



WATER – A KEY TO SUSTAINABLE DEVELOPMENT

**International Conference on Freshwater,
Bonn, 3 – 7 December 2001**

Recommendations for Action

In December 2001 an innovative meeting took place in Bonn, focussing on water as a key to sustainable development. The conference brought together government delegates from 118 countries, including 46 Ministers, representatives from 47 international organisations and delegates of 73 organisations from major groups and civil society. It was a meeting appropriate for the age of global partnerships as it demonstrated that governments, the private sector, civil society and local and grassroots initiatives can work together in a spirit of partnership while acknowledging the differences in their mandates, roles and responsibilities. It neither avoided nor resolved the challenging and contentious issues in water affairs that are debated in communities or at national and international levels. However, it reached a remarkable degree of consensus given the controversial nature of these issues and the broad representation of stakeholders taking part in the meeting.

These recommendations for action result from this conference. As convenor of the conference, the German government is pleased to take them forward.

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Ten years after the UN Conference on Environment and Development, the world is preparing for the World Summit on Sustainable Development. More than ever, all the people of the world need development which is sustainable: women and men, the old and the young, the poor and the wealthy, people in the south and in the north. The challenge to turn the concept of sustainable development into reality is immense. Yet the only other choice would be to accept poverty, deprivation, insecurity and discrimination as a fate for billions of human beings, and continued unsustainable management of natural resources in many parts of the world.

The International Conference on Freshwater has reviewed the role of water in sustainable development, taken stock of progress in the implementation of Agenda 21 and identified how this implementation can improve. It has built on many previous efforts and conferences which

have defined the challenges and developed principles and policies related to water and sustainable development. There is often a gap between making such policies and putting them into practice. So this conference focussed on practical ideas.

Water is a key to sustainable development, crucial to its social, economic and environmental dimensions. Water is life, essential for human health. Water is an economic and a social good, and should be allocated first to satisfy basic human needs. Many people regard access to drinking water and sanitation to be a human right. There is no substitute for water: without it, humans and other living organisms die, farmers cannot grow food, businesses cannot operate. Providing water security is a key dimension of poverty reduction.

Despite improvements in water use efficiency, the use and demand for freshwater and the incidence of water pollution have increased. Access to safe water supply and adequate sanitation, particularly in developing countries, has during the last two decades barely kept pace with population growth. The demand for water for food, human consumption and sanitation is increasing. Ecosystems are becoming increasingly stressed by water scarcity and pollution.

The conference has analysed the implications of recent landmark decisions taken by the international community. Most relevant among them are the International Development Target set by the UN Millennium Assembly "to halve, by 2015, the proportion of people living in extreme poverty and to halve the proportion of people who suffer from hunger and are unable to reach or to afford safe drinking water", and the emphasis on stewardship "to stop the unsustainable exploitation of water resources". To reach that target for drinking water, best available estimates show that, by 2015, an additional 1.6 billion people will need access to adequate water infrastructure and services. In addition, over 2 billion will need improved sanitation.

Estimates for required global investment in all forms of water-related infrastructure vary widely up to \$ 180 billion annually, compared to a current estimated level of \$ 70-80 billion. Water supply and sanitation for basic human needs, however, accounts for only a small proportion of these totals: its needs are estimated at approximately \$ 20 billion annually, compared to a current level of \$ 10 billion.

The participants of the conference have noted that the challenges have been adequately defined, the key targets described, and locally appropriate principles and policies for water management identified. They have identified positive ways forward relating to a wide range of water-related issues.

The conference recommends priority actions under the following three headings:

- Governance
- Mobilising financial resources
- Capacity building and sharing knowledge

The recommendations are addressed to the international preparatory process of the World Summit on Sustainable Development in Johannesburg for consideration and review. They also provide a reference for the Third World Water Forum in Kyoto, and to all the different types of organisations that are working in water, poverty and sustainable development.

To relate to the World Summit on Sustainable Development's overall objective of sustainable development, sectoral themes such as water need to be harmonised with, and possibly integrated into, national strategies for poverty reduction (such as Poverty Reduction Strategy Papers).

Water security for all is an achievable goal. There is enough water for everybody in the world, but only if we change the way we manage it. The responsibility to act is ours – for the benefit of the present and future generations.

Actions in the Field of Governance

1. Secure equitable access to water for all people

- The primary responsibility for ensuring equitable and sustainable water resources management rests with governments. It requires the participation of all stakeholders who use or protect water resources and their ecosystems. Special attention is needed to improve the participation of those people, particularly the poor, who are often excluded from decision-making.
- Public responsibility includes the task to set and enforce stable and transparent rules that enable all water users to gain equitable access to, and make use of, water.
- Countries should be in the process of developing water resources management plans by 2005.
- Water resources policies and management should be better linked with other international agreements and processes, such as those concerned with climate change, desertification, biodiversity, wetlands, dams, the marine environment and sustainable forests. They should also be linked to international processes on development, finance and to the national benefits from trade in other goods.

2. Ensure that water infrastructure and services deliver to poor people

- Water is an integral part of sustainable development. Policies for all aspects of water should be clearly linked to policies for poverty reduction and economic growth. Governments should review the priority given to water and sanitation and to productive water infrastructure in national and international programmes to tackle poverty.
- Water infrastructure and services should be pro-poor and gender-sensitive. The plans should be realistic and targeted to the needs of the poor, and should include targets and indicators of progress at all levels.
- The UN Millennium Declaration target on drinking water should be complemented by a corresponding target to halve the proportion of people lacking access to improved sanitation by 2015.

3. Promote gender equity

- Water management policies should not distinguish between water users by gender and should allow men and women equitable access to water resources, including safe drinking water and sanitation.
- Water resources management should be based on a participatory approach. Men and women should be equally involved in managing the sustainable use of water resources and sharing of benefits. To achieve equity, in many parts of the world the role of women in water management needs to be strengthened and their participation broadened.

- Water experts and policy makers should be trained to work in a gender-inclusive manner. In many places, specific support is also needed to empower women to take up leadership and managerial roles in water resources policies and management.
- Water policies and water management systems should be gender-sensitive. They should reflect the division of roles and labour - paid and unpaid - between men and women in all settings related to water. Data relating to water should be disaggregated by gender.

4. Appropriately allocate water among competing demands

- Water should be equitably and sustainably allocated, firstly to basic human needs and then to the functioning of ecosystems and different economic uses including food security. Allocation mechanisms should balance competing demands and take into account the social, economic and environmental values of water. They should reflect the links between surface and groundwater and those between inland and coastal water, growing urbanisation, land management, the need to maintain ecosystem integrity and the threats of desertification and environmental degradation.
- Integrated water resources management should be sustainable and optimise water security and human benefit per unit of water while protecting the integrity of ecosystems. Water should be treated as a valuable and finite resource. Water demand should be more actively managed, and water use efficiency increased in all uses.
- Irrigated agriculture is the world's largest user of water, and therefore offers the largest potential in terms of water savings, the benefits of which can be shared with other sectors.
- Countries should set appropriate national targets to improve the equity and efficiency with which water resources are used.
- The value of ecosystems should be recognised in water allocation and river basin management. Allocations should at a minimum ensure flows through ecosystems at levels that maintain their integrity.

5. Share benefits

- Watersheds, river basins, lakes and aquifers must be the primary frame of reference for water resources management. Institutional and participatory mechanisms need to be developed at this level.
- Water can promote regional co-operation. Such co-operation across internal and international boundaries should be intensified as a means to share the upstream and downstream benefits.
- Co-operative management of such water is best served by long-term commitments. Active strategies should be initiated to exchange water-related knowledge and develop mutual understanding.

6. Promote participatory sharing of benefits from large projects

- In many water-scarce countries, the development of new water sources and infrastructure may be necessary to provide water for development and to mitigate against the impacts of desertification, droughts and climate change.
- Decisions to construct large water infrastructure projects including dams should be taken after a participatory integrated assessment of needs and options, taking a precautionary approach into account. Actions to improve the performance of existing infrastructure should be a high priority. All risks, costs and benefits should be fully accounted for. The role of large infrastructure in sustainable development and poverty reduction should be directly demonstrated.
- Project designs should minimise potential negative impacts on the environment and enhance the livelihoods of project affected parties. People affected by a project should participate in project decision-making and share in project benefits. Proper mechanisms and incentives should be in place for compliance with rules and agreements concerning environmental and social aspects of projects.

7. Improve water management

- National water management policies should take account of the impact of trade in water-intensive goods on water availability and ecosystems integrity. For example, in water scarce regions, people should grow crops with low water requirements or of high value compared to the water used. Options for improving the water balance by importing water-intensive goods from water-rich regions should be explored where appropriate and cost-effective.
- Subsidies that inhibit water use efficiency or cause negative effects on the environment should be reduced.

8. Protect water quality and ecosystems

- Drinking water quality should be safeguarded because it is essential for human health.
- Water governance arrangements should protect ecosystems and preserve or restore the ecological integrity of groundwater, rivers, lakes, wetlands and associated coastal zones. This will maintain the wide range of ecological services that healthy ecosystems provide and the livelihoods that depend upon them.
- Water resources management should complement work to combat desertification and other forms of environmental and ecological degradation.
- Pollution prevention should be prioritised, because it is normally more cost effective than the restoration of polluted waters. Water supplies should be protected from pollution from the source to the user.

- Treatment of waste water must be intensified and made more affordable for municipalities and industry. Investments in appropriate sanitation facilities should protect water bodies from pollution and reduce health hazards. Countries should intensify their attention to the management of diffuse (non-point) sources of pollution.
- Effective legal frameworks for protecting water quality should employ the full range of policy instruments including regulation, voluntary measures, market- and information-based tools. Where such frameworks exist, water quality should be monitored and the regulations enforced. This approach should make use of the polluter pays principle, thus giving incentives to polluters to apply the best available technology to prevent pollution.

9. Manage risks to cope with variability and climate change

- Water management arrangements should take account of climate variability and expand the capacity to identify trends, manage risks and adapt to hazards such as floods and droughts. Anticipation and prevention are more effective and less expensive than having to react to emergencies. Early warning systems should become an integral part of water resources development and planning.
- Closer links should be established between development and disaster management systems. This should be achieved both by reducing poor people's vulnerability to disasters and by strengthening post-disaster recovery systems.
- Decision-making mechanisms under uncertainty should ensure flexibility to respond to both rapid onset disasters and long-term changes to water resources. Risk management should be an integral part of water resources management. This should include establishing close coordination beyond the water sector.
- Exposure to flood risks should be minimised through wetland and watershed restoration, better land use planning and improved drainage.
- Particular attention needs to be paid to the poor in both rural and urban areas who are typically resident on land vulnerable to disasters and whose livelihoods are particularly vulnerable to their impacts.
- Organisations that deal with disaster preparedness and management should be strengthened. Such action will also place societies in a better position to deal with future climate change.

10. Encourage more efficient service provision

- The predominant public delivery of water services should be complemented by more use of different and often innovative forms of service delivery, including self help groups formed by the people themselves, informal service providers, co-operative societies, and local and international private enterprises. In each situation, the approach should be chosen that would best benefit people and the environment.
- All service providers should be subject to effective regulation, benchmarking and monitoring. They should be efficient, accountable, and protected from inappropriate pressures. There should be clear separation

between the roles and responsibilities of the regulator and the service providers.

- Regulation is a national level function which should be strengthened through international networking and the application of consistent principles, standards and methods.

11. Manage water at the lowest appropriate level

- People need to be centrally involved in management and governance decisions concerning water resources. Local stakeholders should develop mechanisms for collaborative management of the local water needs and resources. The design and operation of water services should use a people centred approach and be based on understanding the needs of the people to be served.
- Decision making, implementation of projects, and operation of services should be decentralised to the lowest level capable of handling such tasks, keeping in mind that watersheds are the appropriate frame of reference for water resources management. Local governments, community-based organisations and private service providers (where they exist) should be the key players in local management and the provision of local services. This requires appropriate legislation and financial mechanisms to empower local government and to facilitate the role of small scale service providers.
- National governments should strengthen their domestic public funding capabilities and create a viable financial frame for local governments. This will require significant support to modernise the financial planning, management and accounting skills in local governments. Decentralisation of responsibilities for water and other services to local government should go hand in hand with parallel actions to improve management and provide clear authority to raise and retain revenues.

12. Combat corruption effectively

- The fight against corruption must start with awareness building and should aim at maximising transparency to the public in the entire decision making process of a project, from planning through procurement to construction and operation. It must focus on all parties to any corrupt practices.
- Water governance arrangements should improve accountability, introduce and enforce appropriate legal provisions against corruption, monitor the performance of public institutions and private companies, develop codes of conduct, and invite civil society to play an active role in these processes.
- Assured access for citizens to all relevant information in the public domain is a powerful tool for fighting corruption. The public should also have access to effective and affordable justice.
- All actions, whether initiated by International Financial Institutions, countries or others, to fight corruption are welcomed.

Actions in the Field of Mobilising Financial Resources

13. Ensure significant increase in all types of funding

- All sources for funding in developing countries – public funding from general budget revenues, water tariffs and charges, external assistance, and private investment – must be strengthened to bridge the gap between current and required levels of expenditure.

14. Strengthen public funding capabilities

- Public budgets are now, and will continue to be, the biggest source of investment in water, particularly in low income countries. Even where the mobilisation of private investment is successful, public funds will generally be needed to support complementary investments and for instruments to protect the public from hazards and reduce risk to investors and suppliers of goods and services.
- Macro economic growth is necessary to strengthen the national and local public revenue base in developing countries, and hence to give the governments the opportunity to put more money into the water sector. For many developing countries, the prospects for such economic growth are linked to broader issues of equitable international trade.
- Investments in water for productivity, and in water and sanitation for health, can result in significant national economic gains.
- Where scarce public funds are being allocated to water, priority should be given to meeting the basic needs of the poor and to preserving the integrity of ecosystems.
- Where domestic capital markets exist, they should be developed further to finance the water sector, for example through issuing local or central government bonds.

15. Improve economic efficiency to sustain operations and investment

- Water service providers should aim for financial sustainability through receiving sufficient income from their customers to finance operation, maintenance and capital costs. Balancing this aim, however, cost recovery objectives should not be a barrier to poor people's access to water supply and sanitation. Where the poor cannot afford to pay the full cost of water supply and sanitation services, tariff systems that allow social targeting should be established. Options include transparent subsidy arrangements from public funds and cross-subsidy from other customers.
- Efforts to recover costs should focus on those consumers who use the most water. The authorities that set tariffs should be willing to charge the full cost to users that can afford to pay.
- Transparent subsidies can be applied where appropriate and necessary to preserve ecosystems.

- Subsidies to any water-related activity should be reduced and finally eliminated if they are leading to inefficient use of water or causing negative effects for the environment.

16. Make water attractive for private investment

- In view of the high capital demand for water infrastructure investment, it is necessary to augment public funding by mobilising private funding for water utilities, wastewater treatment, irrigation and other water-related programmes. These could take the form of public-private partnerships, noting that privately-managed service delivery does not imply private ownership of water resources.
- Investors seek confidence that their legal and financial interests are protected for the full contract duration, and that they can recover their investment over time. This implies appropriate regulatory arrangements, transparent contracting procedures, reliable cost recovery mechanisms, and public acceptance of such arrangements. Where there is no track record of successful private investment, pilot projects require additional attention by governments, stakeholders and the international community to ensure that the interests of the water consumers, the environment, and the investors are safeguarded.
- The self help potential of local communities should be used more widely to reduce the financial requirements of rural and urban projects for poverty alleviation. Support should be given to NGOs and others who assist local communities to develop micro-finance capabilities.

17. Increase development assistance to water

- The international donor and lending community should aim to raise the priority that it gives to water in the developing and transition countries. Developed countries which have agreed to, but not yet reached, the agreed UN target for official development assistance of 0.7% of GDP should exert their best efforts to do so.
- Development assistance should be complementary to domestic sources of funding and serve a catalytic role, building capacity and helping local and regional institutions to define their own solutions and models, and creating an enabling environment attractive to potential investors. Private sector participation should not be imposed on developing countries as a conditionality for funding.
- External development assistance for direct provision of water infrastructure and services in developing countries needs to be targeted towards serving the poor (especially the rural poor for whom the prospects of other types of service provision are remoter than in urban areas), preserving the integrity of ecosystems and mitigating the effects of climate variability and change.
- The donor community should use its expertise and leverage to help developing countries to mobilise investment financing from all sources, including commercial ones.

Actions in the Field of Capacity Building and Sharing Knowledge

18. Focus education and training on water wisdom

- Knowledge is the foundation of understanding and decision-making. Shared knowledge, and respect for different forms of knowledge, are the basis for building consensus and resolving conflicts. Decisions can only lead to effective management actions if the actors have the right knowledge and skills. Enhancing human capacities at all levels is a key for wise water management. This needs to be based on integrating the distinct and complementary contributions of local, traditional knowledge, knowledge from different professionals and disciplines and the hands-on experience of practitioners. All can and should learn from each other. Practical actions to build partnerships and create channels for sharing information at all levels are a key first step in developing integrated water management.
- Education and training, both formal and non-formal, should give all people respect for water as a finite, vulnerable and valuable resource. It should make sure that the right skills are in the right place at all levels from local communities to international institutions. This would include technical skills, knowledge of the multiple benefits and ecological services of water, the relevance of sanitation and hygiene, a basic understanding of integrated water resources management as well as new skills in areas such as business management, risk management and community participation.
- Education at all levels should promote a holistic, interdisciplinary approach to water management.
- Human resources development for water should follow a five-pronged approach: education for the formative years (primary and secondary education), vocational training, university education, continuous education and research capacity strengthening. Education and training should be demand-oriented, participatory and hands-on, and make use of information and communications technology, distance learning and institutional twinning arrangements. Training for water professionals should bridge gaps between hitherto separated disciplines such as engineering, economics, hydrology, ecology, gender, and social science. It should include training in participatory approaches and in the realities of the lives of the poor.
- The mass media, traditional media and other avenues of public awareness building, including advertising, should be used to convey the basic messages of good water management and of hygiene and sanitation. Such messages may combine human values with both traditional and modern scientific knowledge.
- The knowledge and skills needed for water management change as new knowledge is generated and new needs emerge. Mechanisms to disseminate knowledge, change curricula, exchange teaching materials and create partnerships between educators and trainers around the world should be developed and funded.

- Concerted actions to enhance the skills of poor people, and especially women, are needed. These should be adapted to local needs and opportunities. NGOs and other civil society organisations often have a special role in such programmes.
- Workers and their Trade Unions should be recognised as an important resource for knowledge, skills and expertise related to water.
- Specific initiatives are needed to create awareness and provide skills and experience to young people. These should create better professional opportunities and bring young people from different parts of the world together to share experience and create mutual respect and understanding. Donor countries should expand programmes for young professionals from around the world to gain hands-on experience, and in particular to work closely with poor communities.

19. Focus research and information management on problem solving

- Knowledge must be shared globally and packaged appropriately for intended target audiences. This includes the provision by all countries of basic data for research and assessment. Information management must provide information to decision-makers at the right time and in a form they understand.
- Research and knowledge sharing on water should contribute more effectively to preventing and solving problems, and follow an holistic interdisciplinary approach.
- Better knowledge is needed everywhere, but always has a price. Knowledge management should focus on quality, not quantity.
- Internationally-accepted indicators on different aspects of water management need to be developed. These should include indicators for the relevant targets in the UN Millennium Declaration and for other relevant national and international goals. These indicators should be developed through participatory processes, including stakeholders from different levels and around the world. The World Water Assessment Programme should take a lead role in the development of these indicators.
- Sharing knowledge through dialogue is often the starting point for developing further collaboration on water management through building trust and mutual understanding. For example, river basin organisations could start with data and knowledge sharing and develop into other activities as and when there is a clear and agreed need.

20. Make water institutions more effective

- Many existing water institutions need to change their focus and their method of addressing challenges, by reorienting their role and structure appropriately.
- Capacity building and technical assistance are among the essential elements for institutional change for integrated water management. This is a long-term process, which should be based on gradual, practical steps. It must be flexible, as needs are constantly changing. Collaboration and international partnerships are particularly needed in many developing countries, where reform is most needed but resources are most limited.

- Specific initiatives to strengthen institutions at the community level, that take ethical issues into account, are essential for empowerment of the poor. This requires both mobilisation at the community level and, where necessary, changes to policies, laws and government organisations to create the enabling environment through which local-level institutions can operate.
- There are many positive experiences of institutional change throughout the developing world. Specific initiatives to develop models of good practice and improve South-South sharing of experiences are needed.
- Successful institutional change and reform depend on the effectiveness of the wider governance environment. Institutional reform programmes should complement governance improvements.

21. Share knowledge and innovative technologies

- Appropriate technologies for the whole range of water resources management and service delivery should be available on an equitable basis to countries and regions experiencing water related problems. They should build on and strengthen existing and innovative knowledge and environmentally friendly technologies.
- Systematic efforts are needed to revive and learn from traditional and indigenous technologies (for example rain water harvesting) around the world.
- The wealth of available experience in all countries and sectors needs to be tapped in a systematic fashion. Donor agencies and industry need to co-operate for the transfer and adaptation of the best available technologies. South-South technical transfer is also important.

Roles

Water-related organisations are moving on from isolation to partnership. This process involves changes to laws, policies and institutional procedures, complemented by actions to build capacities. People and organisations fulfilling a new role must be able to meet their new responsibilities. This is a long process that needs to be properly resourced, for example by guidance in social responsibility or accountability. International partnerships can play a catalytic role in this process.

22. Governments

- Governments, including local government, should more actively play their key role in water governance and drive local, national and international processes of water management reform.
- Governments should consider and, where appropriate, adapt and apply internationally recognised principles to national and local actions, whilst respecting different cultures, traditions and legal frameworks. Governments should play the pivotal role in the mobilisation of financial and human resources, the setting and enforcement of legislation and standards and in the establishment of opportunities and procedures for a broader public participation in water management.
- Many governments are moving away from service provision towards facilitating that provision by others.

23. Local Communities

- People at the local level actively manage many aspects of water resources. They often have a better understanding of the real potential and limitations of their local environment. They can be empowered to meet this role by social mobilisation processes.
- Concerted actions are needed to enhance capacities and knowledge, secure rights, develop leadership, overcome local inequalities and ensure that local communities have access to the technologies and financial and other resources that they need to turn choices into actions.
- Indigenous people often have particular knowledge of the spiritual value of water, which they can share with others.

24. Workers and Trade Unions

- Workers and Trade Unions should be included in participatory forms of decision-making and particularly in joint committees of management and Trade Unions.
- In order to ensure workers' contributions to sustainable water development, core labour standards should be accepted and implemented, particularly those relating to freedom of association.

25. Non-Governmental Organisations

- NGOs should continue to participate in policy making and implementation, including the delivery of services, and to represent the interests of stakeholder groups and the environment. They can play an important role in advocacy and in ensuring the accountability of government and

others. They can also play an important role in creating a link between government and local communities. They should raise awareness and knowledge among their members and constituencies on integrated water management.

- Professional and scientific organisations, with their extensive knowledge and experience, should contribute increasingly to manage water. They should widen their professional scope and engage with more interdisciplinary and cross-sectoral approaches.

26. The Private Sector

- Private companies, ranging from international enterprises to small local service providers and including financial institutions, should contribute more actively to sustainable governance, financing, service provision and capacity building in water.
- Becoming a partner in water services requires recognition of co-responsibility for the common good. Management or ownership of assets carries the obligation to conduct business in a socially, environmentally and ethically acceptable manner.

27. The International Community

- The United Nations and the international community should strengthen their commitment and their efforts to enable developing countries to manage water sustainably.
- Strong partnerships in the international community can be a catalyst for reform and capacity development. In particular, they can help mobilise knowledge and financial and other resources to reduce poverty and create more sustainable forms of water resources management.
- The United Nations should strengthen the coordination and coherence of its activities on water issues in an inclusive manner.