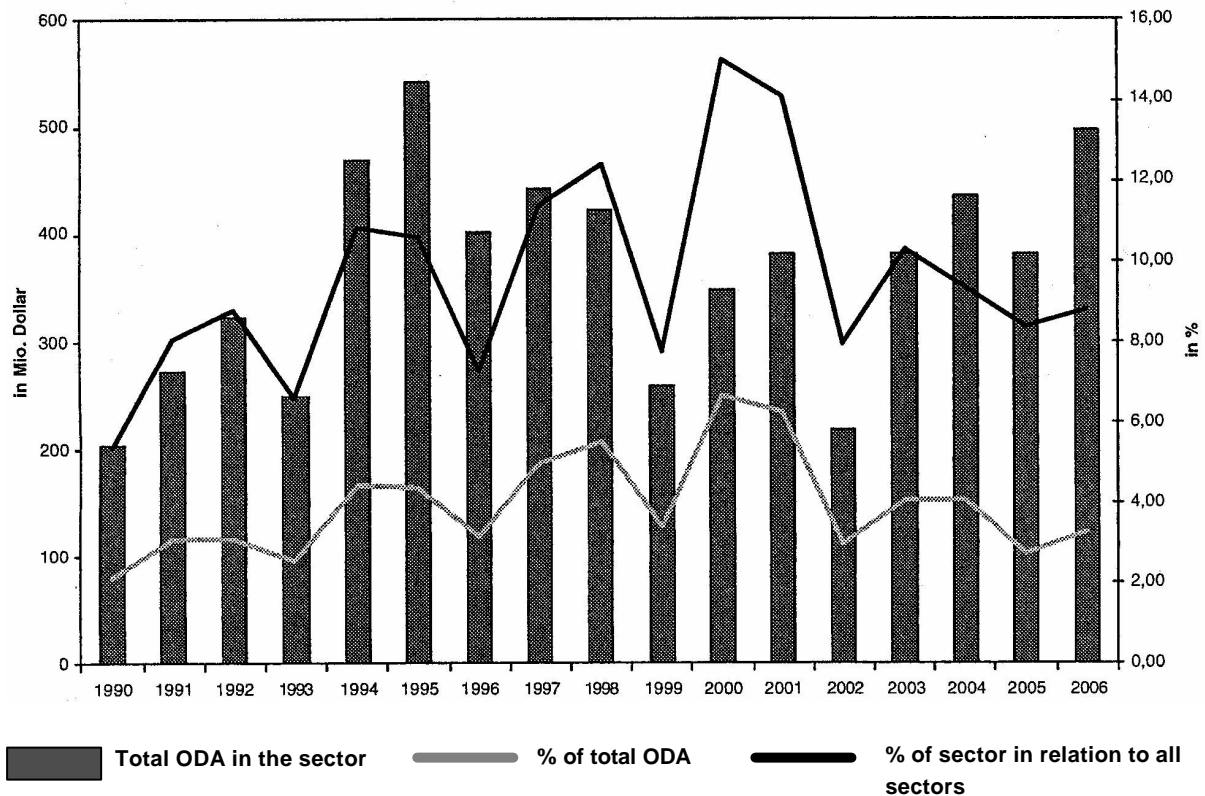


Figure 5: All DAC countries, ODA commitments in the water sector<sup>11</sup>

<sup>11</sup> Source for figures 5 and 6: OECD, <http://stats.oecd.org/wbos/Index.aspx>



**Figure 6: German ODA commitments in the water sector**

ODA commitments in the water sector are subject to extreme fluctuations. From the mid 1990s they went into decline, reaching a low point in 2002. Since 2003 there has been an upward trend, including in commitments in the water sector as a percentage of total ODA commitments. In 2005, commitments to the sector exceeded 4 billion US dollars for the first time. ODA allocations in the water sector are dominated by a few bilateral donors (between 2000 and 2004, 75% of funds were allocated by Japan, Germany, the USA, France and the Netherlands – whereby half the amount made available by the USA was earmarked for the reconstruction of Iraq).

Because of the way in which the Development Assistance Committee of the Organisation for Economic Cooperation and Development (OECD) records data, it is impossible to provide separate figures for sanitation. Taking into account ODA commitments itemised by sector the water sector accounts for 5 to 10% of the aid of all countries which are represented in the Development Committee of the OECD.

As far as German development cooperation is concerned, the proportion of ODA allocated to the water sector, at 6 to 15%, is higher than for the donor community as a whole. Commitments for wastewater management and basic sanitation have risen considerably since 1990. In the current water portfolio, the proportion of

ODA allocated to the sector is around 40%, taking into account wastewater collection as well as treatment.

**42. What is the Federal Government's response to the fact that, according to UNEP figures for 2004, between 1999 and 2002 only approximately 4% of ODA funds were used for sewage treatment and what proportion of its development cooperation funds does the Federal Government use for this purpose?**

The figures on sewage treatment calculated by the United Nations Environment Programme (UNEP), which in this case means sewers and sewage treatment plants, appears to be rather high given that the water sector accounts for on average nearly 8% of ODA funds itemised by sector (see answer 41 on the percentage of ODA commitments allocated to the water sector).

In German development cooperation, the funds for sewage treatment have increased significantly since 1990 and in the current portfolio amount to 17% of funds in the water sector. If one also takes into account wastewater collection along with treatment, the percentage rises to around 40%.

**43. What is the Federal Government's position regarding the demand for the introduction of separate reporting by developing and donor countries of their spending on water and sanitation and how does it justify this position?**

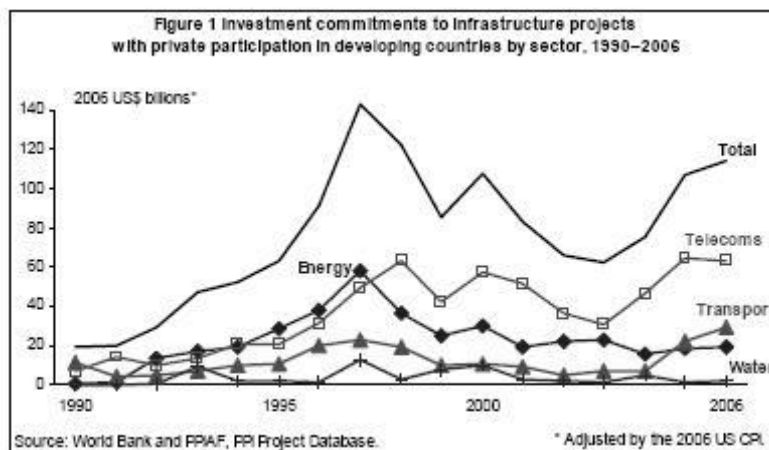
The Federal Government is in favour of better reporting of spending on water and sanitation and speaks out in favour of this in various forums. It is currently supporting the initiative of the Africa Working Group (AWG) of the European Water Initiative to modify the OECD-DAC codes in the area of water and sanitation for the OECD Creditor Reporting System (CRS). The main aim of the proposal is to separate the areas of water supply and sanitation and to add an additional code for hygiene promotion. The Federal Government supports the separate reporting of water and sanitation where this is possible.

The Federal Government also supports efforts to improve the monitoring and coordination of donors in the water and sanitation sector. Germany participates in both the Aid Mapping of the EU Water Initiative (EUWI) and the production of the GLAAS (Global Annual Assessment on Water and Sanitation) Report coordinated by UN-Water and WHO. In both reports, spending on water and sanitation is listed separately. Until such time as uniform methodological standards for separate reporting are introduced, however, these data have to be treated with caution.

**44. What are the Federal Government's objectives with respect to involving the private sector in closing the funding gap, what opportunities and risks can it identify in this respect and what social and ecological standards must the companies concerned be obliged to comply with?**

The Federal Government regards private sector involvement as an option for improving the service quality and efficiency of organisations in the water sector and cutting their costs. Mobilising private capital as well as private technical and business know-how can make an important contribution to the achievement of development goals in the water sector. Beyond the extremes of purely public and purely private, there are a series of models which borrow the advantages of the two concepts and adapt them to a specific situation and concrete needs. The question of whether and in what form the private sector is involved depends on the development goals: neither public nor private operator models are favoured *a priori*. When the private sector is involved, costs, including set-up and supervisory costs, and benefits have to be carefully weighed up against each other.

The Federal Government views the contribution of the private sector in terms of closing the funding gap with some caution. The opportunities for profits in the water sector are generally too small and the risks too high to mobilise significant amounts of private capital. This applies particularly to countries in which the need for action to advance development and the funding gap are greatest. Figure 7 shows the small proportion of private investment in the water sector in comparison with other infrastructure sectors. Most investment is concentrated in emerging economies and on the creation of water production plant, sewers and wastewater treatment. The Federal Government sees great potential in involving the regional and local sector more and is making active efforts to promote this.



**Figure 7: Private investment in infrastructure projects in water, energy, transport and telecommunications, 1990 – 2006**

In all cases where there is private sector involvement, risks and opportunities have to be weighed up. The Federal Government sees the best opportunities for private sector involvement in improving the transparency, efficiency and cost-

effectiveness of water and wastewater management and in making available additional connections. The risks lie, *inter alia*, in failure to gear measures to poverty reduction and sustainability, lack of acceptance by the population, particularly when international operators are involved and unequal partnerships because of a lack of capacity on the part of the public partner. German development policy therefore attaches particular importance to factors such as transparency, involvement of local decision-makers, a solid information base, clear division of responsibilities, capacities on the state side and clear involvement of poor sections of the population.

Regulation plays a key role in terms of balancing social, economic, ecological and political objectives. German development policy therefore supports the regulation of public and private water and sewage services in many countries through national, regional and international initiatives. Regulation establishes the social and ecological standards which companies are required to meet.

**45. What role can the newly founded German Water Partnership play with respect to steering private investment towards sanitation in developing countries?**

The aim of the German Water Partnership is to bundle the activities and initiatives of the German water industry, water research and water associations and to make German expertise known throughout the world. In this way, the German Water Partnership will help to increase the international involvement of the German water industry and water research and to resolve worldwide water problems. The Federal Government supports the German Water Partnership in this aim, laying the foundations for this within the framework of the three platforms of the German Water Partnership: business field development, innovation and information exchange.

The Federal Government also expects that the German Water Partnership will generate greater engagement on the part of the German water industry in developing countries both in terms of investment in sanitation and wastewater treatment and in the field of education and training (capacity development).

**46. How does the Federal Government support the provision of bank loans including micro credit for sanitation?**

In many emerging economies, market funds can increasingly contribute to the financing of sewage investments and sanitation (see also question 40). Where the private sector is involved in investing in and operating sewage infrastructure, some of the funding also generally comes from the capital market.

Germany is one of the largest bilateral donors in the area of financial system development and micro financing. German development policy also supports the development of community-level financing institutions and their refinancing, particularly also for community water and sewage infrastructure. In the poorer countries, however, many operators (sewage utilities) are not yet creditworthy

and continue to need grants in order to enable them to respond to the need for expansion resulting from rapid urban growth.

### **Monitoring**

#### **47. How does the Federal Government rate the quality of data provided by WHO and UNICEF's joint monitoring programme (JMP) for water supply and sanitation with regard to measuring progress towards achievement of the water and sanitation goals set by the international community?**

The data supplied by the Joint Monitoring Programme (JMP) at global level are intended to document progress towards achieving the water and sanitation targets as defined in the MDGs. These targets form part of MGD 7 "Ensure environmental sustainability" and read "Halve by 2015 the proportion of the population without sustainable access to safe drinking water and basic sanitation". The JMP data are the only data on drinking water and sanitation which are globally available and are recorded by means of standardised methodology.

Data collected in a global system always represent a compromise, including in terms of the quality of the data.

The JMP data for the MDG target on sustainable access to basic sanitation are judged by experts as being on the high side because the method of collecting the data does not allow any statement as to the operability and condition of the sanitation systems.

The experts likewise believe that the JMP data on sustainable access to safe drinking water are also too high, particularly in densely populated urban areas, since important dimensions such as the quality of the water, continuity of supply and distance from water source are not recorded by this method.

In the light of these judgements, the Federal Government – along with other partners – is pressing for reform of the JMP to improve data quality (see answer to question 50).

#### **48. In the opinion of the Federal Government, how would the JMP indicators have to be changed in order to give a realistic picture regarding access to sustainable sanitation which is harmless to humans and water resources?**

In the opinion of the Federal Government, it is difficult to gain a realistic and accurate picture from global programmes alone. The situation of sanitation in a country should therefore always be rated on the basis of a variety of data collection methods and data sources within the framework of a national monitoring system.

In general, the monitoring of sustainable sanitation should not only collect data on the existence of toilets or latrines but should also record whether or not they are used and whether they function on an economically and ecologically sustainable

basis. It is important to take into account, *inter alia*, criteria such as robustness, hygienic condition, safety (particularly for girls and women at night), avoidance of health risks and protection of resources.

The Federal Government welcomes the fact that the list of improved/not improved sanitation in the 2008 assessment report of the JMP has been adapted to include compost toilets (including urine diversion dehydration toilets) in the list of improved sanitation solutions and to remove flushing toilets not connected to a sewer system from this list. This represents a step in the right direction but is still not enough to enable an overall assessment of the sustainability of sanitation systems.

**49. Is there a danger that inadequate JMP data could lead to insufficient funds being allocated or funds being misallocated?**

The data collected by the JMP provide a general overview of how many households in different regions have improved sanitation and drinking water supply as defined by JMP criteria.

The JMP data provide a picture of long-term global trends. Their use as a basis for allocating funds, however, is limited. For this purpose, more detailed and informative data are needed. German development policy therefore allocates its funds on the basis of more far-reaching studies so that there is no danger of misallocation in this respect. National institutions and other donors also do not rely exclusively on JMP monitoring but supplement these data with information from national monitoring systems.

The problem that the Federal Government sees is that the JMP data in part significantly overestimate the supply situation – particularly in poor urban areas. This view is based on a comparison between JMP data and information from national monitoring systems, which regularly record significantly lower supply figures for several countries.

The main danger here is that the need for action in poor urban areas is underestimated in sector-related discussions and in the conception of global programmes and this can lead to misallocations. For this reason, the Federal Government is pressing for concrete improvements to the JMP monitoring system (see answer to question 50).

**50. Is the Federal Government prepared to take a lead in driving forward reforms to the present monitoring system, as called for at World Water Week 2007, what steps has it taken in this respect and what substantive reforms is it seeking?**

The Federal Ministry for Economic Cooperation and Development pursues three main goals in relation to reshaping monitoring of the water and sanitation MDGs. It works in this context in close cooperation with other development policy actors, e.g. UN-Habitat, and coordinates its position with other donors. The subject has been and will continue to be discussed in greater depth with the Joint Monitoring

Programme itself, for example at the Stockholm World Water Week 2008. The Federal Government's three goals are:

- (1) Specific improvements to the current monitoring system, e.g.
  - Inclusion of criteria on sustainable access to safe water and basic sanitation
  - Implementation of national baseline studies
  - Use of national information systems
  - Response to rapid urbanisation; in particular the recording of data from informal urban peripheries which are often not officially classed as an urban area
  - Greater networking, cooperation and exchange between national statistical offices and sector institutions
- (2) Clear communication of the reasons for divergence of JMP data from data supplied by national sector monitoring
- (3) Long-term cooperation on a more adequate monitoring system for the period after 2015

**51. What donors fund the JMP, what contributions do they make and does the Federal Government consider this funding to be adequate?**

The Federal Government has contributed a total of 1.0 million Euro to support the Joint Monitoring Programme (JMP) for the period 2006-2010, which is sponsored by WHO and UNICEF. The Federal Ministry for Economic Cooperation and Development (BMZ) provided funds to the JMP of 200,000 Euro in 2007 and 2008. In 2008, a further 400,000 was paid out for 2009 and 2010.

The BMZ is aware of the following sums contributed by other donors: The UK provided 600,000 pounds sterling via the Department for International Development (DFID) for rapid water quality assessment and for general operational areas of the JMP. Switzerland contributed 400,000 Euro. The EU Water Facility gave 1,500,000 Euro in 2006 to provide support at national level in Ghana, Mozambique and Nigeria. WHO, one of the JMP's executing agencies, reports that the French Development Agency (AFD) also made financial contributions and has seconded a member of staff to JMP's WHO office.

In 2007, JMP approached the international donors to ask for 3 million US dollars for general operational activities.

In terms of personnel, as well as a director of JMP, UNICEF provides 1.35 jobs and, since 2007, two additional members of staff. WHO also provides a director and 2.8 fulltime members of staff, plus a further member of staff since 2007 and a member of staff seconded from France.

The Federal Government has no plans at this time to increase its funding. In addition to its financial contribution it has also offered JMP services in kind, e.g. participation in the Technical Advisory Committee. Considering the range of tasks it has to perform, however, there is no doubt that the JMP is currently under funded. The situation could be eased by focusing on the core tasks of global



monitoring, by seeking contributions from new donors and by making greater use of the expertise of partners, as well as by networking with other organisations.

**52. What is the Federal Government's view of the project to produce an annual global monitoring report?**

In 2006, the British Department for International Development (DFID) presented its Global Action Plan containing what is known as the five "Ones". These include the call for an annual global status report. Federal Minister Heidemarie Wieczorek-Zeul expressly gave her support to the idea of an annual report in an exchange of letters with Hilary Benn, the Secretary of State for International Development, in 2006 and pledged Germany's active support.

Because of its positive assessment of the objectives of a global monitoring report and the obligation for transparency, the Federal Government participated in the GLAAS Report (Global Annual Assessment of Sanitation and Drinking Water) which appeared for the first time in September 2008.

**53. In the opinion of the Federal Government, what is the relevance of strengthening national monitoring systems and in what way does it support this?**

National monitoring systems are far more important for the development of the sector than global monitoring. Monitoring aimed at creating planning bases and optimising resource allocation must therefore always take place at national level. Only national monitoring can be developed in such a way as to ensure that the required data can be collected reliably, regularly and sustainably. Investment planning requires significantly more information than can be collected by global monitoring.

German development policy supports efforts to strengthen national monitoring systems through water sector reform programmes. In Tanzania, Kenya and Zambia, for example, it supports the development of information systems working together with local regulatory authorities, the conducting of detailed data surveys in poor urban areas and the harmonisation of data collection at the statistical offices and sector institutions (ministry, regulatory authority, water utilities, etc.). Germany is in these instances always the main partner of the national partner institutions.

**The potential of ecosan approaches in terms of saving resources, adapting to climate change and with respect to agriculture**

**54. What is the Federal Government's estimate of the cost-effectiveness and possible maximum economic benefit of recovering and reusing nutrients from excrement and recycling wastewater in comparison with conventional concepts when used for**

**a) fertilisation in farming?**

Fertiliser can be produced from excrement and wastewater. For Africa, the amount of nutrients contained in human urine and excrement is higher than the amount of fertiliser that is commercially available today. Fertiliser from excrement and wastewater is already used in some rural regions (above all East Asia, but also in parts of Africa and Europe). Where the vegetation periods are short or there is a lack of water, however, (e.g. the Sahel zone), it is not always possible to use the nutrients in a way in which they are fully available for the plants. Agricultural productivity can be increased where short transportation distances justify more intensive use.

One example: in Mali the cost of fertiliser has tripled in the space of 12 months. At present (summer 2008), for example, 50 kg of urea fertiliser currently cost around 30 Euro and phosphate fertiliser is generally almost impossible to procure. Based on the nutrient content, the monetary value of urine in Mali therefore is 7.60 Euro per person and year. Added to this is the potential of organic material from compost toilets. Given a population of 13 million in Mali, the annual value of fertiliser material which could be used but which is currently only partially used amounts to around 100 million Euro in terms of the above prices.

This accounts for only part of the economic importance of this area. If safe and hygienic use of excrement can be made using ecosan approaches, this will at the same time avoid the cost of sickness and cut down on lost working days, which is of considerable monetary and economic importance.

**b) energy generation, in particular for households?**

The energy potential of nutrients produced from excrement is high. Between 15 and 30% of demand for cooking gas could be covered by biogas if household excrement were to be anaerobically fermented. Household biogas plants which treat toilet effluent and animal dung (a few cows or pigs) together are particularly successful. The cost of the installation can in part be amortised in less than two years through biogas use. In Nepal and China, similar systems are spreading rapidly, in part with development cooperation support. One of the 12 thematic working groups of the Sustainable Sanitation Alliance, "Sustainable sanitation, renewable energy and climate change", deals specifically with this subject.

### c) agricultural irrigation?

The reuse of treated wastewater is becoming increasingly important in particularly water-poor countries. In Tunisia, for example, 30% of treated wastewater is reclaimed for irrigation. There is still a great deal of potential in other countries too. Household grey water (from washbasins, showers, clothes washing) which is less problematic from the hygiene viewpoint and easy to treat offers a great deal of potential for watering domestic gardens in rural and peri-urban areas because it is available throughout the year and also transports nutrients to the target plants. The Guidelines for the safe use of wastewater, excreta and grey water published in 2006 by the World Health Organization (WHO), the United Nations Environment Programme (UNEP) and the Food and Agriculture Organization of the United Nations (FAO) are a response on the part of the World Health Organization to the fact that wastewater, often untreated, is discharged on a large scale on to fields in order to recover the water and nutrients for farming. This reflects the worldwide scarcity of water and fertiliser. If the guidelines are adhered to, workers and consumers will be protected from sickness and improper irrigation of farming land prevented.

### **55. What information does the Federal Government have with respect to the contribution energy generated by ecosan approaches could make to cutting emissions of greenhouse gases and is the Federal Government prepared to commission a study into the subject if reliable data are not available?**

The potential and importance of these questions was outlined, among others, by the 2007 World Water Week Laureate, Professor P. L. McCarty, in his keynote lecture delivered at World Water Week 2007. According to him, around 4% of emissions relevant to climate change worldwide come from methane and nitrous oxides (N<sub>2</sub>O) emanating from wastewater management (1.3%), manure (1%) and organic waste (1.8%). In addition, carbon-relevant energy demand relating to drinking water and wastewater management (e.g. pump energy, energy for wastewater treatment) must be factored in. Innovative water and wastewater management can impact on all these areas. According to the KfW banking group, the potential to cut greenhouse gases in the waste sector (landfill gas) is still substantially greater than in wastewater treatment and generally exhibits a more favourable cost-benefit ratio. Energy from sewage sludge is therefore in part used primarily in relation to landfill.

Within the Sustainable Sanitation Alliance (SuSanA), the working group on sustainable sanitation, renewable energy and climate change is working on this subject. In addition to the above aspects, it highlights, for example, the potential for using wastewater for the production of renewable raw materials (e.g. production of wood pellets in biological treatment plants which are planted with fast-growing trees).

Within the framework of the Federal Environment Ministry's international climate change initiative there are also plans to provide support for exemplary projects to

increase energy efficiency and to generate energy in the water/wastewater sector.

**56. What international plans and strategies on climate change include the recovery and reuse of excrement for renewable energy as well as the recycling of wastewater to help offset increasing climate-related regional water shortages and how does the Federal Government rate these?**

The potential of closed-loop sanitation systems has been recognised in the guidelines of the World Health Organization, UNEP and FAO 2006, of UNESCO 2006, and of UNEP 2006. The connection between the subjects of climate change, resource protection and the potential of closed-loop sanitation systems is highlighted in “Sustainable pathways to attain the MDGs”, a report published by the Stockholm Environment Institute in 2005. This publication is currently being developed by SuSanA partners into a position paper with a greater focus on sanitation systems.

The Federal Government believes that because of its key importance for the achievement of many of the MDGs, this subject should be included in central climate change plans and strategies and treated appropriately.

**57. In what way is the Federal Government bringing pressure to bear with respect to the partner countries and other donors for the expansion of ecosan concepts?**

German development policy is oriented to the demand and strategies of partner countries. Partners are made aware of the potential of ecosan approaches.

The answer to question 19 indicates the value already attached to recycling-based approaches in development cooperation. This is also a result of dialogue with partners. In those partner countries where water is most scarce, particularly in the countries of the Middle East and North Africa, for example Jordan and Yemen, ecosan approaches already feature in priority area strategy papers – the common basis of development cooperation between the partner country and the Federal Government.

The answer to question 20 on the efforts of the Federal Government to substantially expand the use of the ecosan approach applies both to German bilateral cooperation and to the Federal Government’s strategy to press internationally for the expansion of ecosan approaches.

**58. How and in accordance with what rules is the reuse of human excrement as fertiliser subject to restriction in German and European legislation (for food production and other branches of the farming industry) and what reforms does the Federal Government regard as necessary in order to promote the development and transfer of technologies and know-how?**

Human excrement generally presents as a mixture of faeces, urine, water and other substances and is generally processed into sewage sludge in sewage treatment plants and disposed of. The excrement is rich in plant nutrients such as

phosphate, nitrate and sometimes also potash, which makes reusing it as fertiliser a sensible idea. Recycled in this way, sewage sludge can be used as a substitute for other fertilisers, particularly phosphate fertiliser (for the substitution potential, see the answer to question 60). The reuse of sewage sludge in farming as a fertiliser is in principle subject to waste management legislation (Sewage Sludge Ordinance) and in differentiated form, the Fertiliser Act and three of the ordinances of fertiliser legislation (the Fertiliser Application Ordinance, the Ordinance on the Permissible Composition and Labelling of Fertiliser and the Sewage Sludge Compensation Ordinance (KlärEV). The EU regulations on waste are contained mainly in Directive 2006/12/EC of the European Parliament and the European Council of 5 April 2006, the reuse of sewage sludge is regulated by the EC Sewage Sludge Directive 86/278/EEC.

Sewage sludge also contains foreign substances, some of which are unavoidable (e.g. pharmaceutical residues), some deliberately added in the treatment process (e.g. flocculants) and some of which come from prior technical processes and are then mixed with the excrement by the dischargers connected to the system (e.g. heavy metals, organic pollutants). At the same time, sewage sludge can also often be hygienically compromised.

The nutrient and pollutant content of these sewage sludges necessitates careful monitoring, constant weighing up of the benefits and risks in using these sludges as fertiliser and constant adaptation for use as fertilisers. This is why in the new version of the Fertiliser Ordinance on the Permissible Composition and Labelling of Fertiliser, the requirements for fertiliser from sewage sludge are being adapted in line with those for other fertilisers. The aim is to establish uniform quality requirements for all fertilisers regardless of origin as well as a further legal classification of the source material (e.g. waste management legislation).

The Federal Government is of the opinion that, with the incineration of the sludge and various associated treatment processes for the ashes, there are now suitable technologies and know-how to turn sewage sludge into fertiliser in a way which sufficiently eliminates pollutants and extensively improves the hygiene properties and availability of nutrients. In the new version of the Ordinance on the Permissible Composition and Labelling of Fertiliser currently in preparation, which will license suitable fertiliser types, the Federal Government is supporting the increased use of these processes.

The Federal Government supports the sustainable management of phosphorus and its use as a secondary raw material in the form of a funding initiative launched in 2004 by the Federal Ministry of Education and Research (BMBF), in collaboration with the Federal Ministry for the Environment, Nature Protection and Nuclear Safety (BMU), on "Recycling for plant nutriment, especially phosphorus". The objective of the initiative is to recover recyclable material from phosphate-rich source material while simultaneously filtering out heavy metals and other persistent pollutants. Because of their high potential for phosphorus recovery and in light of the intense debate and increasing restrictions on the use of sewage sludge for farming, wastewater and sewage sludge are of particular interest. In terms of subject the technological processes reflect the general trend in research:

the project networks deal with wet chemical processes such as flocculation and crystallisation, thermal metallurgical processes to recover phosphorus from ash, and also nanofiltration and bioleaching. Other projects are devoted to exploiting electrochemical principles and/or the use of ion exchange processes.

Supplementary parallel projects are tasked with comparing the technologies to be developed in terms of ecological and commercial aspects and developing a strategic recycling concept for Germany.

## **59. How are the Federal Government and the EU supporting ecosan technologies**

- a) with respect to their use in developing countries?**
- b) with respect to their use in Germany and the EU?**
- c) with respect to their export to developing countries?**

The Federal Government and the EU are supporting ecosan technologies in a variety of ways.

### **a) with respect to their use in developing countries?**

The NETSSAF (Network for the development of sustainable approaches for large scale implementation of sanitation in Africa) research project in West Africa and ROSA (Resource-oriented sanitation concepts for peri-urban areas in Africa) in East Africa, both funded by the European Union, are engaged in the research and development of ecosan technologies for large-scale practical application. The ACP-EU Water Facility clearly stipulated in its bidding criteria that projects with a focus on recycling-based wastewater technologies would be regarded as particularly deserving of support. As a result two major ecosan projects are currently underway in Kenya and Burkina Faso under the auspices of the ACP-EU Water Facility and are receiving support from Germany. The EU also funds initial and continuing training on the subject of ecological sanitation technologies, for example in the Asia-proEco project "Developing capacity for sustainable sanitation in India".

Within the framework of the project network "Export-oriented research and development in the areas of water supply and sewage disposal", the BMBF is funding, *inter alia*, projects to adapt sanitation to conditions in developing countries. The aim is to promote the usability of German water technologies in the type of marginal conditions occurring abroad and in developing countries, i.e. technical requirements (climate factors, water properties, availability of water, pollutants, marginal parameters etc.), economic conditions and legal regulations.

### **b) with respect to their use in Germany and the EU?**

The Federal Ministry for the Environment, Nature Protection and Nuclear Safety and the Federal Environment Agency are currently supporting a project on "Decentralised sustainable wastewater management for Kyrgyzstan" under the auspices of the programme "Advisory Assistance for Environmental

Protection in Central and Eastern Europe, the Caucasus and Central Asia". Drinking water and energy supply are inadequate in most rural areas of Central Asia; sewer systems and treatment plants operate poorly. Mains water is generally not drinkable and water from springs frequently polluted. The aim of the project is to improve the health of the rural population in Kyrgyzstan, to increase environmental awareness and to protect groundwater from contamination. In a pilot project, home owners and staff of the Kyrgyzstan partner organisation "Habitat for Humanity" are instructed in workshops and training sessions in the construction, method of operation and correct use of ecosan dry urine-separating toilets. The participants are also advised on the construction of individual or collective soil filters for grey water treatment. Instructions and information material are prepared and distributed. Women for a Common Europe is the organisation in Europe which receives the project funds. We have no information on EU support for ecosan technologies.

**c) with respect to their export to developing countries?**

The BMBF-funded project complex "Export-oriented research and development in the fields of water supply and sewage disposal" develops and adapts the experiences of water research and the state of the art in Germany to the particular conditions abroad to ensure that German expertise is exportable. Research is also carried out into the conditions for planning, dimensioning and operating water treatment and distribution plant as well as sanitation facilities, with a strong emphasis on the recycling of material and energy under different climatic and social conditions.

The modules of the research project on ecosan technologies have the potential for cost cutting and flexibility in order to enable adaptation to changing requirements (demographic trends, climate change, pressure on resources). The Federal Government sees here an export market for the future. This can only be convincingly and extensively serviced, however, if the innovative components of the technology have been sufficiently tested and applied here in Germany. Examples of activities in this area are the patented HAMBURG WATER Cycle© (a combination of technologies patented by the Hamburg Water Utilities) and the "total system" for recycling grey water and black water for large building complexes (e.g. hotels, small settlements, leisure and shopping centres and high rises). This is supported by the Federal Ministry of Education and Research (BMBF) and is being developed by Villeroy & Bloch AG, the Universities of Kaiserslautern and Bonn and the Fraunhofer Institute UMSICHT within the framework of the priority funding announced by the BMBF in 2001 for "Decentralised water supply and disposal systems". The purpose of setting this priority is to contribute to a sensible and sustainable approach to water as a non-replaceable resource. The aim is to generate new approaches which help to decouple and, above all, to reduce material and water streams, thereby cutting water consumption and recycling water, energy and nutrients. A further aim is to process bio waste and recover energy (e.g. in the form of biogas). Particular attention is paid in the research

to socio-cultural, economic and legal aspects to ensure that such approaches are suitable for export to developing countries.

Research and development is also being conducted in association with universities, Fraunhofer institutes and the private sector into innovative technologies in such areas as membrane filtration, biogas recovery, control systems and remote monitoring of decentralised treatment and recycling plants.

By means of initiatives such as the German Water Partnership and discussion groups such as the meetings of the advisory board of the Ecological Sanitation (ecosan) sector project run by GTZ, the Federal Government supports formal and informal platforms which help to disseminate innovative technologies and management models and dovetail research and development.

**60. In view of the likely trend with regard to the use in fertilisers and in food production, how long, to the knowledge of the Federal Government, will the reserves of phosphorus needed to produce artificial fertiliser last?**

The reserves of sedimentary and magmatic phosphates available under current criteria for fertiliser are restricted to only a few countries. There are only a few smallish deposits in Europe so that only roughly 12% of phosphate used in Europe is mined there. Worldwide demand has risen steeply in recent years, particularly in the wake of the intensification of farming in the emerging economies, and this is leading to a shortage of phosphate on the world market. The associated rise in the price of raw phosphate, however, means that it is now also worth mining deposits not previously exploited as well as alternative sources of phosphate. Additional alternative sources of phosphate are guano (bird and bat droppings) as well as in future the increased use of phosphates from animal excrement, bone and meat meal and sewage sludge (see question 58).

For a serious assessment of the future availability of raw phosphates as fertiliser, currently known reserves which are suitable in terms of current mining techniques can be included in estimates only to a limited extent because

- the mineability of so far unexploited deposits also depends on future price trends and technologies which may become available in the future and
- estimates of this kind can only include future demand to a very limited extent.

The static reserve as calculated in the past under static conditions – based on a price of 40 US dollars – would last for around 115 years. Added to this are known (and newly discovered) phosphate reserves which will only be viable in the future (reserve base) but which because of current price trends (up to 400 US dollars per tonne of raw phosphate) can in fact already be counted in the static reserve. Current estimates of volume are not yet available. It is impossible under present conditions to assess either the geologically verifiable amounts of phosphates or their mineability.



**a) How will the scarcity of the raw material affect the price of artificial fertiliser and, linked to this, the price of agricultural products?**

The rise in the price of raw phosphate is making those deposits which have been identified but not yet mined suitable for exploitation. For this reason, among others, German industry anticipates that the situation on the world market will ease and the price of raw phosphate will stabilise, albeit at a high level. The impact of the price of raw phosphate on consumer prices for agricultural products remains insignificant despite the current situation because up to now spending on all fertilisers has accounted for no more than 10% of farmers' costs and, furthermore, phosphate accounts for only a small percentage with a volume of under 20 kg P<sub>2</sub>O<sub>5</sub> per hectare and year.

**b) What international and German strategies exist with regard to the protection of phosphorus resources?**

German strategies:

- Support for the correct use of phosphate fertilisers (the most effective way of saving resources)
- Phosphates contain heavy metals; therefore regulations on maximum permissible amounts of heavy metals also limit the usability of phosphate resources. Properly considered regulations for heavy metals (short-term) and the cost-effective elimination of heavy metals from raw phosphate (long-term) are consequently an important target within the overall strategy.
- The reuse of phosphate already in circulation as a source material for fertiliser (see question 58). This is already encouraged in Germany through the framing of corresponding provisions under waste legislation and fertiliser legislation. Their substitution potential is, however, limited and in relation to sewage sludge and animal meal amounts in Germany to around 10 to 12 kg P<sub>2</sub>O<sub>5</sub> per hectare and year. Given an assumed long-term demand for sustainable fertilisation, albeit strong fluctuations, of around 60 kg P<sub>2</sub>O<sub>5</sub> per hectare and year, this would represent a maximum of 20% of demand.

International strategies:

- EU regulations also promote the recycling of sewage sludge as fertiliser (see question 58).
- EC legislation also promotes the recycling of animal by-products (animal excrement, bone meal, meat meal etc.) as fertiliser.
- Worldwide there are adaptation strategies for the increased use of previously non-mineable reserves which may become viable in the wake of rising prices.

**61. In what way is the Federal Government supporting the Sustainable Sanitation Alliance, in which ecosan plays an important role?**

The Federal Government supports the Sustainable Sanitation Alliance (SuSanA) in a number of different ways. GTZ, as part of the ecosan sectoral project commissioned by the Federal Ministry for Economic Cooperation and Development for example, largely runs and finances the Alliance's secretariat and the management of the website. The Federal Government has also provided funding for SuSanA meetings, e.g. in Africa and Asia, in order to enable more partners from the southern hemisphere to attend and to promote the North-South exchange of knowledge on the subject of sustainable sanitation. Finally Germany, through the involvement of scientific and executing organisations such as GTZ, KfW, the Federal German Institute for Geosciences and Natural Resources (BGR), the Centre for International Migration and Development (CIM) and the Bremen Overseas Research and Development Agency (BORDA), as well as a variety of other German institutions (e.g. Hamburg-Harburg Technical University, the University of Freiburg, the Bremerhaven Technology Transfer Centre) in more than half of the 12 thematic working groups, helps to ensure that the latest knowledge in relation to the various aspects of sustainable sewage and sanitation systems (ecological, economic, social and institutional sustainability) is collated and processed for rapid dissemination.

**62. On what criteria, particularly in terms of ensuring sustainability (with reference to environmental, health, technical and cultural aspects) and cost efficiency, does the Federal Government base its funding decisions in the area of basic sanitation and how are the additional benefits of ecosan approaches factored in?**

Sustainability criteria play an important role in funding decisions. The 2006 water sector strategy paper, the guideline for development policy in the water sector, states that ecological, social and economic sustainability are central to German engagement in the water and sewage sector. Where ecological sustainability is concerned, however, it is a matter not only of quantity but increasingly of the quality of water. In order to prevent further pollution of surface and ground water, the production processes in commerce, industry and agriculture need to be adapted, recycling concepts given greater prominence in all sectors and finally sewage treatment and recycling substantially expanded (p. 16). It also states that activities relating to drinking water supply should generally be accompanied by measures to improve sanitation. Closed-loop sewage and sanitation concepts should be applied where possible and expedient. (P. 26).

In order to guarantee the sustainability of individual German development projects, they are generally incorporated in a long-term strategy of engagement in the sector in which various projects can operate on a complementary basis at several levels of intervention (multi-level approach). The criteria require systematic examination of whether, in relation to developing and implementing joint projects, the requirements listed above can be adequately taken into account.

In principle, locally adapted alternatives are examined and priority given to cost-effective, but at the same time robust, tried and tested systems. Projects are always examined to verify whether or not the follow-on costs (operation, maintenance and replacement investments) can be borne by the population, including poorer households in the long run. The yardstick is always the cost as a proportion to household income. For water supply and sanitation, this generally should not exceed 5% (WHO recommendation). Funding decisions are also geared to the principle of integrated water resources management (IWRM). Environmental impact assessments are a further guarantee of the extent to which projects offer sustainable environmental protection.

The advantages and disadvantages of closed-loop approaches are automatically factored into the review of alternatives and are carefully weighed against each other. Depending on local circumstances they may, for example, be more cost-effective, require less technical know-how on the part of operating personnel or boost the yields of small farmers (fertiliser production). On the other hand there may be problems with local acceptance and, associated with this, more spending on consultancy or even higher costs.

### **Coordination and coherence**

#### **63. In the opinion of the Federal Government, where is there scope for improvement in the coordination, demarcation of task areas and coherence of the international activities of different international actors in the area of sanitation?**

Over recent years, donor coordination has improved considerably. This is reflected in the concerted drive to initiate the International Year of Sanitation and improvements to the organisation of UN-Water. The major regional conferences held in the International Year of Sanitation, too, were also sponsored by broad coalitions of stakeholders.

The reference point for coordinating the activities of different international stakeholders, however, should be the sector strategies of partners. The Federal Government therefore believes that donor coordination and the division of labour are best carried out at country level under the control of the partner country. In many countries donor coordination groups have led to a considerable improvement in communication and coordination, have cut down on duplication and have exploited synergies. As far as developing these coordinating bodies is concerned, the Federal Government is anxious to see a stronger role for the partner governments. Germany takes an active part in these bodies by assuming lead donor and/or secretariat functions in many countries. Improving the division of labour between donors is an important concern. Under Germany's presidency of the EU, the EU Code of Conduct on Complementarity and Division of Labour was adopted. The division of labour was also a subject raised at the Forum on Aid Effectiveness held in Accra (2 to 4 September 2008); Germany led an international working group in preparation for the Accra conference and continues to be actively engaged in the subject.

**64. How does the Federal Government rate the coordination efforts of UN-Water?**

UN-Water is an association of the UN organisations active in the water sector, the aim of which is to enhance cooperation between the UN organisations in the water sector and increase the effectiveness of their work.

Coordinating 25 UN programmes, funds and special organisations is a great challenge and UN-Water is a comparatively young body. It is therefore too early to judge its coordination efforts. At global level, particularly in the areas of monitoring the water sector and the common front presented by the UN organisations active in the water sector, great progress has been made. The Federal Government also welcomes the future increased concentration of activities at national level announced by the chairman of UN-Water, Pasquale Steduto, at the 16<sup>th</sup> session of the Commission on Sustainable Development.

**a) What relevance does the Federal Government ascribe to the coordinating function performed by the UN-Water Sanitation task force formed in spring 2007?**

The UN-Water Sanitation task force has taken on important coordinating tasks during the current International Year of Sanitation and produced some excellent joint information materials on the role of sanitation. These materials and the core messages on the importance of sanitation for sustainable development contained in them were instrumental in ensuring that the United Nations gave the International Year of Sanitation a powerful voice and in raising the profile of the subject. In the opinion of the Federal Government, therefore, it was the right decision to ensure that all relevant information on the subject be communicated via the task force. It is impossible for the Federal Government to assess from outside on the basis of available information how far the task force can also coordinate and structure UN activities in partner countries. In general, the Federal Government welcomes the decision by UN-Water to establish thematic working groups with a clearly defined coordinating mandate.

**b) In what way does the Federal Government support the work of UN-Water and the UN-Water Sanitation task force and is it prepared to strengthen UN-Water institutionally, for example by contributing to a UN-Water secretariat?**

The Federal Government already supports UN-Water today. The UN-Water Decade Programme on Capacity Development (UNW-DPC) is hosted by the UN University in Bonn and started work on 1 August 2007. The programme's aim is to strengthen the activities of the more than two dozen UN organisations and programmes already working together in UN-Water in the area of water-related education, training and capacity development and to coordinate and support their efforts to achieve the millennium development goals.

Germany is supporting the UNW-DPC programme office for an initial three years under a cooperation agreement between the Federal Ministry for Economic Cooperation and Development (BMZ) and the Federal Ministry of Education and Research (BMBF). BMZ and BMBF are each providing up to 500,000 Euro per year for three years (2007-2009) to fund important projects being run by the new office.

**c) What steps will the Federal Government take in order to ensure that a UN institution takes on a permanent lead management role in the area of sanitation?**

In general, the Federal Government supports the increased division of labour and nomination of lead agencies in various policy fields, particularly at national level, in the wake of the general reform of UN development cooperation under the motto of “delivering as one”. This support also applies in principle to the field of sanitation. Whether a UN institution at global level should take over lead responsibility or whether flexible solutions at national level are more desirable is still impossible to assess at the present time. The UN-Water Sanitation task force (see answer b) is an important step in this direction.

**65. How is the Federal Government coordinating its development cooperation in the area of sanitation within the EU as well as with other donors and what results has coordination yielded so far?**

Donor coordination takes place for the most part on the spot, i.e. in the partner countries. This refers to coordination both between EU member states and with other partners such as UN organisations, non-EU donor countries and multilateral development banks. The Federal Government believes that, for the reasons stated in the answer to question 63, this basic policy is right. There are many other bodies, however, which carry out important supplementary coordinating functions.

At national level, donors coordinate with each other in the relevant bodies on the production of sector strategy papers and country strategies. This process is always carried out on the basis of national strategy papers and, where they exist, the poverty reduction strategy papers (PRSP) or national development strategies of the respective partner governments. There is also coordination with respect to major investment projects in the preparation and implementation of joint funding programmes in which primarily European donors are involved. There are examples of this in Egypt and Morocco.

At EU level, there are essentially three types of coordination process in the area of sanitation and water: (i) EU Council working groups, (ii) EU funding instruments and (iii) thematic EU initiatives.

(i) EU Council working groups (development/infrastructure) discuss the political aspects of country programming and funds allocation. As well as conceptual

questions, the Federal Government and the other member states look out for possible overlaps with bilateral programmes.

(ii) The administrative committees of EU funding instruments such as the Neighbourhood Investment Facility, the Infrastructure Trust Fund (ITF) and the European Water Initiative, discuss fundamental questions relating to conceptual orientation and coordinate specific projects, particularly within the framework of co-financing arrangements.

(iii) Thematic initiatives such as the European Water Initiative (EUWI) focus on the strategic dialogue between the EU member states and Africa, the Mediterranean region, Latin America, Eastern Europe and Central Asia. This dialogue takes place in regional working groups working independently in particular subject areas. In the EUWI Africa working group in particular, the subject of sanitation has grown considerably in importance in recent years, as reflected in the publication of the EU-Africa Statement on Sanitation. While conceptual coordination is central to the EUWI, other forms of coordination take place within national water dialogues, for example the development of joint sectoral regional strategies (e.g. in Central Asia) and donor mapping (e.g. the EUWI working group on Africa).

The Federal Government is intensively involved in all three forms of coordination.

In the multilateral UN organisations and development banks, responsibility for the formal coordination of sector strategies, country programmes and in part also individual projects rests with the boards.

The OECD-DAC represents a further coordination platform where the international donor community agrees on general principles of good governance in the various sectors. The OECD-DAC is also responsible for maintaining a comprehensive and detailed publicly available database of the involvement of the different donors in the various sectors, which is recognised as a reliable reference and source of data on donor engagement.

Finally there are various informal coordinating forums in the water and sanitation sector which are concerned not with operational matters but with the development of joint strategies and concepts relating to achievement of the millennium development goals and implementation of sustainable water and sewage management. One example of this relating exclusively to the sanitation/sewage sector is the Sustainable Sanitation Alliance (SuSanA), an international dialogue platform established on the initiative of German and Swedish development policy. Apart from SuSanA, which is supported by various German executing agencies, there are no formal coordinating forums devoted exclusively to the sanitation sector. All international dialogue forums such as the Stockholm Water Week and the World Bank Water Week, however, also deal with the sanitation sector.

**66. Will the Federal Government work to ensure that the treatment of the topic of water and sanitation at the G8 Summit in 2008 leads to substantive results and gives renewed impetus to the subject?**

**a) What approach will it adopt?**

The Federal Government welcomed the proposal of the Japanese presidency to place water on the agenda of the G8 summit in Toyako from the outset and has argued resolutely for the G8 to increase its engagement in the water and sanitation sector. The Summit Declaration includes most of Germany's priorities in terms of topics and provides a basis for increased G8 engagement in the water sector.

The Federal Government argued in the G8 negotiating process for a clear reference to the achievement of the millennium development goals, for the need for greater efforts on the part of the G8 and for the resolutions to be clearly oriented in terms of required actions with concrete statements on the timetable and institutional framework of implementation by the G8. In addition to water and sanitation, further thematic priorities were the inclusion of the subject of cross-border water cooperation and emphasis on the importance of the water sector in relation to adapting to climate change. In terms of regional focus points, Germany pressed within the G8 negotiating process for concerted support for the African Union (AU) and the African Ministers' Council on Water (AMCOW) as the prerequisite of a sustainable approach building on African structures. The basis for this was the African Union summit on water and sanitation in July 2008 and the concrete commitments set out in the declaration as well as the call to the G8 to step up the partnership with the AU for the achievement of the MDGs.

In the Summit Declaration, the G8 countries commit themselves to review the 2003 Evian Water Action Plan, to revive their efforts to implement it and to produce a corresponding progress report for the next summit. The declaration also announces the intention to discuss with African partners the development of an implementation strategy for the Evian Water Action Plan. Germany feels that the 2003 Evian Action Plan failed to respond adequately to the need to step up partnerships with regional stakeholders and processes in the African water sector. The announcement regarding discussion of an implementation strategy with African partners is therefore an important step towards a more strategic dialogue between the G8 and Africa in the water sector.

Germany is working actively on implementation of the G8 Summit Declaration within a G8 water experts group.

**b) What pressure is it bringing to bear to ensure that particular attention is focused on basic sanitation in the UN Year of Sanitation 2008?**

During the G8 negotiating process, the Federal Government, together with partners, pressed energetically for the subject of sanitation to be treated on an equal basis with water. The success of these efforts is also reflected in the

fact that contrary to the original intention, the corresponding sections of the Summit Declaration were changed to read “Water *and* Sanitation”. The Federal Government also successfully called for a reference to the International Year of Sanitation in the Summit Declaration.

### **Activities of multilateral and regional organisations and the EU**

#### **67. What is the Federal Government’s assessment of the implementation of the section of the Kananaskis G8 Africa Action Plan relating to sanitation and the Water Action Plan adopted at the 2003 G8 summit in Evian? In what ways has the Federal Government contributed to this?**

The paramount objective of the Evian G8 Water Action Plan is to make a more decisive contribution to the achievement of the water-related MDGs and the Johannesburg targets as well as to sustainable resource management in general. In the section of the G8 Africa Action Plan relating to water and sanitation and in the G8 Evian Water Action Plan, the G8 member states undertook to step up their political and financial engagement in this area and to work more closely together for the achievement of the MDGs by 2015. In terms of achieving the MDGs, important progress has been made. If this trend continues, for example, it is likely that the MDG on drinking water at global level will be achieved. Progress is, however, very unevenly divided both regionally and with respect to drinking water and sanitation (see question 3). In Sub-Saharan Africa in particular, the focus of the Evian Plan, progress so far has been slow, especially in the area of sanitation. The Federal Government therefore is of the view that progress in the sections of the Kananaskis G8 Africa Action Plan and the Evian Water Action Plan relating to sanitation is unsatisfactory.

For this reason, Germany pressed successfully in the preparations leading up to this year’s G8 Summit for a renewed commitment to implementing the goals set out in the Evian Water Action Plan. In relation to Germany’s strategy within the 2008 G8 process, see the answer to question 66.

It must also be pointed out, however, that in many countries in all regions of the world great progress has been made in relation to the sanitation target. In order to highlight this progress, the 2008 JMP report names a series of countries in which great progress has been achieved since 1990, the starting year of MDG measurement. The report points out that for countries in which the proportion of the population without adequate access in 1990 was very high, achievement of the MDG target constitutes a far greater challenge which in many cases is compounded by high population growth. The greatest progresses since 1990 have been made in Myanmar (+69%), Syria (+48%), Vietnam (+47%), Guatemala (+43%) and Angola (+42%). Even countries which are not formally on track to achieving the sanitation target have in some cases made great progress, e.g. Yemen (+49%), Benin (+30%), Cameroon (+29%), Mali (29%) and Zambia (+27%).<sup>12</sup>

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<sup>12</sup> WHO/UNICEF: Progress on Drinking Water and Sanitation. UNICEF, New York and WHO, Geneva 2008.



The Federal Government makes its contribution to implementing its G8 commitments within the framework of its development cooperation, as described in the answer to question 15. Sub-Saharan Africa is a particular priority area for its engagement in the water sector. Germany has for years been among the largest bilateral donors there, with an average annual commitment of around 100 million Euro and a current portfolio of almost 800 million Euro. In order to respond to major shortfalls in terms of achievement of the MDGs, the German Government's development cooperation activities in Sub-Saharan Africa are directed towards effective, results-oriented targets, such as providing 30 million people with improved drinking water supply and sanitation between 2005 and 2015.

**a) Which country has lead responsibility for the G8 Water Action Plan?**

There is no formal lead responsibility within the G8 context. The country which holds the presidency of the G8 at the time is responsible for leading the process. In the case of the Evian Water Action Plan in 2003 this was France. If a G8 country seeks to push a particular topic in the G8 context and launches working groups or initiatives for this purpose, it may be informally regarded by the other G8 members as having substantive lead responsibility for this topic. In this sense, the Federal Government has substantive responsibility for implementation of the G8 Africa Action Plan in the area of transboundary water resources management.

**68. What is the Federal Government's assessment of the activities of the World Bank and the regional development banks and what is the Federal Government doing to ensure that these efforts to expand sanitation are stepped up?**

World Bank

In the area of poverty reduction, the World Bank focuses its efforts on efficient, affordable and sustainable sanitation and has a current portfolio of active measures totalling 4.4 billion US dollars. This represents 38% of the total commitments of 11.7 billion US dollars in the area of water and sanitation and 28% of the 15.6 billion US dollars committed to the entire water sector. The World Bank is therefore the leading development partner in this area and is giving improved access to water and sanitation to around 10 million people a year. Its priority areas are East Asia and Sub-Saharan Africa.

The Federal Government has wholeheartedly endorsed the World Bank's greater commitment to water and sanitation within the framework of the Infrastructure Action Plan (IAP FY04-07) and the follow-on Sustainable Infrastructure Action Plan (SIAP FY09-11) and particularly welcomed the focus on social and ecological aspects. It is anticipated that commitments in this sector will stabilise at two to three billion US dollars per annum. In terms of actual development, the demand expressed by developing countries for projects in this area is crucial.

### Inter-American Development Bank

The Inter-American Development Bank (IDB) launched its Water and Sanitation Initiative in 2006 with the aim of helping to meet the MDGs.

The initiative will run for four years until 2011 and will make available loans and grants to around 100 medium-sized towns (with an average of around 50,000 inhabitants) and at least 3000 rural communities in Latin America and the Caribbean for technical cooperation with the aim of improving drinking water and sanitation. A particular emphasis will be on improving the performance of the relevant utilities.

The Bank started in 2007 to work with 12 member states to devise relevant strategies and will do similar for a further 14 countries in the course of the current year. In 2007 the Bank pledged loans totalling 700 million US dollars which will make a contribution towards meeting the targets of the Water and Sanitation Initiative and hence the MDGs.

### African Development Bank

Water and sanitation are among the traditional priority areas of the African Development Bank (AfDB) supported by Germany. Guided by the MDGs, the Bank focuses its work on explicit concepts and initiatives (e.g. Rural Water Supply and Sanitation Initiative 2002).

The main instrument used by the Bank is the extending of loans and grants on favourable terms to finance projects. The Bank's portfolio in the area of water and sanitation currently comprises around 50 projects, around 25% of which are in the sanitation sector (with an upward trend). In 2007 alone approximately 220 million Euro of loans and grants were approved (equivalent to around 6% of loans and 26% of grants).

The Bank is also actively involved in the international policy dialogue on the subject and is one of the acknowledged opinion leaders in Africa (among other things, it co-organised the AfricaSan+5 Conference in Durban in February 2008 and organised the First African Water Week in Tunis in March 2008). Thus the Bank makes a significant contribution to furthering the technical and political dialogue from the medium working level to high political level and to directly implementing the millennium development goals.

### Asian Development Bank

At the end of 2005, the Asian Development Bank (ADB), together with the World Health Organization (WHO), the United Nations Development Programme (UNDP) and the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), commissioned a study into the funding of the water sector in Asia (Asia Water Watch 2015). The study comes to the conclusion that an annual investment of 8 billion US dollars is needed up to 2015 to achieve the relevant millennium goals in the area of water and sanitation.

On the basis of this study, the ADB in 2006 developed a comprehensive Water Financing Program with three strategic priority areas:

- Improving the health and livelihoods of rural communities. In addition to investments to improve rural water supply and sanitation, this also includes funding for irrigation and drainage.

- Promoting sustainable growth in urban areas by investing in water supply and sanitation and sewage treatment.
- Integrated and transboundary water resources management achieved by strengthening regulatory capacities, conservation measures and flood management.

The target is to mobilise 2 billion US dollars per year for the Water Financing Program and to achieve the following outcomes:

- 200 million people will receive access on a lasting basis to safe and clean drinking water and improved basic sanitation
- 100 million people will benefit from better flood protection
- 40 million people will have more efficient irrigation and drainage infrastructure
- 25 river catchment areas will have integrated and transboundary water resources management
- Water governance will be improved through support for national water reforms and capacity building.

The regional focus is on India, Indonesia, Pakistan, PR China and Vietnam. Targeted country-related events are held to focus the agenda on specific countries (e.g. the 2<sup>nd</sup> National Sanitation Summit in Manila on 9 July 2008 on the subject of “Better Water Quality and Safety through Improved Sanitation”). The Program is implemented in the form of a rolling three-year plan and in terms of concept involves mobilising private capital via public-private partnerships and strategic co-financing with other donors.

#### **69. What is the Federal Government’s assessment of the alignment and scope of the EU’s development cooperation in the area of sanitation?**

Water and sanitation are priority areas of EU development policy which are promoted using a variety of instruments such as the EU-Africa Partnership, the European Water Initiative (EUWI) and the EU-ACP Water Facility. In compliance with the MDGs and the Johannesburg targets, integrated water resources management (IWRM) forms the framework for the EU’s engagement and includes the aim of supplying high-quality drinking water and also adequate sanitation and hygiene.

For the Federal Ministry for Economic Cooperation and Development, the water sector strategy paper, which attaches a high priority to the subject of sanitation, forms the basis for cooperation with multilateral actors in the water sector. In this context, the Federal Government also advocates a proper balance between water and sanitation within the EU.

According to the pilot report of the UN-Water Global Annual Assessment of Sanitation and Drinking Water (GLAAS), which was published in September 2008 on behalf of the World Health Organization, 35.5% of EU funds in the water sector are spent on basic sanitation, while 64.5% are allocated to drinking water supply. According to estimates, 80% of EU funds in the sanitation sector are

spent on infrastructure projects, while 20% are spent on “soft approaches”.<sup>13</sup> The Annual Report on the European Community’s Development Policy and the Implementation of External Assistance in 2006 published by EuropeAid rates the EU’s support in the area of water as successful but in the area of sanitation as less successful.<sup>14</sup>

**a) How does it rank in the EU-AU infrastructure partnership, in the EUWI and in other EU institutions and programmes (please itemise separately)?**

The European Water Initiative (EUWI) established at the Johannesburg World Summit on Sustainable Development makes a contribution to the achievement of the MDGs on water and sanitation in the context of integrated water resources management. Central to this are the political obligation to act, the importance of water and sanitation in the context of poverty reduction strategies and sustainable development, better governance structures in the water sector and support for regional and sub-regional cooperation in water management, as well as additional funding for measures in the water sector.

Building on the European Water Initiative, the EU is seeking, within the framework of the EU-Africa Partnership, greater engagement in the area of sanitation in order to meet the sanitation MDG. Thus the EU-Africa Partnership supports the eThekweni Ministerial Declaration adopted at the AfricaSan conference in February 2008. Based on this, the Partnership is striving to achieve progress in a number of areas relating to basic sanitation. These include special national development plans for sanitation, greater prominence for sanitation in the Poverty Reduction Strategy Papers (PRSP), clear responsibilities at national level, better monitoring systems, minimum allocations of public funds for sanitation and support for the African Ministers’ Council on Water (AMCOW) in this area.

The ACP Water Facility serves as a catalyst to support the aims of the European Water Initiative and the EU-Africa Partnership and mobilise additional resources. 500 million Euro have been made available for water and sanitation measures in 14 ACP countries. According to the European Commission, the Water Facility has helped give 9 million people access to sanitation.

The EU-Africa Infrastructure Partnership supports regional integration and better networking in Africa and includes existing initiatives in the areas of transport, energy, water and sanitation. The use of available water resources to secure water supply and sanitation for the population and national, local and transboundary water management play an important role in the process.

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<sup>13</sup> UN-Water Global Annual Assessment of Sanitation and Drinking-water: 2008 pilot report – testing a new reporting approach. WHO Geneva, 2008, p. 29.

<sup>14</sup> Annual Report 2007 on the European Community’s Development Policy and the Implementation of External Assistance in 2006. European Communities Brussels, 2007.

**70. What division of labour within the EU member states is the Federal Government seeking with respect to sanitation?**

For the Federal Government's basic attitude to donor coordination, see the answer to question 63. With reference to coordination within the EU, see the answer to question 65. All coordination processes always contain questions of the division of labour. The process of establishing the division of labour can only take place successfully at national level, whereby the partner government is crucial. To be successful in the long term, the division of labour must also include other donors in addition to EU donors.

**International rules and regulations at the interface between development and environmental policy**

**71. What is the Federal Government's assessment of the dangers posed by untreated municipal and industrial effluent as well as leachate from unofficial waste dumps?**

The Federal Government assesses the dangers posed by untreated municipal and industrial effluent as well as leachate from illegal waste dumps as very high.

**a) to human health?**

Effluent, if it is not properly discharged but flows out on to streets, poses a risk to the health of the population, especially children. Wastewater and leachate from dumps also pose a threat to drinking water, particularly where the soil is permeable or the ground water layers which are used for drinking water supply lie close to the surface and hence indirectly affect public health.

The following types of pollution are significant and problematic:

- 1) Humans absorb many different organic substances and heavy metals directly via dirty drinking water or indirectly via food grown in contaminated soil (see question 71b). Heavy metals come in most cases from industrial effluent and waste dumps and even in small quantities can have a toxic effect on fauna, flora and human health.
- 2) Pathogens can cause infectious diseases such as dysentery, cholera and diarrhoea, which are one of the major causes of the high child mortality in developing countries and emerging economies (see also question 4b).
- 3) Furthermore, pharmaceuticals and endocrine substances which enter drinking water resources via municipal wastewater pose a potential threat, the effect of which, particularly in the long term, is impossible to gauge at this time.

**b) to the environment (surface and ground water, lakes and coastal ecosystems, as well as soils)?**

Contamination often exceeds the assimilative capacity of surface water and reduces the possible uses of the water for people living downstream (e.g.

drinking water supply, agricultural irrigation or local recreation). In many cases, it also leads to the permanent impairment of ground water reserves.

The following outlines the risks to surface water, ground water and soils posed collectively by three types of effluent.

- **Untreated municipal effluent:** untreated municipal effluent which is discharged into surface waters is a threat to humans and ecosystems, leading to an increase in people suffering and dying from diarrhoea and also to the dying of lakes. Leaching municipal wastewater and also indirectly polluted surface water can contaminate both the soil and the ground water area, creating the risk of toxic substances (e.g. arsenic) polluting aquifers. If an aquifer is severely or irreversibly impaired, this can result in expensive clean-up operations or in the complete abandonment of the aquifer as a source of drinking water.
- **Untreated industrial effluent:** depending on the branch of industry, industrial effluent can contain many different hazardous substances, e.g. heavy metals, which compromise the quality of surface and ground water since above particular concentration limits they have a harmful effect on humans and ecosystems. Many pollutants do not degrade and therefore accumulate in sewage sludge, ground water and the soil. The discharge of untreated industrial effluent can cause long-term damage to ecosystems including ground water and can lead to the pollution of arable land with contaminated sewage sludge.
- **Effluent from waste dumps:** polluted leachate and effluent from unofficial waste dumps can contain a large number of hazardous substances depending on the contents of the dump. The risk to bodies of water, soil and ground water, as well as to flora and fauna, is particularly high here. Leachate from unofficial dumps contains a broad spectrum of hazardous inorganic and organic substances which accumulate when they penetrate the soil and can do lasting damage to soil functions. From the point of view of both soil and water protection, the use of untreated wastewater, for example to irrigate farming land, can only be endorsed if the effluent in question is nutrient-rich household wastewater which is not too heavily polluted with industrial toxins or other problematic substances. Since for reasons of poverty, shortage of water and need for fertiliser, the unconsidered application of raw sewage in farming is a common reality throughout the world, the UN has formulated "Guidelines for the safe use of wastewater, excreta and greywater in agriculture and aquaculture" to protect humans and the environment.

The UNEP Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities refers in this context to the risk to health and to the degradation of coastal ecosystems caused by inadequately treated sewage from urban industrial development zones. In the North Sea and the Baltic Sea, too, the problem of the discharge of excessive nutrients into the sea and the associated problems of

eutrophication (including excessive algal bloom and oxygen depletion) are still far from being solved.

**c) to the achievement of the Millennium Development Goal on the provision of clean drinking water?**

The longer it takes to meet the sanitation goal, the greater will be the risk of failing to achieve the MDG on the provision of clean drinking water. Large sections of the population today are dependent for drinking water on surface waters or near-surface ground water. The dangers to drinking water resources referred to in 71b are creating delays and obstacles to the achievement of the drinking water target. This applies particularly to (unpolluted) ground water since it is generally of good quality and can be used as drinking water with no or only little financial and technical expenditure. Once pollution occurs, technical cleansing can be expensive and not always possible. Poorer sections of the population are reliant on drinking water from public supply systems. If these are polluted, their health is directly put at risk.

**72. What deficits can the Federal Government identify with respect to existing international regulations and recommendations relating to the pollution of watercourses by household and industrial effluent as well as with respect to their implementation?**

International agreements such as, for example, the UN Convention on the Non-Navigational Uses of International Watercourses, which has not yet entered into force, contain general regulations with respect to avoiding the pollution of watercourses but fail to address the issue of the correct disposal of sewage and hazardous discharges of wastewater in sufficiently concrete terms. Where international regulations enter into force, such as for example the Protocol on Water and Health to the UNECE (UN Economic Commission for Europe) Convention on the Protection and Use of Transboundary Watercourses and International Lakes which contains concrete provisions on wastewater, these provisions are almost impossible for some developing countries to implement because of the legal and administrative conditions in these countries.

**a) What strategies is the Federal Government pursuing and what starting points can it identify to strengthen existing standards?**

The Federal Government is working in international bodies for the practical implementation of standards including the use and transfer of experiences at national, supranational and international level, e.g. in the International Commissions for the Protection of the River Rhine and the River Danube.

**73. What potential can the Federal Government see in the UN Convention on the Law on Non-Navigational Uses of International Watercourses of 1997 which, in Articles 21, 23 and 27, deals with the problem of water pollution and the protection of watercourses and seas and what steps is it taking to help ensure that this UN Convention comes into force?**

The UN Convention on the Law on Non-Navigational Uses of International Watercourses of 1997 has not yet entered into force because of a lack of the required number of ratifications. The Federal Government has ratified the Convention.

Articles 21, 23 and 27 and the other regulations in the Convention contain general specifications regarding the transboundary protection of watercourses from pollution as well as from disasters and accidents. Once this Convention enters into force, it will create a global framework under international law for cooperation with respect to transboundary waterways and international rivers regions which has so far been absent but which is necessary in view of the increasing potential for conflict over available water resources.

In its international contacts, the Federal Government draws attention to this UN Convention and the need for its ratification. Its ratification by Germany has already led other states to consider ratifying it themselves.

**74. What is the Federal Government's assessment of the project to achieve global, regional and national effluent emission goals that are more than recommendations?**

The Federal Government currently sees few opportunities of achieving globally agreed goals. Evidence for this can be seen from the 16<sup>th</sup> session of the UN Commission on Sustainable Development, at which the resolutions adopted at the 13<sup>th</sup> session on water and sanitation were reviewed. The discussion at CSD 16 covered both integrated water resources management and access to water and sanitation. The Federal Government proposed at CSD 16 that water and sanitation be included in the negotiations at CSD 17 in 2009. As yet, however, there are no signs of a global agreement on effluent emission goals.

At regional level, effluent emission targets have been agreed in the European Union with a view to protecting the environment and health and preventing distortions to competition. For regions outside the EU, setting targets to reduce the pollution of watercourses by the discharge of effluent depends on the concrete situation within the country or region in question. Regional objectives similar to those stated in the UNECE Protocol on Water and Health referred to in the answer to question 72 are more concrete than global goals. Implementation of this protocol in the UNECE region has just started. Once again, however, no limit values for particular hazardous substances are laid down. These can where appropriate be specified nationally depending on how advanced the existing sewage disposal system is.



**75. How is it supporting efforts in this direction led by the UNEP which are based on the Global Action Programme of the 1995 Washington Declaration on the Protection of Marine Environments from Land-based Activities, the implementation of which is also called for in Chapter 4, Paragraph 3 of the Johannesburg Plan of Implementation?**

Within the United Nations Environment Programme, the Federal Government is actively involved in the regular review and development of the Global Action Programme on the Protection of Marine Environments from Land-based Activities. Within the Baltic Marine Environment Protection Commission (HELCOM) and the OPSAR Commission Protecting and Conserving the North-East Atlantic, Germany also takes an active part in exchanges between these organisations and regional cooperation projects in Africa within the framework of the UNEP Regional Seas Programme.

**76. What is the Federal Government's assessment of the implementation of the sections of the policy recommendations relating to sewage treatment adopted by the CSD-13 in 2005 and how is it supporting their implementation?**

The policy recommendations adopted by CSD-13 with respect to sewage treatment relate to financial and technical support for national and local authorities and operators and are intended to support them in implementing cost-effective and environmentally friendly sewer systems and sewage treatment plants as well as decentralised urban technology. To cover operating and maintenance costs, CSD-13 suggests a mixture of user charges, income from wastewater recycling and the allocation of budget funds. Further measures to secure funding include better access to the capital market and the drawing up of sustainable economic plans. Improvements to wastewater treatment must also involve initial and continuing training of personnel responsible for operating and maintaining wastewater catchment and treatment plants. In terms of research and development, low-cost technologies for water treatment and possibilities of reusing treated wastewater are a priority. CSD-13's overriding aim is to promote regional capacities for the research and development of adapted technologies, thereby also building up regional capacities for training and technical support. Support for regional agreements on protecting water resources from pollution also plays a role, whereby it is important to take into account in particular the needs and problems of arid countries and those near to the coast (on CSD see also question 16).

The German development strategy in the water sector supports significant aspects of the approaches to sewage treatment recommended by the CSD. A sound examination of alternatives ensures cost-efficient and environmentally friendly systems. Besides in crisis regions, Germany in its development cooperation considers coverage of operating costs through user charges (in exceptional cases also reliable national subsidies) to be a minimum requirement. At the same time, operators in the partner countries are assisted to improve and professionalise their business management in order to be able to secure sustainable financing via the capital market. The KfW, for example, is already in a

position to increasingly use market funds in emerging economies (8% of financial cooperation funds).

**77. To what extent does the UNEP's updated water policy and strategy include sanitation and sewage management and what is the Federal Government's assessment of this?**

At its 24<sup>th</sup> session in February 2007 the Governing Council of the UNEP (Global Ministerial Environment Forum) adopted a new water policy and strategy for the period from 2007 to 2012. The Federal Government welcomes this new water policy and strategy which offers an appropriate framework for sanitation measures and sewage management and underscores the complementary nature of the MDGs and Johannesburg targets as well as the outcomes of CSD 13.

The conceptual principles of the UNEP strategy are:

- Promote ecosystem-based approaches;
- Contribute to sound economic and social development, including poverty reduction, through integrated assessment and management of water resources and associated ecosystems;
- Minimise risks and protect against disaster, avoid and reduce environmental pollution from sewage and waste in general as well as through industrial and agricultural uses through integrated water resources management.

In relation to implementing environmental aspects in integrated water resources management, the water strategy contains three key components: assessment, management and cooperation.

Relevant UNEP programmes relating to sanitation and sewage disposal are the "Global Programme of Action for the Protection of the Marine Environment from Land-based Activities", "Regional Seas" and the "Nairobi River Basin Project", which involve developing instruments for sewage disposal and sanitation. Relevant UNEP programmes for the area of urban water resources are the "Cities Alliance", the "Sustainable Cities Programme" and "Wastewater Management".

**78. Does the Federal Government consider a global water convention to be desirable and on what does it base its position?**

In view of the significant shortage of and increasing pollution of worldwide water resources and the potential for intergovernmental conflict arising from this, the Federal Government is in favour of a global water convention. The Federal Government has made clear this position through its ratification of the UN Convention on the Law on the Non-Navigational Uses of International Watercourses (see question 73) and the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

The UN Convention on the Law on the Non-Navigational Uses of International Watercourses has not yet entered into force, however, because of a lack of the required number of ratifications. The fundamental usefulness of a convention is demonstrated by the example of the UNECE Water Convention which has been in force in the UNECE region for more than ten years.

The Federal Government is pressing for further countries to ratify the UN Convention on the Law on the Non-Navigational Uses of International Watercourses so that it can enter into force. Beyond this, the Federal Government can see few opportunities at present at international level to arrive at a unified international agreement.

In the area of access to water and sanitation as a human right which is not so far covered by the conventions, the Federal Government has seized the initiative for the universal recognition of the right to access to drinking water and sanitation and is advocating that the newly created mandate of the independent expert of the UN Human Rights Council help bring further substantive clarification of this right (see answer to question 12).

## Annex

To question 24 a): Sanitation in Poverty Reduction Strategy Papers (PRSP) in partner countries in which water is a priority area (Source: country survey, situation as at July 2008):

Country	PRSP	Improvement of sanitation as element of poverty reduction strategy
<b>Benin</b>	PRSP, 2008	<ul style="list-style-type: none"> <li>- The PRSP plays an important role in the macroeconomic dialogue, particularly with respect to budgetary assistance. Although the government of Benin has decided that the various sector strategies should be adapted to the PRSP, it still has relatively little importance at the level of sector policy.</li> <li>- Water and sanitation is included as a priority area in relation to infrastructure improvements.</li> <li>- The Water Ministry has produced its contribution to the PRSP without advice from German technical cooperation agencies. Donors have formulated a joint commentary and made a significant contribution in this way. The comments have in part been included.</li> <li>- The quality of the PRSP in the area of water / wastewater is relatively poor (mixture of strategic and operational measures, confusion between water resources management and drinking water supply, use of implausible basic data, etc.)</li> </ul>
<b>Burkina Faso</b>	PRSP, 2004	<ul style="list-style-type: none"> <li>- An urban sanitation action plan has been drafted and implemented</li> </ul>
<b>Burundi</b>	PRSP, 2006	<ul style="list-style-type: none"> <li>- A sanitation programme has been implemented in close cooperation with the private sector and community level organisations</li> <li>- Existing sanitation systems are being strengthened and expanded on a national scale</li> <li>- The population is being educated and informed of the importance of hygiene and adapted sanitation methods</li> </ul>
<b>Kenya</b>	PRSP, 2004	<ul style="list-style-type: none"> <li>- Reforms to the water and sanitation sector: separating policymaking, service delivery and regulation</li> <li>- Mobilising investments in sanitation</li> <li>- Cooperation with NGOs to expand services to poor urban and rural sections of the population</li> </ul>
<b>DR Congo</b>	PRSP, 2006	<ul style="list-style-type: none"> <li>- Water and sanitation are included in the PRSP</li> <li>- The targets, measures and indicators of the</li> </ul>

		<p>PRSP, produced in 2006 on the basis of the Congolese poverty reduction programme (DSCR), are fleshed out in the Country Assistance Framework (CAF) :</p> <ul style="list-style-type: none"> <li>- Increasing access to drinking water from 22% (2006) to 49% (2015) and to sanitation from 9% (2006) to 45% (2015)</li> </ul>
<b>Mali</b>	PRSP, 2007	<ul style="list-style-type: none"> <li>- The aim is to increase sanitation from 4.4% in 2004 to 20% in 2010</li> <li>- Measures focus on decentralising resources and decision-making from national to local level</li> <li>- Implementation of Drinking Water and Sanitation Programme (PROSEPA)</li> <li>- Promotion of public sector involvement</li> </ul>
<b>Zambia</b>	PRSP, 2002	<ul style="list-style-type: none"> <li>- Commercialisation, strengthening of private sector involvement, independent regulation</li> <li>- Development of institutional capacities, adaptation of sector policy and legal conditions</li> <li>- Management of information to improve planning and development of improvements to sanitation at national and local level</li> <li>- The Fifth National Development Plan (2006-2010), which superseded the 2002 PRSP, aims to supply 80% of the (outer) urban population with drinking water, 60% of the rural population and 35% of the total population with sanitation by 2010</li> </ul>
<b>Tanzania</b>	PRSP, 2005	<ul style="list-style-type: none"> <li>- The aim is to expand connection to the sewer system in urban areas from 17% in 2003 to 30% in 2010</li> <li>- Reducing the number of households in slums without basic sanitation</li> <li>- Fitting all schools with adequate sanitation by 2010</li> <li>- Giving 95% of the population access to sanitation by 2010</li> </ul>
<b>Uganda</b>	PEAP, 2005	<ul style="list-style-type: none"> <li>- The German Federal Government is involved in supporting and advising on the national development plan (PEAP to become NDP) within the framework of donor harmonisation</li> <li>- Water and sanitation are included in the national development plan</li> </ul>
<b>Bolivia</b>	PRSP, 2001	<ul style="list-style-type: none"> <li>- Strengthening institutional capacities and legal framework in the sector</li> <li>- Extensive regulation of the sanitation and waste sector</li> <li>- Support for expansion of the sewer and sanitation</li> </ul>

		<p>systems in outer urban and rural areas</p> <ul style="list-style-type: none"> <li>- Building of wastewater and solid waste treatment plants</li> <li>- Technical support for smaller municipalities</li> <li>- Promotion of the participation of municipalities in the building of sanitation systems</li> <li>- Promotion of private sector involvement in the operation of sanitation systems</li> <li>- Promotion of hygiene education</li> </ul>
<b>Nicaragua</b>	PRSP, 2005	<ul style="list-style-type: none"> <li>- Improving sanitation for the rural population</li> <li>- Improving sanitation in selected towns (incl. Managua, Juigalpa, Boaco, Granada, San Carlos, Bluefields)</li> </ul>
<b>Afghanistan</b>	PRSP, 2008	<ul style="list-style-type: none"> <li>- The number of people without safe access to water and sanitation is to be halved by 2020</li> <li>- By 2013 50% of all villages are to have access to sanitation</li> <li>- Improving water supply and sanitation has high priority</li> </ul>
<b>Algeria</b>	National poverty reduction strategy (2004-2013)	<ul style="list-style-type: none"> <li>- Water / wastewater investment programme in large cities with priority allocated to drinking water supply; sewage is a lesser priority</li> </ul>
<b>Yemen</b>	PRSP, 2002	<ul style="list-style-type: none"> <li>- Improvements to rural and urban sanitation</li> <li>- Creation of an institution for sanitation in rural areas</li> <li>- Elimination of institutional conflicts in the water and sanitation sector</li> <li>- Decentralisation</li> <li>- Training and capacity development for service provider staff</li> <li>- Increased cooperation with NGOs</li> </ul>
<b>Vietnam</b>	CPRGS, 2002	<ul style="list-style-type: none"> <li>- Water and sanitation are included as priority areas in the PRSP</li> <li>- German development cooperation, in close cooperation with other donors, pressed for priority to be given to water and sanitation in the process of drawing up the PRSP</li> </ul>