Water resources management: the challenges

Chapter 1

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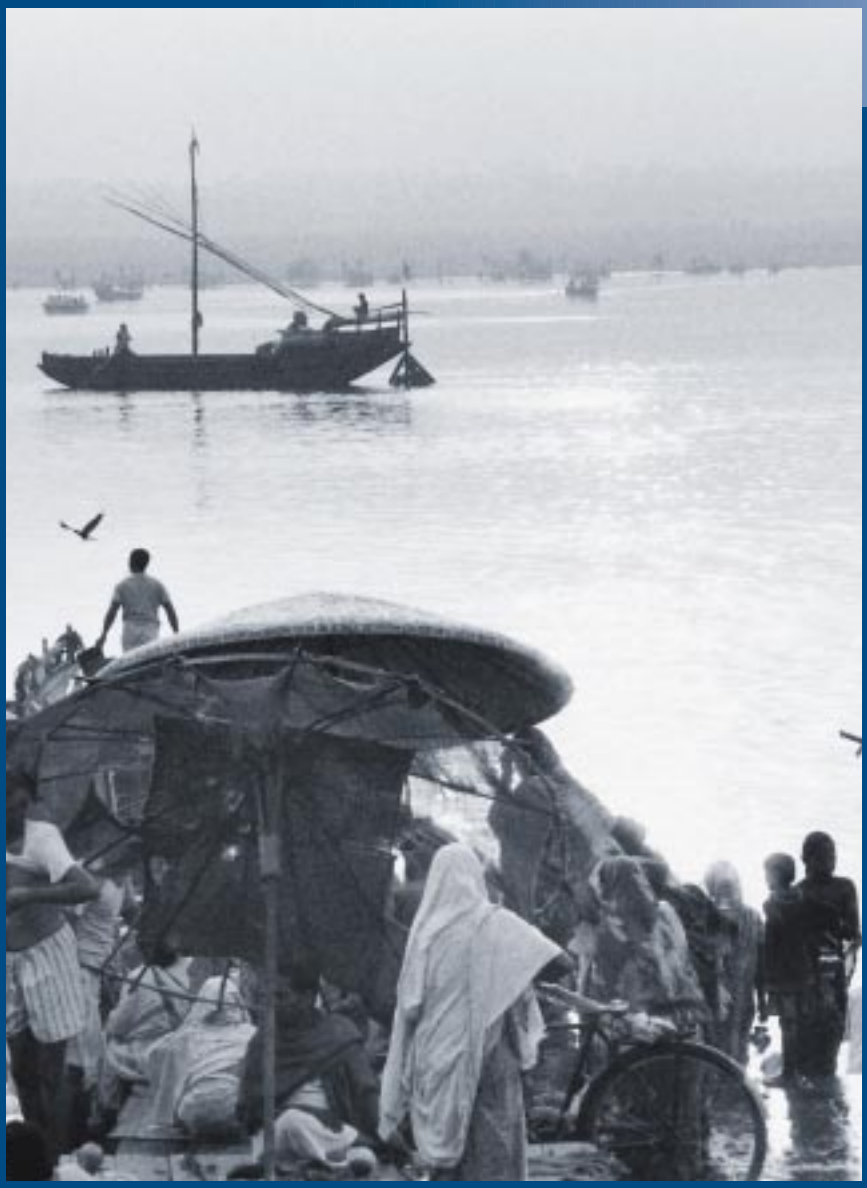
1

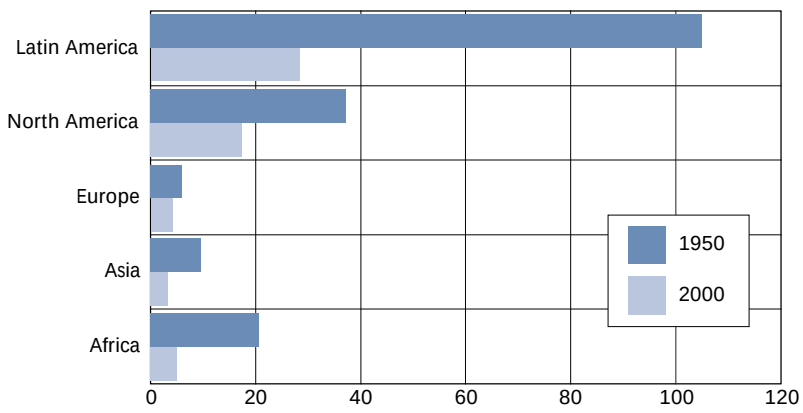
Demands upon the world's finite supply of water pose threats to both the quantity and quality of a commodity essential to human life and health



Water resources management: the challenges

ENVIRONMENTAL STRESSES imposed by population growth, urbanisation and industrialisation have become a prominent theme of international concern in recent years, especially since the 1992 Earth Summit in Rio de Janeiro. One of the natural resources most affected is freshwater. Demands upon the world's finite supply of water pose threats to both the quantity and quality of a commodity essential to social and economic activity of all kinds, and to human life and health. This has conferred on water a new level of political attention, which needs translation into political commitment within and between states to the protection of a vital resource. Current fears concerning climate change merely exacerbate the urgency of the freshwater situation.

There are wide differences regarding availability of water between regions and countries, especially between those in temperate and tropical zones. It is estimated that 230 million people live in 26 countries now classified as water-deficient (mostly in the Middle East, Mediterranean and Sub-Saharan Africa), and the number of affected countries is likely to grow rapidly. Some major urban centres already face serious water shortage and water pollution crises, in which water-dependent agricultural and industrial activity play an important part. Questions relating to water resources management and usage thus cut across many productive and social sectors, including agriculture, fisheries, industry, urban development, energy and public health. At present, few mechanisms exist at suitable levels of government to mediate clashes of interest over water husbandry and use.



Water availability per capita (000m^3 per capita)

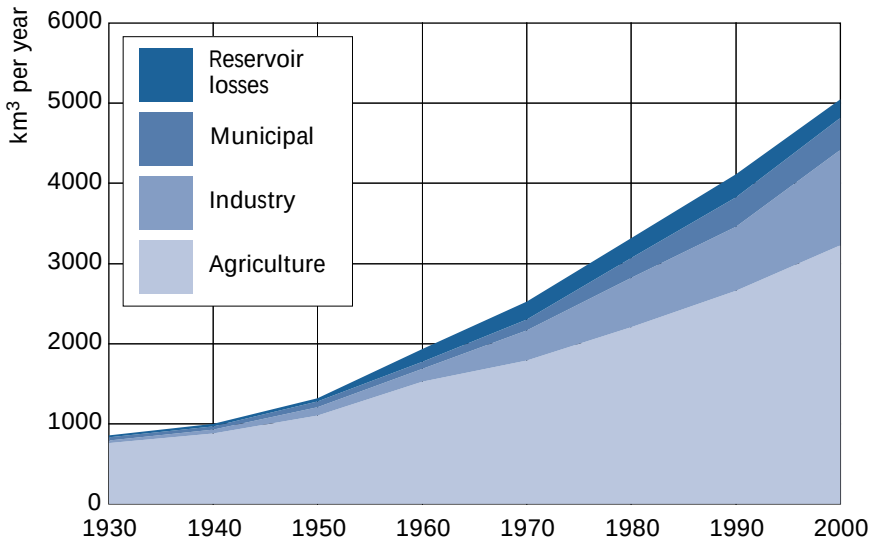
Source: FAO, 1996

There are real prospects of serious disputes within and between states over water resources in the not-too-distant future.

Water's special character as critical to social and economic activity has granted it a special status in belief systems and, in the modern era, in public policy. Freshwater sources have traditionally been regarded as something in which all members of the human community have rights. Where systems for water supply are the product of public health or other types of engineering, they have almost invariably been provided from the administrative purse or heavily subsidised. And the use of water in the various social and economic contexts has typically been unregulated and charges made for it well below operations and maintenance costs.

There are important implications of this in an era of water stress, among which are water profligacy and wasteful, or mismanaged, investments. In the face of shortage and environmental concern, international fora have called for water to be seen as an economic good with a realistic price-tag, whose costs must be met by consumers to ensure sustainability of services. However, a view which upholds water as a commodity to be bought and sold, in which the community and especially its poorer members might thereby lose their rights, cuts across deeply held beliefs and long-established ideologies.

Lack of a holistic perspective regarding water has also led to a very dispersed and confused system of water management. Responsibilities for the management of the resource, and the construction of dams, pipelines, pumping stations, treatment plants, sewerage systems, not to mention their maintenance, are distributed around a variety of administrative departments. There is, in reality, no such thing as a 'water sector'. Water-related activities are positioned within specific sectors and managed by sector-based institutions. Water management thus tends to become lost within sectoral interests whose priorities are elsewhere; they have



Estimated annual world total and by sector *Source: FAO, 1993, The state of food and agricultrure*

to do with economic productivity – such as irrigated crop yield, or to social good – such as disease control. As the water resource is finite and its utilisation needs to be equitable, efficient and planned, all sectoral strands should be interwoven. However, integrated and cross-cutting structures are notoriously difficult for governments and donors to create and administer. Water-related schemes and activities are no exception.

The need to examine in tandem the entire range of uses to which freshwater is put, and to design services which neither squander precious resources nor fail to respect other, competing and complementary, water needs, has only become widely appreciated in the very recent past; its translation into policy and programmatic work is still in an early phase. To respect this new holistic perspective, and work out ways in which to make the management and protection of water resources compatible with the development of systems serving all types of customers, is a vital part of the challenge facing water-related development co-operation today.

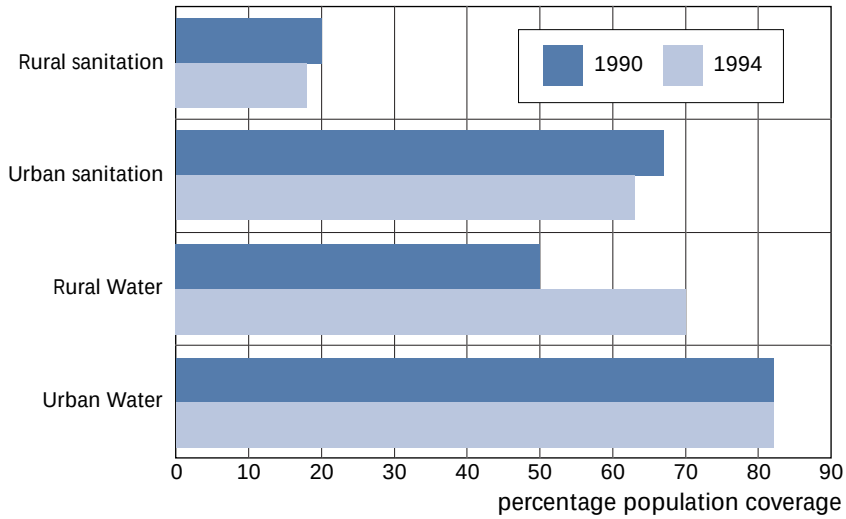
The acceleration of progress in meeting basic water needs

Survival and health

When water first rose to international prominence in the 1970s, it was as one of the 'basic needs' common to all humanity – food, water, shelter, means of livelihood – whose fulfilment had become the stated goal of international development policy. The fulfilment of humankind's basic need for a supply of safe drinking water, as well as for a safe means of disposing of human waste, remains an important part of today's challenge. There has been some progress towards satisfying these two basic needs, but not enough.

Water's special character as critical to social and economic activity has granted it a special status in belief systems and in public policy.

The UN's 'International Drinking Water Supplies and Sanitation Decade' of the 1980s was declared by the UN Water



Global water and sanitation 1990 and 1994

Conference at Mar del Plata in 1977. The Decade focused on the improvement of public health by the expansion of service coverage; its slogan was 'Water and Sanitation for All'. Despite the increase in attention and resources generated by the Decade, achievements in quantifiable terms fell short of stated targets. Only in the context of rural water supplies did coverage progress manage to outstrip population growth and urbanisation. International commitment was reiterated in 1990 to the goal of 'Water and Sanitation for All by the Year 2000', but nobody now expects the goal to be met. One constraint is the lack of adequate internal and external financing for service spread, for which an estimated $50 billion annually would be required. Resources on this scale, whether from internal or external sources, are unlikely to be forthcoming.

Calls for increases in development co-operation for drinking water supply and sanitation systems have been repeated during the 1990s. In the early part of the decade, investments in this area of water-related activity (the only one for which official development assistance – ODA – totals are available) declined as a proportion of ODA, from 8% to 5%. Since ODA as a whole also declined, water and sanitation therefore received a smaller slice of a smaller cake. Since the mid-1990s, support to water and sanitation has increased, albeit modestly, with many European countries raising their contributions. A high proportion of ODA expenditure has traditionally been concentrated in sophisticated urban water supply and sewerage schemes.

Whatever its shortcomings in meeting its quantitative targets, the Water Decade – at least at the theoretical level – changed the face of international development co-operation in domestic water supplies and public health. This was because Water Decade co-operation pointed up previous shortcomings in policy and practice. These included: over-emphasis on costly and sophisticated technology, which produced services beyond the capacity of management bodies to maintain and sustain; lack of any sense of ownership by service stakeholders and users and their consequent neglect; a failure to apply gender analysis and recognise the role of women in water-hauling and their influence over domestic water quality and use; inadequate emphasis on environmental sanitation, and on health education to enable uneducated service users to appreciate the implications of water and waste disposal for family health; and the need for cost-effectiveness in all areas of activity in order to use scarce resources wisely.

Food and livelihoods

Although water is also needed to support other basic needs – especially food and livelihoods – issues relating to the use of water for economic production has not been accorded the same level of discussion and scrutiny. Agriculture uses more water than any other area of human activity, absorbing around two-thirds of withdrawals from rivers, lakes and aquifers; around 40% of the world's harvest is estimated to depend on irrigation. A higher proportion of future gains in food production – 60% – are expected to come from irrigated land, and there is no doubt that future global food supplies cannot be secured without improvements to irrigation efficiency and adequate investment.

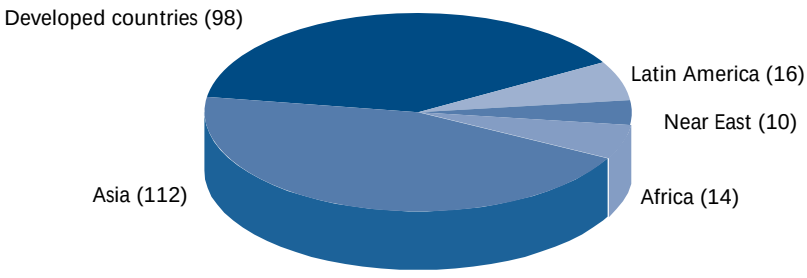
However, donor investments in irrigation have been falling over the past two decades. For example, World Bank investment has fallen dramatically, from US$2.2 billion in 1978 to US$750 million in 1993, and the trend appears to be similar in most external support agencies. This is partly a result of disillusion following past support given

to large-scale construction of dams, canals, and river diversion works. These have gained a poor reputation because of lower than expected economic returns, controversial resettlement programmes, and negative environmental impacts such as soil salinisation and water-logging. Lack of interest in investment in irrigation also stems from low agricultural prices and complacency about the world food supply. The 1996 World Food Summit demonstrated that this complacency was misplaced; concern for world food security is now growing. Environmentally sound ways need to be found of expanding irrigated agricultural production, especially of food, while reducing water use.

Although less pertinent to the fulfilment of basic needs, the growth of industrial and manufacturing processes which depend on water cannot be left out of the picture. In many parts of the developing world, industrial usage of water is rising rapidly alongside the urbanisation process. Not only does this impose conflicts of interest over water flow volumes between urban users and farming populations; it can also create severe problems of downstream pollution with far-reaching implications for rural livelihoods and public health. The necessary investments in wastewater treatment – which is seriously under-funded – and the need faced by cities to tap freshwater resources from ever further distances are causing costs to rise and the potential for conflicts between agricultural and industrial users to grow.

The Water Decade changed the face of international development co-operation in domestic water supplies and public health

The challenge, therefore, in terms of accelerating the provision of water services to satisfy basic human needs is not simply one of maintaining a high profile for water needs and reversing the political trend which has led to under-resourcing. It includes absorbing the lessons learned from past mistakes, many of which were highlighted by the Water Decade; it also means addressing



figures in brackets million hectares

Irrigated area by region, 1990

Source: FAO, 1996

all uses of water – agricultural and industrial, as well as human survival and public health – within one strategic approach, and identifying a common set of principles to guide that overall approach and sectoral sub-sets of it.

International thinking on water: the consensus

A number of concerns, in addition to those surfacing as a consequence of the Water Decade, have subsequently exerted a significant influence on international thinking about water. Some – such as environmental stresses, water scarcity and potential conflict – have already been touched upon. Others also need to be mentioned as part of the context of the new international consensus on water.

The end of the Cold War has provided lasting reverberations in international affairs, including changes in the climate surrounding development co-operation. Economic, environmental and 'common good' arguments have come to assume more importance, both in the justification of development co-operation *per se*, and in the nature of the development approaches favoured by donors. Concern with poverty reduction, democracy and human rights have also increased the emphasis on equity and participatory approaches. The expression of concern has not however been translated into increased levels of ODA, which has been subject to budgetary pressures and undergone a decline.

At the same time, the disappointing results of much development co-operation, coupled with similar disappointments associated with structural adjustment programmes, has led to systemic analysis of the context and modalities of development co-operation. The need for efficacy and cost-effectiveness in the application of ODA resources, both from the perspective of intended beneficiaries and from that of donors, has become compelling for pragmatic reasons, independently of the changing geopolitical and ideological framework.

Although the overall purpose of development co-operation remains the same – to redress imbalances and create opportunities in favour of the world's underprivileged and underserved – a number of new concerns have emerged. Without engagement with these, the overall purpose of co-operation in development is regarded by key international donors as unattainable. These include the need for good governance, institutional reform, administrative decentralisation, participation and involvement of civil society and the private sector. Conditionalities associated with development co-operation today relate to this new paradigm. Its parameters are as pertinent for water-related development co-operation as for other areas, and the new international thinking on water has taken them on board; respect for them is an integral part of these Guidelines.

While the debate on water in the 1980s was largely focused on water and sanitation as adjuncts to public health, in the 1990s the scope of the debate dramatically expanded and the wider focus became the management and use of water as part of environmental protection and sustainable development. The lessons concerning water for meeting basic needs learned during the 1980s, especially the public health lessons, were still prominent. But the consensus surrounding those lessons began to merge with a wider consensus embracing water resources management generally, and reflecting environmental and economic concerns as well as good governance and the other elements of the post-Cold War development paradigm.

Thus a number of overlapping and complementary trends have prompted a search for a new and holistic approach

for water resources management. The approach needs to encompass environmentally-sound water management; food security especially among the poor; appropriate technology; private sector involvement; reduction of subsidies; decentralisation of decision-making to the lowest appropriate administrative level; user participation in services; reform of institutions and regulatory frameworks; and cost recovery and pricing.

The backbone of the consensus

The backbone of this consensus is expressed in the key principles articulated at international meetings held in Copenhagen (the Copenhagen Informal Consultation on Integrated Water Resources Development and Management, November 1991), and Dublin (the International Conference on Water and the Environment, January 1992), in the run-up to the Earth Summit. Their expression at Dublin was as described in the box below. The Dublin principles formed the basis of Chapter 18 (on freshwater resources) of the Earth Summit's key discussion document, Agenda 21. Chapter 18 identified seven focus areas for action (see box).

These principles were subsequently endorsed and an Action Plan prepared at the post-Rio Ministerial meeting on water and sanitation at Noordwijk in the Netherlands (1994). They have been consistently cited by all the major international organisations involved in water-related development policy, including the Development Assistance Committee (DAC) of the OECD. Although there is continuing debate on some – for example, whether water should be regarded as an 'economic good' – there is broad consensus around them, and a stated determination to identify actions consistent with their implementation within a framework of integrated water resources management.

The drive to operationalise these principles was given new force by the UN General Assembly Special Session (UNGASS) in June 1997, which called for urgent action in the field of freshwater. EU member states and the EC supported a freshwater initiative whose first

Dublin Principals

- Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment.
- Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels.
- Women play a central part in the provision, management and safeguarding of water.
- Water has an economic value in all its competing uses and should be recognised as an economic good.

Agenda 21

- Ensure the integrated management and development of water resources.
- Assess water quality, supply and demand.
- Protect water resource quality and aquatic eco-systems.
- Improve drinking water supply and sanitation.
- Ensure sustainable water supply and use for cities.
- Manage water resources for sustainable food production and development.
- Assess the impact of climate change on water resources.

manifestation was an Expert Group Meeting in Harare, Zimbabwe, in January 1998. In March 1998, an International Conference on Water and Sustainable Development held in Paris developed a Programme for Priority Actions. In April 1998, the 6th session of the UN Commission on Sustainable Development (UNCSD) held in New York made recommendations on comprehensive strategic approaches to freshwater management.

These recent discussions at the macro level indicate that water is indeed gaining international political ground. However, much more effort is needed before the consensus can be said to have been widely translated into practical action on the ground. In particular, as was pointed out by UNGASS in 1997, intergovernmental statements of intent regarding freshwater will only yield fruit in terms of the necessary policy and institutional restructuring at national level if the international community is willing to provide additional financial resources to support its recommendations.

Nonetheless, the international unanimity of vision concerning water is an important feature of the policy-making environment. It gives force and recognition to the view that 'more of the same' approaches applied in the past are unsustainable. Not only do such approaches fail to address water scarcity and environmental issues; they lead to a wider gap between served and unserved populations. The challenge now is to translate the consensus within the international community concerning water from a rhetorical to a practical existence.

There is still a gap between ideas and actions endorsed in the macro-level debate, and their translation into policy-making structures and programmes in developing country settings. Some projects stand out as beacons illuminating potential new directions. But many programmatic activities and projects are only just beginning to address the new list of concerns or have implemented only a handful. These Guidelines are intended to help the process along where it matters most, in locations where absence of services, or service inefficiency, unsuitability, or unsustainability have had damaging effects on people and communities.

The promotion of river basin co-operation

The theme of integrated water resources management has led to the promotion of the river basin as the logical geographical unit for its practical realisation, notably by the EU, the World Bank and the Asian Development Bank. The river basin offers many advantages for strategic planning, particularly at higher levels of government, though difficulties should not be underestimated. Groundwater aquifers frequently cross catchment boundaries, and more problematically, river basins rarely conform to existing administrative entities or structures. Although river basin organisations should not be seen as a panacea, they do provide a sound geographical basis for integrated water management.

In many parts of the developing world, major rivers run through two or more countries and their transboundary character complicates the practicalities of river basin management. Water sharing between states through which run such major rivers as the Ganges, Nile, Jordan and Mekong is self-evidently an important political and strategic issue for the states concerned. There have been in the past too many instances of projects designed to meet national objectives which ignore their

Middle East Water Data Banks Project

A Multilateral Working Group on Water Resources is one of five such groups set up within the context of the Middle East Peace Process to promote regional co-operation between the Core Parties (Palestinians, Jordanians and Israelis). A Regional Water Data Banks Plan to improve availability of data for water managers, planners and operators was agreed by the delegates in 1994, as was the establishment of an Executive Action Team (EXACT) to assist in the co-ordination of the plan. EXACT was formed in 1995 and is composed of two representatives of each of the Core Parties as members, and two representatives from four other parties as facilitators: European Commission, US, Canada and France. EXACT is expected to provide technical oversight of the Water Data Banks Plan.

The general objective of the Plan is to create, in the case of the Palestinians and to enhance, in the case of the Jordanians and Israelis, a hydrometric data base facility, including meteorological, hydrological, hydro-geological and water quality data. Activities in the following areas are foreseen: communications and information, network review/evaluation, field data collection, laboratory analysis, data bank quality assurance and quality control. The Implementation Plan has 40 recommendations, one of which relates to specific assistance to the Palestinians and the other thirty-nine to all three Core Parties.

The aim of the project is to facilitate the execution, in whole or part, of 14 of the 40 recommendations. The main activities are the development of a hydrological bulletin, identifying and inputting historical, meteorological and water quality data. The project includes technical assistance, training and provision of equipment.

The Core Parties have expressed an interest in extending activities undertaken under the auspices of EXACT. Particular areas include: analysis of wastewater quality and quantity; installation of additional field measurement equipment including advanced data collection and transmission equipment; and training in data analysis.

impacts on the river basin as a whole and neglect the potentially conflicting needs of downstream users in other national or – in federal countries – sub-national states. The recent Convention on the Non-navigational Use of International Water Courses (April 1997) provides a basis for establishing common rights in transboundary rivers and a framework for the management of international river systems.

In March 1998, a Round Table was held in Petersberg, Germany, on Co-operation for Transboundary Water Management, which produced the Petersberg Declaration. The Round Table focused on instruments to support the use of water as a catalyst for regional co-operation rather than as a source of potential conflict. The importance of mechanisms for promoting river basin co-operation is becoming more widely recognised, and is reflected in support for the International Network of River Basin Organisations (INBO).

The creation of new partnerships

Until the recent past, water service provision has been primarily the exclusive concern of governments and municipal authorities, in accordance with standard philosophies and belief systems concerning a 'free' commodity essential to human life. However, the record of government-delivered services in some settings, coupled with the new appreciation of water's scarcity and value, and with the shortage of resources for extending services, have led to a reappraisal of potential actors and their roles. The building of alliances and partnerships with a wide range of stakeholders has become a theme familiar within development co-operation for water-related activity, as in other areas.

The commercial private sector

From the programming perspective, one of the actors whose growing role is highly significant is the commercial private sector, especially private water companies. The last decade has seen a reaction in many countries against the state as the automatically preferred owner and operator of water-related services, including sewerage and irrigation works. There is now wider appreciation that the traditional water department or public utility mode of supply is only one of a range of options.

The theme of public sector/private sector partnerships, with government assuming a facilitating and regulatory role instead of an all-providing role, and of privatisation of some part of service delivery, constantly re-occurs in water policy statements. The popularity of this theme can be credited to the promise held out that involvement of the private commercial sector helps to overcome such widespread problems as budgetary shortages, poor management and lack of cost recovery. Governments have concluded that delegation of the management of public services to private companies offers a potential solution to financial constraints and systemic problems of inefficiency.

Among the shortcomings of publicly-owned and -run utilities is that, beyond the stage of implementing projects funded, or supported, by donors, they typically commit inadequate resources to future operation and maintenance. These bodies may, in addition, suffer from weak technical know-how and managerial capacity to run the new infrastructures effectively. Meanwhile, tariffs for service provision are often set at uneconomic levels; there is extensive illegal 'leakage' from systems; and even existing tariffs are not collected. Within a few years, service infrastructures may fall into disrepair and become unsustainable. Unless specifically mandated to do so, water authorities – especially in urban areas – are often already deficient in reaching poorer communities; the prospects of their doing so are reduced where they are uneconomic in serving better-off communities and cannot generate a surplus.

There are many alternative options to full public ownership and operation of water agencies, involving a greater or lesser degree of participation by the private commercial sector. These options can be ranged along a spectrum at one end of which the government retains full responsibility for operations, maintenance, capital investment, financing and commercial risk; at the other end of the spectrum, these responsibilities have been devolved to autonomous, commercialised utilities or companies. In between are situations whereby the management of existing systems, or the construction of new installations, has been organised

through private operators under various kinds of contractual arrangements including leases (*affermage*), concessions and build-own-operate-transfer schemes.

Most of these options apply principally in the context of municipal water and wastewater treatment, and also in the context of major irrigation works and environmental, including leisure and transport, waterway management. The role of the public authorities as regulator is to ensure equity, and monitor subsidy levels and the tariffs paid by water consumers. The public authorities are also responsible for determining, or at least approving, investments to be made, and for ensuring the control of private management within the framework of partnership and a clear separation of roles.

The community-based and informal 'private sector'

Unless specific efforts are made to increase service coverage to poor and underserved communities, their domestic needs usually remain unmet by expansions of conventional water supply and sewerage schemes. Many governments undertake or facilitate such special efforts for rural areas; less often for urban areas. These rural schemes are frequently supported – even made possible – by development co-operation funds supplied by bilateral agencies, UN and other multilateral sources including EC, or by international NGOs. Their effectiveness often depends on partnership with local community-based organisations, whether administrative entities – such as Village Councils – or non-governmental; sometimes both.

The record of government-delivered services, and the new appreciation of water's scarcity and value, have led to a reappraisal of potential actors and their roles.

Local NGOs and their international counterparts have attracted considerable attention in the recent past because of their relative effectiveness in reaching

South India case study: NGOs as intermediaries in transferring service maintenance

Extensive breakdown of handpumps in Visakhapatnam District in Andra Pradesh led to an NGO initiative in the early 1990s to transfer maintenance responsibilities from the district government to local communities. Oxfam, the British NGO WaterAid, and Viswasamakya, a 15-member local NGO network, were involved.

The local NGOs worked with communities to establish water and sanitation committees, to be responsible for establishing a water fund to pay for handpump repairs. This required reversing the previous local understanding that the government was exclusively responsible for handpump maintenance. Village mechanics were trained by government mechanics to carry out repairs, and in an interim period, were paid a stipend for repair work by the NGOs. Eventually, they are expected to become self-employed, remunerated by the water committees.

Within three years, 400 water committees were formed, and 50 had raised local funds. In 1996/97 2,000 pumps were repaired. The community infrastructure for repairs and maintenance is now in place. The outstanding question is whether it can be successfully sustained over the long term.

the poor and their knowledge and experience of working closely with communities. They also have a reputation – in many cases deserved – of achieving much with little, and their methods have therefore attracted attention for cost-efficiency reasons. Certainly without the work of NGOs, the willingness and ability to pay for water supplies (and occasionally, for sanitation) found even in the most economically marginal of communities would probably still be unrecognised. Because of the pioneering role they have played in demonstrating the practicability of user participation in the management of all kinds of community improvement schemes – including food production, catchment dams, small-scale irrigation, disease control and public health – NGOs are now regarded as part of the mainstream in water development co-operation. However, the size of their contribution is proportionately small, and not all are equipped to operate effectively without technical support.

Thus, although the involvement of the 'private sector' is also advocated internationally as a way of reaching poorer communities with basic water supply and sanitation services with little additional administrative expenditure, the participation of civil society implies the involvement of a very different kind of 'private sector'. Their motivation is community benefit; commercial profit plays almost no role except at a very marginal economic level: for example, in the manufacture by village artisans of latrines. Indeed, the lack of opportunity for cost recovery which is often perceived as an automatic corollary of expanding services for the poor is the reason for the dependence of many developing country governments on external co-operation for such schemes. Even those which do involve user fees and participatory management still require governmental or extra-governmental support for components such as human resources and capacity building by local government departments and appropriate NGOs.

Some schemes are operated by NGOs and community associations independently of government-run services and without their support, albeit with their knowledge and within an established framework. But these are in the minority; local community associations more often occupy a partnership role with the authorities on the one hand, and private commercial mini-enterprises on the other. Their importance is that they have recognised that, even among the poorest communities, cost recovery is needed to provide services and ensure efficient O&M; and they have managed to develop user fee systems. In some cases this is in contrast to official bodies who go on providing free or heavily subsidised services on grounds of 'public good' while often failing to serve the poor. As in the case of the private sector, the challenge here is to recognise the potential of partnerships with NGOs and incorporate their role appropriately into project design and implementation.

In towns and cities, the informal private service sector plays a supplementary role. Residents of slums and shanty-towns often have to fend for themselves outside the purview of government services; their water is often supplied by small-time vendors and water-carriers, and human waste disposal services are operated by 'sweepers' or carters. The fact that those they provide with water (or sanitation) often pay for the service at rates more expensive than rates charged to customers receiving subsidised mains services is often cited as proof that the poor can, and will, pay for water supplies and/or sanitation. In reality, they have no alternative to dependence on informal sector provision; this 'willingness to pay' is

rarely, if ever, the basis for investment by authorities and formal sector companies in such areas. Meanwhile, the private service providers who do supply them are unregulated and often exploitative.

There is undoubtedly scope for the incorporation of manufacturers and suppliers in the informal private service sector into basic water supply and sanitation services, and into small-scale irrigation schemes. A range of artisans, masons, mechanics, tubewell-sinkers and local handymen are involved in informal public health and agricultural water use occupations. The challenge is to build on their existing skills, and incorporate their activities into programmatic and project frameworks in an appropriate, equitable, and well-regulated manner. As in the case of the private commercial sector, it is necessary to ensure that the participation of the informal sector is not exploitative, and supports rather than supplants efforts to extend good quality services to poor and underserved communities.

Multilateral donors including the UN system

The member countries of the European Union are among the largest donors to development co-operation, both bilaterally and through multilateral channels including the EC. Many European countries have longstanding experience in the developing world and close historical ties with many countries and regions where water-related issues are critical. Countries in Africa, the Caribbean and the Pacific (ACP) have an innovative partnership arrangement with the EU under the Lomé Convention. This unique relationship enables a shared vision of policy priorities to be promoted. *(See Part III, EC Resources.)*

The most influential multilateral lending organisation offering support to water resources development and management is the World Bank. The Bank is active within the full range of economic and social water-related sectors and has been a leading exponent of the new agenda in water policy. The World Bank's own water policy emphasises the adoption of a comprehensive policy framework, decentralised management of services, economic pricing of water, and greater participation by stakeholders. A major role is foreseen for community organisations and the private sector in planning, financing and delivering services. The regional Development Banks echo the World Bank prescriptions, with a regional focus.

Some official bodies go on providing a free or heavily subsidised service on grounds of 'public good' while failing to serve the poor.

By its declaration of an International Drinking Water Supply and Sanitation Decade (1981-90), the UN acted as catalyst in promoting the international drive for improved basic water supply and sanitation services. The 'Water Decade' was spearheaded by the UN Development Programme (UNDP), and a number of other UN organisations actively participated. Since the UN Conference for Environment and Development – the 1992 Earth Summit – which precipitated a major re-thinking about water as an essential natural resource, the UN has also provided the key fora in which the new agenda for water resources management has been articulated. After the Earth Summit it set up a new international mechanism, the UN Commission for Sustainable Development (UNCSD), in which the interrelated dimensions of water management and environmental sustainability can be addressed.

Within the UN system, a number of funds, programmes and specialised agencies have long been involved in some way with water-related activity, usually by providing technical expertise or material assistance to projects of different kinds. At the highest level, UN involvement in water is co-ordinated by the Administrative Committee on Coordination (ACC) Subcommittee on Water Resources, to which the Department for Economic and Social Affairs (DESA) functions as Secretariat. UN organisations offer a range of partnership possibilities with other multilateral and bilateral donors in all areas of programming. The full range of UN involvement in water is very broad; only the particular concerns of the principal organisations and frameworks are highlighted here.

The key players are: UNDP, (economic production, technology and infrastructure); World Health Organisation (WHO) and UNICEF (the UN Children's Fund), (public health and community development); the UN Environment Programme (UNEP) and UNCSD, (environmental considerations); the UN Educational, Scientific and Cultural Organisation (UNESCO) and the World Meteorological Organisation (WMO), (hydrology and climate); the Food and Agriculture Organisation (FAO) and the International Fund for Agricultural Development (IFAD) (water use in agriculture). In keeping with their mandates and operational modalities, UN organisations interact with the governmental policy-making and administrative apparatus at different levels, some only at the macro level, a few right down to micro. There are obvious areas of joint concern, most conspicuously in the context of basic human needs, infrastructure, community development, food security and public health.

All of the UN organisations' water policies subscribe to the Rio principles and nowadays position their activities within the 'sustainable development' framework. All equally echo the need for a comprehensive policy towards water which considers the protection of the resource, and its management and use in the light of competing requirements. There have also been a number of joint initiatives between UN organisations, often with World Bank partnership. The Water Supply and Sanitation Collaborative Council, set up in 1991 in the follow-up to the Water Decade, has a wide-ranging membership and enables governmental and non-governmental players to take part in the ongoing policy debate.

International networks and expert bodies

A number of other international and national bodies exist which can offer research and technical assistance in the course of development co-operation activity relating to water. Many countries have 'centres of excellence', whose specialists, research programmes and training courses are designed to make the latest technical and operational information available to those involved in water-related programming activity. Other categories include partnership and networking bodies, such as the Water Supply and Sanitation Collaborative Council mentioned above; the international NGO community; and academic and scientific institutes based in different parts of the world acting as repositories of technical and professional expertise.

The most notable recent international networking initiative is the establishment of the Global Water Partnership (GWP), supported by international and bilateral funds, with Secretariat support from Swedish SIDA. The GWP was set up in response to the

Dublin and Rio conferences to encourage members to adopt consistent and complementary policies and programmes for water resources management. It provides a forum in which to share information and experience, offer technical advice, and facilitate collaboration among partners. Another recently established partnership mechanism is the World Water Council (WWC). The Council acts as a think-tank, to promote awareness at all levels, including the highest decision-making level, of critical water issues and their relationship to environmental sustainability.

A number of academic institutes and research centres have an influence on the direction taken by international agencies and governments; they, or experts employed by them, are frequently sub-contracted to contribute their expertise in policy-making or technical contexts. Some of these are at the forefront of innovative solutions and consciousness raising; a number run training programmes for engineers and other specialists from developing countries, and thereby help to promote 'best practice'. Ultimately many 'centres of excellence' associated with water resources management disciplines influence the international water agenda, but there is no single institution that covers water in its entirety.

Among the variety of experts and practitioners associated with organisations which contribute to programmes and projects, consultants of different kinds have an important role to play. Sophisticated technical expertise, only available at the international level or from 'centres of excellence', may be one obvious requirement. But sometimes the missing skills or knowledge gap is actually at the micro-level. Programme or project implementation, especially in the early critical stages, can be facilitated by the involvement of consultants from NGOs or neighbouring countries with extensive experience of – for example – health education, capacity-building among user groups, or project support communications and social mobilisation techniques.

Different perspectives: North and South

Climatic conditions and water priorities

The 'new' idea that water must be seen as a highly-prized commodity is far from new to the majority of developing countries

Although there is evidence of a global consensus on the critical importance of water there are nonetheless wide differences between regions – and within them – concerning the priority issues. At the global level, this is reflected in a broad dichotomy of view between North and South about priorities.

The 'new' idea that water must be seen as a highly-prized commodity – an idea which has only recently come to dominate international thinking – is far from new to the majority of developing countries. Many are located in semi-arid areas, have semi-arid regions within their borders, or suffer from dry and wet season extremes. In some – India, Iraq, Sri Lanka, China and others – ancient civilisations were built upon hydraulic engineering to manage water flows, and water management remains central to social, political, and spiritual life. Problems of water scarcity, and of over-abundance at times of seasonal flood, are a day-to-day reality. Water has always carried political weight; its management and conservation are clearly essential to development and all economic policies

take water needs into account.

Of the OECD countries only Australia, Mexico, Western USA and parts of southern Europe experience water stress problems similar to those of many developing countries – and they have the resources to resolve them. Most industrialised countries are situated in temperate zones; until recently, they have taken their water supply for granted and its volume has not been a matter of concern except on occasion of temporary flood or drought. This lack of industrialised world concern long influenced international attitudes; the 1987 Brundtland Commission Report on environment and development – *Our Common Future* – did not even consider water resources as an issue. By the time of the 1992 UN Earth Summit at Rio de Janeiro, attitudes had begun to change, but mainly because of water quality concerns. Although water was not prominently discussed, the inclusion of a chapter on Freshwater Resources in Agenda 21, the key Summit document, did provide a catalyst for future action.

Although water scarcity and seasonal flood remain the priority issues for much of the developing world, quality issues are beginning to intrude on their agenda, just as scarcity issues are becoming more prominent in parts of the industrialised world. Rapid population growth in the South and an even more rapid process of urbanisation have recently exerted new pressures on what is fast becoming an over-stretched resource. Cities in the Middle East, Asia and Latin America are facing critical water problems as a result of overload on sources, improper waste disposal, contamination of rivers and streams and the reckless extraction of water from depleted aquifers. Agriculture remains the major water user in many countries and the diversion of water to other uses has implications for agriculture and food security. In addition, the discharge of increasing volumes of untreated waste water from towns and cities into rivers has downstream implications for agriculture and rural life.

While welcoming an overdue recognition of the importance of water at the international level, some professionals in the developing world have had reservations about the sudden pre-occupation of the industrialised world with environmental issues generally. The expression of these concerns has appeared to demand the imposition of constraints on the exploitation of the natural environment to which the developed countries were not subjected during their own industrialisation process. Since the Earth Summit, the views of North and South have moved closer together, but reservations towards blanket prescriptions about resource management have not entirely disappeared. These need to be taken into account, and underscore the challenge of matching an international consensus on principles to the realities of local situations.

Implications for water policy

Contained within the international consensus on the principles that should govern the response, is the recognition that problems must be identified according to the local context and solutions developed which take local particularities into account. However, the implications of putting into effect some of the most important features of the international consensus – given the particularities of water realities in the developing world – have not always been given due recognition by donors. The growth of international unanimity of view does not preclude – indeed it demands – flexibility concerning the

practical application of policy principles. Universalist programmatic models need to be abandoned, or the principles themselves will be repudiated.

In the context of development co-operation, the implications of issues given emphasis by donors, such as institutional reform, realistic pricing and user participation in service management, have ramifications – especially political ramifications – which pose special problems to many recipient country governments. Many still need to be persuaded that measures which clash with customary views about rights, or which undercut entrenched interests and existing systems of administration, are ultimately in their best interests. There are also significant technical and resource constraint differences affecting the means whereby and degree to which the consensus emerging at the international level can be made operational. Factors such as climate, hydrology, terrain, human settlement patterns, infrastructural capacity, investment requirements and sources, economic considerations, and the socio-cultural setting all have to be taken into account. These factors help to explain why there is so far a much stronger rhetorical commitment to the Dublin and Rio principles than there is evidence of their practical realisation on the ground.

Developing countries tend to be more concerned with increasing supplies through new infrastructure rather than with water efficiency or managing water demand, and traditionally seek support from the donor community for infrastructure projects; indeed they fear that the new agenda around which international – which is primarily donor-driven – consensus has coalesced will lead to a reduction in capital investment for such projects.

Officials are becoming more aware of the need to manage resources efficiently, and that the construction of new infrastructure has to take into account environmental and social impacts, and the fundamental need for systems to be economically viable for maintenance purposes. However, they may be inhibited by the political implications of such a change. Realistic water pricing is likely to be very unpopular among those with service connections, and however essential, the introduction of fees may therefore be politically painful. Therefore, they may continue to rely on donors to fund water projects desperately needed for the enhancement of supplies or coverage, but be reluctant to address the longer-term problems. Given these difficulties, reconciling the views of donors towards cost recovery with those of recipients is a major challenge.

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Likewise, there may be differences of view concerning the involvement of the private sector. A perception has developed that donors regard the turning over of state-run water-related functions to the private sector as a panacea for efficiency gains. Many developing country governments are wary of so doing. In parts of Asia and in Latin America, the private sector is relatively developed; elsewhere, it is weak and poorly regulated. Apart from the desire not to relinquish power over a valued asset, it may genuinely be the

case that transfer to the private sector is either not viable or undesirable. Where regulation is limited or unenforceable, an uncontrolled private sector can be predatory, exploiting the vulnerability of the poor. At present, up to 30% of urban dwellers in the developing world buy their water from unregulated vendors at several times the cost of water from a mains supply; this situation needs to be redeemed not administratively reinforced.

While there is clear evidence that, under regulation, some kind of private sector involvement is beneficial to users, different circumstances have to be taken into account. This also applies to the involvement of community-based organisations in management of services. The ability of small-scale farmer associations and village groups to manage complex water schemes without expert help is limited. Their capacity is confined to the management of low-level technologies, such as small catchment dams, gravity-flow schemes, rainwater harvesting, handpumps and simple sewerage systems. Through the mediation of NGOs and sympathetic water authorities, such approaches have been successfully implemented in many parts of the developing world. However, they are very difficult to bring into a systematic area-wide or nation-wide framework.

For many reasons, therefore, developing country governments consider water resources planning and management to be a central part of government responsibility. This view is consistent with the international consensus that promotes the concept of government as facilitator and regulator. The challenge is to reach mutual agreement about the level at which, in any specific instance, government responsibility should cease, or be partnered by autonomous water services management bodies and/or community-based organisations.