

WATER NEWSLETTER

Developments in water, sanitation and environment

WATER NEWSLETTER: IRC Newsletter gets a new face and a new name

Through the years collaboration and a team spirit within the water and sanitation sector have resulted in increased effectiveness and important partnerships. These partnerships are based on the exchange of information and experiences. In response to the need for the dissemination of sector information and experiences to a growing audience, the IRC Newsletter has gradually broadened its scope and evolved into a sector newsletter. Its importance in this respect can be seen by the use of the Newsletter by the Water Supply and Sanitation Collaborative Council since 1993 to report on its activities. IRC has chosen its 25th anniversary this year to rename its newsletter *Water Newsletter* to reflect this change.

The first major event in the sector this year was a Ministerial Conference on Drinking Water and Environmental Sanitation, in which IRC was involved. The Conference was hosted by the Netherlands Minister of the Environment in Noordwijk, the Netherlands on 22 and 23 March. IRC celebrated its anniversary at that time. What better occasion than this, to launch the new *Water Newsletter* with a special double issue devoted to the Conference?



SPECIAL ISSUE: IMPLEMENTING AGENDA 21: Ministerial Conference on Drinking Water and Environmental Sanitation

On the initiative of the Netherlands Government, a Ministerial Conference *IMPLEMENTING AGENDA 21: Drinking Water and Environmental Sanitation* was hosted by the Minister of Housing, Physical Planning and the Environment (VROM) in Noordwijk, the Netherlands, on 22 and 23 March. The Conference was attended by over 300 representatives from some 60 countries and 20 organizations. The purpose of the conference was to give water a higher place on the political agenda and to mobilize interest of ministers and trigger their active support for follow-up action at the policy level to the recommendations contained in Chapter 18 (the freshwater chapter) of UNCED's Agenda 21.

Preparation

The preparatory work for the Conference was carried out under the mandate and guidance of an International Steering Committee comprised of some 48 members representing 29 countries and agencies. UNICEF contributed to the process with its experience in the World Summit for Children.

The process of developing the Conference's six theme papers was a participatory one: some 120 expert resource persons and 35 resource institutions from all parts of the world were invited to contribute summary ideas and insights from the field. These ideas were grouped into six main themes, which formed the basis for the Conference's background papers: *Putting Agenda 21 to Work*, an

advocacy paper prepared by Mr. Peter McIntyre, *Achievements and Challenges*, a state-of-the-art paper by IRC, compiled and written by Mr. Amin Kassam, and three policy papers on *Effectiveness* by Mr. Colin Glennie, *Finance* by Dr. J. Majumdar, *Collaboration* by Dr. Hafiz Pasha, and *Synthesis*, a paper synthesizing Effectiveness, Finance and Collaboration, by Mr. John M. Kalbermatten. The papers were prepared to help the participants of the Conference to convert the commitments of their governments at the Earth Summit in Rio de Janeiro, Brazil, into strategies and actions for achieving accelerated progress in the critical areas of water supply and environmental sanitation. The results of this process convey a clear message: "Business as usual" is a losing option", and "Governments don't solve problems, people do", as UNICEF's Colin Glennie so aptly put it.

The key points from the resource and background papers that were prepared for the Conference, as well as the resulting Political Statement and a brief summary of the Action Programme follow. The Action Programme will be described in more detail in the next issue of the Water Newsletter.

PUTTING AGENDA 21 TO WORK

The environment is everyone's business and its protection ultimately depends on individual and group actions on a daily basis. Yet the ability of men and women to protect their environment is often thwarted by a counter-



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environment - of poverty and powerlessness, disabling bureaucracy and confounding legislation, outdated policies and vested interests, waste and ineffectiveness. This is particularly the case with what is for millions the biggest environmental issue of all - access to and protection of water.

Who can change this counter-environment? Never before has the survival and development of the world's peoples depended so much on the leadership and effectiveness of a relatively small group of national and global leaders - leaders who can release the problem-solving energy and resources of millions by even a few simple actions. That group met in Rio de Janeiro in June 1992 and a significant part of it met in Noordwijk. The men and women of each country, the stakeholders in planet Earth, the voters, are interested to know what the members of this group are doing to implement the commitments of Rio. In some countries, effective action is already in progress; in others not much has happened. In either case, this conference, and especially the subsequent country level actions, serve to reassure the people that their leaders meant business at Rio.

For the cost of not taking action is very high indeed - not only in wasted resources and perpetuated human drudgery and disease, but also in irreversible damage to the limited water resources of our planet, resources that sustain life itself. The cost can be catastrophic in political terms, too, as environmental inaction brings an increasing risk of electoral rejection. 'Business as usual' is certainly a losing option! There are two visions of the future. In one, water and sanitation problems are overcome, and sustainable development becomes possible. In the other, they are not tackled. The prospect is conflict, disease and political instability.

ACHIEVEMENTS AND CHALLENGES

Every day in the 1980s an average of 330,000 people in developing countries gained access to a safe supply of drinking water, according to the official statistics of the International Drinking Water Supply and Sanitation Decade. About 210,000 people a day achieved improved means of excreta disposal. The rate of implementation of improved water supply and sanitation was more than double that achieved in the 1970s. The figures would be highly impressive, if it was not for two other considerations.

First, the population of developing countries has been growing at an average of about 200,000 people per day, as a result of which more than a billion people were still without access to safe water in 1990 and some 1.7 billion had inadequate sanitation facilities. Second, the figures take no

account of the depressing number of water and sanitation schemes which are in disrepair or disuse, because of defects in design, inadequate provision for their upkeep, or simply because the people prefer not to use them.

The intensive and concerted efforts of the 1980s taught sector professionals a great deal about the way to implement successful water and sanitation programmes. They learned through failures and successes, how to involve users (men, women and children), public and private sector agencies, NGOs, local, regional and central government agencies and donors (in other words all "stakeholders") in the planning and design of programmes. They learned that schemes have to meet the real aspirations of the users (their "effective demand") so that the costs of implementing and maintaining improved services will be sustainable. They learned that water and sanitation is not an isolated sector, but an integrated part of the management of increasingly threatened water resources and of measures to reverse environmental degradation and that sanitation needs equal attention as water supply. They learned that communication and hygiene education need to be given as much emphasis as the provision of facilities, if the prime benefit - better health - is to be achieved. And they learned, above all, that political commitment, and particularly the commitment of governments to act as 'enablers' rather than 'providers' of services is the prerequisite for success.

That knowledge was fed into the preparatory process for the 1992 Earth Summit in Rio de Janeiro. In the form of UNCED's action programme Agenda 21, it now provides a substantial basis for optimism that the formidable challenges faced by developing country governments in the 1990s and beyond can be tackled with enhanced prospects of success. What is needed now is the political will to adopt the new approaches, and a massive social mobilization programme to develop the partnerships among all stakeholders that hold the key to sustainable development.

Water and sanitation problems are not confined to developing countries. In the newly independent countries of Eastern and Central Europe, water sources are heavily contaminated and infrastructure is breaking down. Industrialized countries are also experiencing serious pollution of water resources, water scarcity and wasteful use. The volume and toxicity of industrial waste, intensive farming, and excessive consumption all contribute to an environmental crisis requiring urgent attention.

Technical and institutional solutions exist to address all these problems. They are stalled in many places by political inaction. Noordwijk may prove to have lifted these constraints.

POLICY/STRATEGY FOR ACTION: SYNTHESIS

A commitment to change

Global endorsement of Agenda 21 at the Earth Summit in Rio de Janeiro in 1992 has provided environment ministers and water sector agencies with an unprecedented opportunity to turn the tide of environmental degradation and human misery that has plagued the planet for so long. Follow-up to just a few of the key political decisions in Noordwijk could initiate a programme of concerted action for which most of the technical tools and many of the institutional approaches are now well established. The Action Programme promises more effective use of available resources and more sustainable improvements in water and sanitation services. Its most important prerequisite is a political commitment to a change in approach.

Common Concepts

Experience gained from the massive efforts made during the International Drinking Water Supply and Sanitation Decade (1981-1990) shows that there are certain universal principles which lead to success in this sector. Suitably adapted for specific country conditions, they provide the basis for accelerated and sustainable progress towards the Rio goals.

By adopting the Common Concepts at global level, the Noordwijk Conference sent a powerful message around the world that, in the water and environmental sanitation field at least, Agenda 21 is more than rhetoric. The message from Noordwijk should stimulate governments to make the policy changes at national level which will enable all the "stakeholders" to combine their energies, resources and skills into an Environmental Action Programme to benefit them all. It is that "partnership" approach, in which there are varying roles for the users of water and environmental services, for local regional and central government, for non-governmental organisations, and for public and private sector agencies (i.e. for all the stakeholders), which provides the key to success or failure.

A recurring theme in international conferences during and following the International Drinking Water Supply and Sanitation Decade has been the "right of access to safe water". In support of the Common Concepts, a new statement of water rights and obligations is proposed, linking the right to water with the obligation to protect it.

Social mobilization

Mobilizing the stakeholders and providing them with the incentives and the means to work together in coordinated programmes to better their living environment is the single most fundamental action that national governments can

take to launch effective water and environmental sanitation programmes. For a single government to give up the role of "provider" of basic services and become an "enabler" and a "regulator" of multi-partner alliances delivering those services is a difficult decision - even where the government recognises its own shortcomings as a provider. As part of an internationally endorsed programme for change, backed by increasing evidence of success, the decision may be easier.

Government as an enabler

Once the political decision is taken, and the mobilization has begun, the Common Concepts will help to steer governments to the new policy frameworks, standards and support programmes most appropriate for their people's needs. By using those concepts, formulating sector strategies based on partnerships among all stakeholders, building the capabilities of communities, utilities and decentralised agencies, and enhancing their own capabilities to enforce standards, governments can address the daunting environmental challenges spelt out in the Noordwijk Conference papers with a confidence built on the promise of more effective use of resources, more relevant delivery of services, and more lasting impacts. The challenges will be no less daunting, but the prospects of success will be considerably better than they are now.

Roles of the partners

All stakeholders can play their parts in the planning and implementation of improved services, once the initial policy decisions have been taken by their governments. Their recommendations represent a consensus among sector professionals, developed through a collaborative process that has built up considerably in recent years, particularly at the international level. Collaboration, communication and partnership at national and local levels will be important catalysts in the implementation of future Action Programmes.

Building national capacity

As part of an Action Programme covering key activities at national and international level, three immediate actions will be necessary in most countries, once the social mobilization is under way:

- Development of a Sector Strategy based on the Common Concepts, to reflect the needs and responsibilities of all the different stakeholders, to move the sector into a broader perspective encompassing all the environmental services (water supply, sanitation, solid wastes management and storm water drainage), and to link it to a national Environmental Action Programme.
- Capacity building programmes at national, regional and local levels, to strengthen the roles of government as an enabler and regulator and of decentralised agencies,

communities and the formal and informal private sector as partners in the Action Programme.

- Redirection of sector investments towards least-cost affordable projects serving the unserved, coupled with authority for service providers to set equitable tariffs which assure financial autonomy.

In summary, Noordwijk provided the impetus for change by giving global backing to a 4-step approach in each country:

1. Reinforcement of the political commitment to change, through the five key political decisions listed in Section 1:
 - i. A decision that water supply and sanitation planning and development will be integrated into national programmes for water resources management and environmental protection.
 - ii. A decision that central government's role will change from a direct provider of water and environmental sanitation services, to an enabler and a regulator of other 'stakeholders' (users, public and private sector agencies, local, regional and central government, NGOs and donors) acting in partnership to deliver services at the local level.
2. Adoption of the Common Concepts (balanced development, partnership, financial sustainability, appropriate technology and gender perspective) and the Statement of Rights and Obligations as the basis of sector development.
3. Social mobilization to stimulate stakeholder partnerships.
4. Implementation of the Action Programme.

- iii. A decision to mobilize all the 'stakeholders' as partners in sector development through nationwide social mobilization programmes.
- iv. A decision to review and where necessary revise existing national strategies for water supply and environmental sanitation and for management of water resources and protection of the environment, to develop an integrated strategy incorporating the Common Concepts for sustainable progress, suitably adapted to fit national circumstances.
- v. A decision to invest in the institutional strengthening and human resources development programmes needed to create organisational and management capacity at all levels.

After two days of intensive deliberation the Conference participants endorsed the following Political Statement and agreed on an Action Programme.

POLITICAL STATEMENT

We, the Ministers, meeting at Noordwijk, the Netherlands on 22 and 23 March 1994, for the Ministerial Conference on Drinking Water and Environmental Sanitation, having reviewed and discussed the issues, on the basis of the documentation for the Conference,

1. REAFFIRM THAT:

Our task is to find ways to help our governments to implement Chapter 18 of Agenda 21.

- 1.1 In that context, we stress the need for integrated water resources management. Chapter 18 calls for:
 - holistic management of freshwater as a finite and vulnerable resource and integration of sector water plans and programmes within the framework of national economic and social policy; and
 - perception of water as an integral part of the ecosystem, a natural resource and a social and economic good, whose quantity and quality determine the nature of its utilization.
- 1.2 In the particular context of drinking water and environmental sanitation, we draw attention to Chapter 18's affirmation of the need, identified at the Global

Consultation in New Delhi in 1990, to provide, on a sustainable basis, access to safe water in sufficient quantities and proper sanitation, emphasizing the approach of "some for all rather than more for some". Chapter 18 commits governments to New Delhi's four "Guiding Principles":

- protection of the environment and safeguarding of health through the integrated management of water resources and liquid and solid wastes;
 - institutional reforms promoting an integrated approach and including changes in procedures, attitudes and behaviour, and the full participation of women at all levels in sector institutions;
 - community management of services, backed by measures to strengthen local institutions in implementing and sustaining water and sanitation programmes; and
 - sound financial practices, achieved through better management of existing assets and widespread use of appropriate technologies.
- 1.3 As mechanisms to implement programmes based on these principles, Chapter 18 stresses the need to:
 - build capacities, at all administrative levels, involving institutional development, coordination, human

resources, community participation, health and hygiene education and literacy, which is one of the underlying keys in implementing strategies;

- identify means of financing the substantial costs involved;
- adopt the technologies that are responsive to the needs, and constraints imposed by conditions of, the community concerned.

2. RECOGNIZED THAT:

Many countries face a water crisis.

- 2.1 Explosive growth of urban centres, unsustainable exploitation of natural resources, uncontrolled industrialization, increasing water demand for food production, and expanding populations lacking proper environmental sanitation have led to progressive depletion and degradation of freshwater resources. Many current patterns of water use are not sustainable. Rising costs of developing ever-more distant freshwater resources threaten economic development, while both the visible and the less visible effects of reckless waste disposal and inadequate environmental sanitation spread squalor, disease and death. Water scarcity, and the tensions which it engenders, especially in competing claims to transboundary resources, are a potential threat to peace.
- 2.2 The rapid deterioration of water quality and the reduced availability of freshwater is directly affected by natural processes and human activities. To safeguard the sustainable supply of safe drinking water and entire watersheds, concerted action is needed on all fronts, including agriculture, forestry, transport, industry, urban and spatial planning, population planning and electricity generation. Although cities are increasingly recognized as places of social progress and economic growth, millions of urban residents lack access to safe water and adequate sanitation. There is an acute need to extend sustainable water and sanitation coverage to the urban poor. Many countries also have large rural populations and efforts to extend service to the rural poor should be continued.

To satisfy, at least basic needs for water and sanitation, the crisis can and must be resolved.

- 2.3 The commitments made by Governments in Chapter 18 of Agenda 21 offer new hope to the many millions of their citizens who suffer intolerable levels of disease, squalor and indignity because they lack access to a safe supply of drinking water and adequate means of sanitation. The average global death toll of six thousand children every day due to lack of safe water and environmental sanitation is a tragic reminder of the urgent need to turn the Rio and World Summit for Children commitments of Heads of States into positive and concerted action.
- 2.4 The long-term objective continues to be 'safe drinking water supply and sanitation for all'. Access to adequate water and sanitation is a basic need which has to be met. It

needs to be accompanied by an obligation to use water efficiently and to dispose of wastes in an environmentally sound manner for the benefit of future generations. This is a precondition for substantial progress towards the common target of health for all, poverty alleviation, environmental conservation and economic and human development. To achieve these goals, water and environmental sanitation programmes need to be tailored to the ability of the local environment to support them, to local socio-economic and cultural conditions and needs, and to the availability of resources. Differences in the needs, work and influence of, and benefits for, men and women need to be taken into account.

Change is needed; business as usual is not enough.

- 2.5 The International Drinking Water Supply and Sanitation Decade (1981-1990) resulted in a proportional increase in coverage, but made only a marginal impact in reducing the total number of unserved people. The main reasons have been identified as: population growth, lack of political support, inadequate community involvement, limited mobilization of resources for infrastructure projects particularly in urban areas, poor operational and maintenance of installed systems, and, in a number of cases, inadequate attention to small-scale, low-cost approaches where these would have been more appropriate than large infrastructure projects. In many countries, sanitation, communication and hygiene education, necessary to achieve the behavioural changes needed to obtain optimum benefits from improved water supplies, remained low priorities.

The Decade taught all those involved that water and environmental sanitation programmes need to be based on partnerships involving all stakeholders (users - especially women, community associations, local, regional and central government, public and private sector agencies, non-governmental organizations). Government's role is to establish the regulatory and support framework. This includes determination and enforcement of drinking water and effluent standards, and the support needed, at appropriate levels, to enable local partnerships to deliver local services in accordance with the expressed needs and willingness to pay of all users, and facilitate a balanced distribution of contributions, influence and benefits. A key role of domestic financial institutions and external support agencies is to support strategies to assist the underprivileged. These strategies should be cost-effective, based on the real needs of communities, and designed to protect critical aquatic ecosystems and water source catchment areas.

We need to use our resources - people, water and finance - more efficiently.

- 2.6 Lessons learned from the International Drinking Water Supply and Sanitation Decade give cause for confidence that, on the basis of the Rio commitments, the right

changes can be made, sufficient resources can be mobilized and action programmes can be initiated to bring more effective, appropriate and sustainable progress towards national goals of water and sanitation for all. Bridging the gap between needs and available funds means change. Six changes will go far towards reaching these targets.

- directing investments towards affordable and environmentally sound approaches to serve the unserved;
- increased efficiency in the use of available funds and mobilizing additional funds from existing and new sources including government and external support agencies, the private sector and consumers;
- mobilizing local communities for self-help;
- pricing water and sanitation services realistically for all users, according to capacity to pay;
- cutting down on the high levels of water wasted in many cities and in agricultural and industrial use; and
- promoting water conservation through recycling and reuse of water, recognizing that treated wastewater is a potentially valuable water resource, and combating industrial pollution.

It is also essential that international bodies and governments attach higher priorities to research and development activities directed towards achieving breakthroughs in finding more appropriate water and environmental sanitation technologies.

- 2.7 Ineffective delivery of water and sanitation services to households and the urgent water scarcity and contamination problems around the world demand an immediate response. Though water supply and sanitation problems vary in their exact nature and manifest themselves primarily at the local and regional levels, they are issues of global concern. Hence, a concerted and coordinated international response is needed to make the most effective use of water and financial resources.

3. ACCORDINGLY, TRANSLATING THESE VIEWS INTO ACTION IN OUR OWN COUNTRIES, OR THROUGH INTERNATIONAL COOPERATION, WE:

- 3.1 Re-emphasize the commitment to implementation of Chapter 18 of Agenda 21, and the crucial role that improved water supply and sanitation programmes will play in health improvement, the protection of freshwater resources and the achievement of sustainable development; urge that water resources management in general, and drinking water and environmental sanitation and education aimed at achieving behavioural change in particular, be given the financial support needed, as vital components in achieving the mutual and multiple benefits of reducing disease, preserving the environment, and stimulating economic and human development; address the issue that although international funding resources in support of feasible water and environmental sanitation projects have increased, there are still factors impeding

the flow of resources to the developing countries, and these issues need to be addressed, along with others, in the framework of general discussions on international cooperation;

- 3.2 Encourage the development and implementation of strategies for drinking water and environmental sanitation, at all appropriate levels, including the international level; develop these sector strategies in the context of broader strategies for sustainable water resources management and environmental protection and ensure that they are coordinated at national and local level with activities in health, education, agriculture, forestry, industry, energy, urban and rural development, and other relevant sectors, to safeguard the quality and quantity of water resources worldwide;
- 3.3 Stress that behavioural change, development of knowledge base, education of experts, partnership of stakeholders, full commitment of all partners, and capacity building, are essential for success; seek to accelerate moves to develop enabling, supporting and regulatory frameworks which facilitate the maximum involvement of local agencies and individuals in programmes to improve the living environment; seek enhanced priority for institutional strengthening and human resource development programmes which will create organizational and management capacity for local delivery and upkeep of water and environmental sanitation services;
- 3.4 Advocate the application of sound economic principles to the allocation and pricing of water, based on the principle that water is a social and economic good, while recognizing that it is a basic human need; seek to make more effective use of available water and financial resources by directing these resources towards projects that best meet the objectives of sustainable development i.e. which are technologically appropriate, economically feasible, environmentally sound and socially acceptable; enable water providers to set equitable tariffs for agricultural, industrial and domestic water, to encourage conservation and efficient use; seek ways in which local communities can be given improved access to financial resources and encouraged to undertake community management of water and environmental sanitation services; encourage potential private sector involvement in financing, constructing, operating and maintaining water and sanitation services; encourage external support agencies, including multilateral and regional development banks, to adopt water and environmental sanitation sector investment guidelines which are consistent with the policy guidance of Chapter 18 of Agenda 21;
- 3.5 To avoid costly future remedial actions, adopt programmes for waste reduction and pollution prevention at source and for protection of catchment areas to safeguard water supply sources, water quality, aquatic ecosystems, and fisheries and for reducing wastage of water to conserve future resources; implement tariff structures which reduce wastage, increase cost recovery, and prevent pollution,

such as progressive block rate fees, sewage and wastewater treatment fees, and fines for non-compliance; supply water to meet new demands by environmentally sound methods, including water conservation, demand management and reuse, particularly in the irrigation sector.

4. WE, THE MINISTERS, THEREFORE:

4.1 ENDORSE FOR RAPID EXECUTION THE ATTACHED* ACTION PROGRAMME as a further step towards sustainable development of drinking water and environmental sanitation services.

This programme learns from the experience of the International Drinking Water and Sanitation Decade and puts into practice Chapter 18 of Agenda 21. The main lessons are that capacity-building is the key and that we must:

- a. generate public and political awareness of the importance of the imminent water crisis;
- b. set realistic targets on the route to the overall goal of safe water and adequate sanitation for all; have relevant target dates set by governments to execute the Action Programme;
- c. establish more efficient and effective systems for drinking water and environmental sanitation in all countries;
- d. mobilize the available resources within each country, from users and the private and public sectors and through the 'polluter pays' approach, within self-sustaining systems of finance for water supply and sanitation services;
- e. enhance the mobilization of international financial resources and the transfer of technology to complement and support domestic resources.

The programme also incorporates the new approaches brought about by Agenda 21. We must give special attention to:

- a. the integrated management of water, taking into account all the implications that water has for health, for the environment, for social and economic policy and for spatial planning;
- b. creating partnerships among all stakeholders, which reflect the different needs of men, women and youth and involve all sections of society in resolving the problems that affect them;
- c. modifying patterns of behaviour towards clean water and hygiene, and changing the role of governments, to make the best use of available resources, to enable the integrated management of water at the lowest appropriate level and to move to a system of demand-driven management;

- d. putting into practice the management of water resources as a social and economic good;
- e. searching for innovations, technological and non-technological, to protect our finite and vulnerable water resources and to bridge the gap between the physical, human and financial resources and the escalating demand for water and the need for sanitation brought about especially by urbanization and industrialization in the developing world.

IN ADDITION WE:

- 4.2 Note that a meeting of experts on water and health in underprivileged urban areas held in Sophia-Antipolis, France from 21 to 23 February 1994, has adopted recommendations to be submitted by the participants to the Commission on Sustainable Development at its 2nd session in May, 1994.
- 4.3 Transmit, in view of the special problems of the small island states this Statement and Action Programme for consideration at the United Nations Conference on Sustainable Development of Small Island Developing States to be held in Barbados from 24 April to 6 May 1994.
- 4.4 Recommend that, in order to prevent a water crisis, there is an urgent need to mobilize, within the framework established by Chapter 33 of Agenda 21, adequate financial resources, through using all available sources and mechanisms and maximizing the availability and smooth flow of additional resources to execute this Action Programme.
- 4.5 Recommend in view of the need to coordinate, concentrate and consolidate the many international activities relevant to drinking water and environmental sanitation, within the context of integrated water resources management:
 - a. consideration of steps to enhance this process, particularly by the Commission on Sustainable Development;
 - b. the strengthening of existing institutions and organizations which are contributing to this goal, in accordance with the Action Programme.
- 4.6 Recommend that this Action Programme be considered for adoption by the Commission on Sustainable Development at its 2nd session in May 1994.

* Summarized in this issue. More detail will be given in Water Newsletter no. 224

A proposed Action Programme intended for "Putting Agenda 21 to Work" was presented at the Ministerial Conference. The final Action Programme endorsed by the Conference is briefly outlined below. A more detailed summary will be given in the next issue of the *Water Newsletter*.

ACTION PROGRAMME

1. WATER AND PEOPLE: bringing about partnership and behavioural change

For sustainable development, collaboration is necessary among partners. The approach to collaboration has to start with an understanding of the real needs of users. Better collaboration will help improve performance, to resolve conflict, and to foster integration.

To enable and support this partnership approach, water supply and sanitation decisions must be based on a dialogue about the attitudes and needs of people in rural and urban communities, and on what they can manage, maintain and pay for. Behaviour at political and governmental level, as well as in the water supply and sanitation sectors, must change as required.

2. WATER, HEALTH AND THE ENVIRONMENT - integrating water policy

The planning and implementation of drinking water and environmental sanitation programmes should be carried out in the context of an holistic water resources development framework, taking an ecosystem approach to water resources development and management, including the health dimension.

3. WATER AND INSTITUTIONS - organizing service provision

Capacity building is a fundamental activity to create competent institutions, to provide adequate numbers of qualified staff, to equip all the stakeholders and to enable communities to become full partners in the development of the sector.

4. WATER AND MOBILIZING FINANCIAL RESOURCES - building assets for the future

In order to enable drinking water supply and environmental sanitation facilities to operate on an economically sound basis, it is crucial to aim for the most efficient and effective funds, particularly in view of the increasing global demand for drinking water and environmental sanitation and the trend towards decreasing availability of external funds for the sector.

5. WATER AND THE WORLD - promoting international support

In order to facilitate the implementation of national activities, the international community is urged, among others, to promote and support actions at the national level, to address relevant water resources development and management issues in future international conferences; and to mobilize financial resources in order to prevent a water crisis. International support agencies should, among others, assess the degree to which their programmes effectively facilitate the integrated management of water resources and the strengthening of national institutions.

Colophon

Since 1969 IRC has been publishing and disseminating this newsletter (formerly known as "IRC Newsletter") eight to ten times per year, free of charge, under core-funding from the Directorate General for International Cooperation and the Ministry of Housing, Spatial Planning and the Environment of the Netherlands Government.

The content consists of a mix of key trends and developments in water supply and environmental sanitation, subject specials, project news, donor news, and workshops and publication announcements. Since 1993, the Water Supply and Sanitation Collaborative Council occasionally makes use of this newsletter to spread its news to a wide audience of sector professionals.

We welcome questions, reactions and short contributions, especially from readers in the field.

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WASTE WATER SANITATION IN OUAGADOUGOU: A STRATEGIC PLAN (PSAO)

Only 35 000 out of the 700 000 inhabitants of Burkina Faso's capital benefit from having a septic tank. The rest have to manage with traditional, stinking and fly infested systems. Primary and secondary schools do not have sanitary facilities. The central market, the hospital and some hotels, as well as the industrial area, empty their waste water without any previous process: it is hard to find a treatment facility not out of order.

PSAO to the rescue

In this context, Burkina Faso's National Office for Water and Sanitation (ONEA), assisted by the Regional Water and Sanitation Group (RWSG) for West Africa of the UNDP-World Bank Program, has prepared the Waste Water Sanitation Strategic Plan of the City of Ouagadougou, known as PSAO. This plan will provide sanitation coverage for 50% of the inhabitants in the year 2000. It comprises three courses of action:

- the improvement of sanitary facilities in peripheral neighbourhoods (on-site sanitation);
- establishment of a sewage system and stabilization ponds for the city centre and the major pollutants (collective sanitation);
- school sanitation.

A solution for every family

The variety of dwellings, households and sanitary practices in each neighbourhood necessitates a case by case approach in order to find appropriate solutions.

- For dwellings already fitted with flush toilets, an all-water septic tank with infiltration ditch is recommended.
- For other dwellings, PSAO proposes three options:
 - a twin-pit VIP latrine and/or a wash tub completed by a collecting pit for grey water;

- a latrine with manual flush with two all-water collecting pits;
- rehabilitation of existing equipment (ventilation, paving stones).

The inhabitants of each plot choose the most convenient facility, hire a builder and maintain it. Emptying of latrines is to be done only every two years. Pit content is mineralized, and so it is easier to empty, perfectly safe and useful for agriculture. Collecting pits reduce the risk of malaria by avoiding waste water stagnation. All these installations allow less deep digging, and so protect the phreatic surface water.

The on-site sanitation programme absorbs two thirds of the PSAO costs. It will run until the year 2000. The construction of 19 000 latrines and 2 200 septic tanks is foreseen. Although most of the expenses are covered by the beneficiaries, ONEA provides the required equipment, manages the builders training and controls the pit emptying contractors.

Stabilization ponds: the cleansing sun

All waste water from the city centre, the big water consumers, and the industrial area, as well as septic tanks sludge will be carried to stabilization ponds. The sunshine of Ouagadougou and the land availability favour this method. In addition, the advantages of this method are that it does not require specialized maintenance, destroys all pathogenic organisms and reduces pollution and sludge. Nonetheless, an anaerobic pit is foreseen to catch this sludge. The effluent could be used for irrigation or aquaculture. Two options have been studied:

- a separate collection and treatment of urban and industrial effluent into two stabilization ponds, one in a protected forest and the other in the industrial area;



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- a joint collection and treatment of both effluents into a single place outside the city.

The first option has a cheaper and more flexible design but, due to the environmental constraints of a possible recreation area as the forest, the second option has been retained while waiting for impact assessment results.

The city centre waste water collection helps to protect the ground water table, which is very close to the surface during the rainy season. The discharge of the septic tank sludge could be promoted by an incentive to the emptiers. The cost of this part of PSAO is worth less than a third of the total. External resources should cover 80% of the costs. It should be completed in 1995.

School sanitation

PSAO proposes to build 166 blocks of seven latrines in primary and secondary schools of Ouagadougou. A hygiene education programme completes this essential part of the PSAO which represents less than 6% of the total costs but concerns around 75 000 pupils. Parents will be in charge of the minimal maintenance costs.

A plan born from the will of the people

To finance this plan, considerable efforts are demanded of the beneficiaries. Previous surveys have established people's willingness to pay for the improvement of sanitary conditions. The surveys allowed an estimation of the contribution they can and want to afford for the works, as well as the suitable extra tax on the drinking water supply needed to finance the programme.

Everyone pays a little

The total cost of the Plan amounted to US\$ 14.6 million as of December 1993. It should be financed by ONEA (30%), beneficiaries (48%) and external sources (22%). A new calculation of these figures after the CFA franc devaluation is under way.

ONEA is in charge of the implementation of PSAO, and it must recover the costs from the beneficiaries. The extra sanitation tax on drinking water supply, which must be integrally allocated to ONEA, is calculated following the principle of financial balance in every sub-sector, but respecting at the same time the households' willingness-to-pay. The collective network users will, logically, be more affected by the extra tax, whereas on-site sanitation programme beneficiaries will have to contribute more to initial investment. External financing at concessional terms is necessary to build the main infrastructure.

And that's not all

Although the maximum financial effort is requested of beneficiaries on the price of drinking water, PSAO cannot include storm water drainage and solid wastes treatment in this programme. Other sources of financing must be found for these sanitation aspects.

A fruitful collaboration between actors

PSAO involves the Ministries of Water, Environment, Health, Public Works, Urban Planning and Territorial Administration, as well as the population, private sector and NGOs, in a joint collaboration effort to improve sanitary conditions in the city of Ouagadougou.

If you wish to know more about PSAO or about the RWSG, or to make any suggestions, please write to:

GREA (RWSG)

Programme d'alimentation en eau et d'assainissement
PNUD-Banque mondiale
01 B.P. 1850
Abidjan 01, Côte d'Ivoire
Fax 225-44 16 87

Office National de l'Eau et de l'Assainissement
01 B.P. 170
Ouagadougou, Burkina Faso
Fax 226-30 33 79

WATER SHORTAGES MAY THREATEN ONE IN THREE PEOPLE BY 2025

By the year 2025, one out of three people will live in countries plagued by water stress or chronic water scarcity, according to a study published at the end of 1993 by Population Action International (PAI) in the United States.

In 1990, more than 335 million people lived in countries defined as water stressed (less than about 1,700 cubic metres of renewable water per person per year) or water scarce (1,000 cubic metres or less), according to the study *Sustaining Water: Population and the Future of Renewable*

Water Supplies. That number is projected to increase at least eight-fold by 2025, to between 2.8 billion and 3.3 billion people. The difference between the two figures reflects how different rates of population growth could affect water availability, even over a period of just 35 years.

Of the 28 countries experiencing water stress or scarcity in 1990, all but 5 were in Africa or the Middle East and included Djibouti (just 23 cubic metres per person per year, Kuwait (75 cubic metres), Saudi Arabia (306), Jordan

(327), Israel (461), Tunisia (540) Kenya (636), Algeria (689) and Somalia (980 cubic metres per person per year). By 2025 these countries are likely to be joined by at least 18 others, including Syria, Iran, Haiti, Nigeria and Peru.

"Fresh water that is renewed by rain and snowfall is a finite resource in a world with growing demand", says Robert Engelman, director of PAI's population and environment programme and co-author of the report. "There are no substitutes - as human populations grow, there is less renewable water for each person. In more and more countries, this ratio is dropping below the minimum needed for health and economic development."

The report made headlines in many countries for a number of reasons. Firstly, because of its dramatic projection of water shortages on the basis of three alternate United Nations population projections linked with a 149-country index that apportions known quantities of renewable fresh water on a per capita basis. The second reason may be that this was the first time that the fresh water issue was raised, not by water specialists, but by a large NGO canvassing for the population issue. A third reason is that competition over scarce water resources can involve into open conflict, whether clashes between urban and agricultural water users in California, or military conflict in the Middle East. Over 200 rivers and lake basins are bordered by two or more countries and at least ten rivers flow through six or more countries. Among the most vulnerable countries are Egypt, the Netherlands, Cambodia, Syria, Sudan and Iraq - all relying on out-of-country sources for more than two-thirds of their renewable water supply.

"For PAI, the fresh water issue was the most tangible subject to start its new series of reports on critical natural

resources in its population and environment programme", a spokesperson told the Water Newsletter. "Moreover, sufficient data and statistics are available about water", she added. The concept of a 'water stress index' was pioneered by the Swedish hydrologist Malin Falkenmark, who identified thresholds for water stress and water scarcity.

Blue Revolution

Water recycling, more efficient water use - especially in agriculture - and the expansion of family planning programmes to satisfy unmet demand for contraception are among the strategies recommended by PAI for dealing with increasing water scarcity.

"We need a 'Blue Revolution' in water supply and sanitation like the Green Revolution in food production", says Pamela LeRoy, a policy analyst at PAI and co-author of *Sustaining Water*. "But even new approaches to water use can only outrun population growth for so long. We need to address demand as well as supply".

The report states that women, as the drawers of water in much of the developing world, not only understand water scarcity but can play a key role in improving water management, if given the means to do so.

Sustaining Water: Population and the Future of Renewable Water Supplies, by Robert Engelman and Pamela LeRoy, available at US\$8 from:

Population Action International
1120 19th Street NW - Suite 550
Washington, DC 20036 USA
Telefax: 1-202-728-0745



MINISTERIAL CONFERENCE ON DRINKING WATER AND ENVIRONMENTAL SANITATION

ACTION PROGRAMME

The first issue of the Water Newsletter was devoted to the Ministerial Conference on Drinking Water Supply and Environmental Sanitation, which took place in Noordwijk, the Netherlands on 22 and 23 March. In this issue we will give a more detailed summary of selected important elements of the proposed Action Programme, divided into five subject areas, which was endorsed by the conference participants.

1. WATER AND PEOPLE - bringing about partnership and behavioural change

For sustainable development, collaboration is necessary among partners. The approach to collaboration has to start with an understanding of the real needs of users. Better collaboration

will help improve performance, to resolve conflict, and to foster integration.

To enable and support this partnership approach, water supply and sanitation decisions must be based on a dialogue about the attitudes and needs of people in rural and urban communities, and on what they can manage, maintain and pay for. Behaviour at political and governmental level, as well as in the water supply and sanitation sectors, must change as required.

Accordingly, at the appropriate level, governments should:

- generate public awareness and social mobilization towards drinking water and environmental sanitation by: stimulating mutual understanding by all parties of the water problems

- and vulnerability of water resources; raising knowledge and awareness among stakeholders regarding the necessity of conserving scarce water resources, using them in a rational, economic way, and preventing their pollution; enhancing the realization that water is a social and economic good with an economic value; bringing about changes in behaviour patterns through participatory communication and education programmes in all phases of water and sanitation interventions; and providing training programmes which reflect new approaches and principles, for all levels of personnel involved in management of drinking water, sanitation and waste water treatment;
- improve partnership and participation; therefore taking the following priority actions: encourage providers of water supply and environmental sanitation systems to involve the local community, NGOs and women in planning and decision making; develop the legal and institutional framework to make this participation possible; develop plans for building up the capacity of all stakeholders through proper training and representation in utility boards and consumer councils; and provide access to information on progress, programmes and policies;
 - at the regional and international level, develop programmes on the exchange of information and experience; ensure that external support agencies support public education and capacity building programmes; develop coordinated action programmes to advocate for the sector at all levels - political, public, technical and financial; strengthen regional collaboration; and develop programmes in support of sustainable water resources development and environmental sanitation in small island states.

2. WATER, HEALTH AND THE ENVIRONMENT - integrating water policy

The planning and implementation of drinking water and environmental sanitation programmes should be carried out in the context of an holistic water resources development framework, taking an ecosystem approach to water resources development and management, including the health dimension.

Accordingly, at the appropriate level, governments should:

- undertake a water resources assessment to produce an inventory of the current situation and to identify problems and constraints in providing water supply and environmental sanitation services;
- develop, review or revise, in the context of a national sustainable development strategy consistent with Agenda 21, measures for water resource management and environmental protection, including drinking water and environmental sanitation, aimed at, among others: recognizing that access to adequate water and environmental sanitation is a basic human need; the need for policies in support of conservation, protection and sustainable management of water resources; an obligation to use water efficiently and to dispose of waste in an environmentally responsible manner; a framework for a rational allocation of water among competing users; and recognition of health-related objectives in water supply and sanitation planning;

- develop, review or revise by 1997, and implement, in the context of a national sustainable development strategy consistent with Agenda 21, measures for drinking water and environmental sanitation, taking into account the goals set by the World Summit for Children, including strategies to serve the poor and unserved; sound investment strategies; a planning strategy for more effective hygiene education; establishing realistic quality standards and criteria for drinking water, sewage effluent and recycled water; and giving priority to populations at greatest risks;
- involve stakeholders such as consumers, NGOs, scientists, women's organizations, local entrepreneurs and professionals in the implementation of all strategies;
- establish, where it does not exist, a nation-wide drinking water and environmental sanitation monitoring system to monitor the efforts on this action programme and other major objectives, making use of available monitoring systems being developed by the WHO/UNICEF Water Supply and Sanitation Monitoring Programmes;
- establish pricing policies aimed at promoting the efficient use of water, according to affordability, resource conservation, and utilization of the polluter pays principle;
- identify factors affecting the levels of unaccounted for water and reduce the proportion of lost water;
- promote the design and use of water-saving and re-use technologies;
- preserve the natural quality of both surface and groundwater;
- promote the appropriate development and use of non-conventional sources of water supply, such as the safe re-use of effluents, rainwater harvesting, desalination of sea water and brackish groundwater and conservation of traditional sources;
- strengthen health-data collection and analysis to assist in prioritizing and targeting water and sanitation;
- promote the adoption of appropriate country-specific standards or guidelines on drinking water quality, taking into account WHO's drinking water guidelines.

At the regional and international level:

- enhance cooperation in river basin management, transboundary water resources development and pollution control;
- promote the transfer of technology in the field of loss-reduction strategies, water-saving and re-use technologies.

3. WATER AND INSTITUTIONS - organizing service provision

Capacity building is a fundamental activity to create competent institutions, to provide adequate numbers of qualified staff, to equip all the stakeholders and to enable communities to become full partners in the development of the sector.

Accordingly, at the appropriate level governments should:

- change the emphasis of the role of governments, as appropriate, as related to water and environmental sanitation services to an enabler and a regulator of other stakeholders by, among others: taking responsibility for

organizing monitoring, establishing nation-wide information systems, preparing national drinking water assessments and setting policies and sector guidance; taking the responsibility for adequate performance monitoring of activities of all service providers and other stakeholders as appropriate;

- increase investments in capacity building programmes necessary to create organizational and management capacity at all levels;
- identify, support and provide necessary incentives for institutions to become more people-oriented;
- create utilities for water supply and environmental sanitation that can operate autonomously, in particular with respect to financial management and overall management and research;
- improve the overall and financial performance of utilities which are more accountable and transparent to the public;
- develop or strengthen incentives to ensure the availability of skilled personnel for planning, management and operation of water supply and environmental sanitation systems through education and training, career planning, publication of technical material, and enhancement of the role of women;
- establish or strengthen domestic resource centres including institutions for information collection and dissemination, applied research, and technical support for monitoring;
- strengthen the appropriate health institutions which implement hygiene education and support community involvement.

At the regional and international level:

- promote information exchange and networking;
- promote effective collaboration with neighbouring countries in the management of transboundary water resources;
- strengthen regional cooperation that enhances non-governmental organizations' capacity and involvement in drinking water and environmental sanitation, to improve programme planning, management and implementation.

4. WATER AND MOBILIZING FINANCIAL RESOURCES - building assets for the future

In order to enable drinking water supply and environmental sanitation facilities to operate on an economically sound basis, it is crucial to aim for the most efficient and effective use of available funds, particularly in view of the increasing global demand for drinking water and environmental sanitation and the trend towards decreasing availability of external funds for the sector.

Accordingly, at the appropriate level, governments should:

- ensure equitable and efficient financial management of water supply and environmental sanitation systems by devolving decision-making and management; organizing a tariff system in such a way that water supply and environmental sanitation organizations can operate autonomously in financial terms without adversely impacting the basic supply of the most needy; and enabling the poor to benefit from the envisaged changes.

- develop detailed guidelines for investments in the drinking water and environmental sanitation sector in order to rationalize resource generation and use, aimed at, among others: ongoing provision of water and environmental sanitation to all sectors of society, via cost effective, appropriate technology; encouraging mutually beneficial investments which save money, improve the position of the user, and protect the environment; rehabilitation and maintenance of existing systems; giving priority to more sufficient investments in water supply and environmental sanitation, particularly in urban and peri-urban areas;
- explore and develop new, innovative financing mechanisms;
- stimulate integrated approaches including income-improving activities for the peri- and semi-urban and rural poor, through mechanisms for access to credit, land distribution and security of land tenure, so as to reduce the need for subsidies;
- encourage appropriate tariff systems, with a view to introducing cost recovery into water supply and environmental sanitation programmes;
- study and promote more efficient use and re-use of water by means of economic incentives, and including environmental costs into prices for drinking water and water used for other purposes;
- study the possibility of re-using treated waste water for agriculture or as a supplementary water resource;
- emphasize the importance of operation and maintenance considerations being incorporated into the design of projects.

At the international level it is urged that:

- the external support agencies, including the World Bank and regional banks, give priority to drinking water and environmental sanitation projects aimed at more extensive coverage;
- consideration is given to debt swap as a mechanism to generate funds to the sectors;
- discussion is encouraged on the 20/20 approach, as initially proposed by UNDP and UNICEF, by which 20% of official development assistance and 20% of domestic budgetary resources are devoted to social development, including drinking water and sanitation.

5. WATER AND THE WORLD - promoting international support

In order to facilitate the implementation of national activities, the international community is urged, among others, to:

- support country-level collaboration as an essential tool for the successful preparation of sector strategies and social mobilisation initiatives;
- focus on needy areas, recognizing that special attention should be given to Africa;
- stress the role and importance of international organizations and bilateral cooperation in supporting capacity building programmes in developing countries; and request the Executive Board of UNDP to consider in the context of UNDP Capacity 21 Programme, a water and sanitation component;

- request the UN Commission on Sustainable Development to consider how existing institutions can provide regional clearing houses for the exchange of data and information and how to strengthen the role of development cooperation and other support funds for drinking water and environmental sanitation;
- promote and support actions at the national level aimed at bringing about changes in behavioural patterns, and regarding roles of communities, government and other stakeholders.

It is also recommended that:

- relevant water resources development and management issues be addressed in future international conferences;
- the UN Commission on Sustainable Development, at its 1997 review, assess progress in the implementation of the recommendations of Agenda 21 concerning drinking water and environmental sanitation;
- assistance be provided for strengthening the Water Supply and Sanitation Collaborative Council and enhancing its advocacy role, in view of the positive contribution of the Council as a global forum and a partnership among professionals in the sector;
- the UN Commission on Sustainable Development consider the need to strengthen the existing mechanism for the

coordination of activities of the UN system in the field of water resources with a view to help implementation of the Action Programme adopted by this conference and that the Commission on Sustainable Development recommends ECOSOC to consider this issue at its coordination segment in 1995.

International support agencies are invited to:

- assess the degree to which their programmes effectively facilitate the integrated management of water resources and the strengthening of national institutions;
- develop programme delivery and loan mechanisms which need to take into account the water supply and environmental sanitation crisis;
- encourage the Water Supply and Sanitation Collaborative Council, in association with interested public bodies, and NGOs, to undertake necessary studies towards strengthening its activities, and when appropriate, to take necessary steps for expanding its activities or establishing itself as a more comprehensive world water forum or council involving the various aspects of the water sector, and also encourage the Council to submit its report to its members by April 1995 on any progress achieved on this issue.



NEW PUBLICATIONS

Water Utilities Data Book for the Asian and Pacific Region, Asian Development Bank - 1993, 156 pp.

The data book, first of its kind, has been prepared by the Asian Development Bank under technical assistance, and provides data on 38 utilities and 23 developing member countries of the Bank. It consists of three parts: part 1, an executive summary of findings and comments, part 2, regional profiles, which examine a number of performance parameters of utilities on a regional basis, and part 3, utility profiles, providing specific information about each of the 38 water utilities.

This publication will be provided free of charge to selected categories of users on application to:

Publications Information Office
Asian Development Bank
PO Box 789,
Manila 1099, Philippines

Preference will be given in the first instance to applications from water utility personnel, organizations and agencies located in the Bank's developing member countries.

Consultants may obtain copies at a cost of US\$ 25.00.

Espejo, Norah (1993). *Action-Learning. Building on Experience* The Hague, The Netherlands, IRC International Water and Sanitation Centre - 35 pp. (Occasional Paper; no. 21) Price: Dfl 20/US\$ 11.(SAL +30%, airmail +40%)

Before developing training material people must be aware of the importance of developing and using the learning approach at individual and project level. This publication aims to assist water sector staff to use learning in a systematic and analytical way. It provides the basic concepts of action-learning as the main tool for capacity building. Action-learning procedures are presented and explained with examples and illustrations. The final chapter contains some guidelines for implementation of action-learning in water and sanitation projects.

Available from:
IRC, Publications Department
PO Box 93190,
2509 AD The Hague, The Netherlands
tel: +31-70-33 131 33, fax: +31-70-38 140 34

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WATER NEWSLETTER

Developments in water, sanitation and environment

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 - RESCUE ATTEMPT FOR THE GUARAPIRANGA WATER BASIN
 - NEW VIDEO FROM KENYA
 - NEW PUBLICATIONS
 - FORTHCOMING EVENTS

NUMBER 225, JULY 1994



News from the Collaborative Council

The second Global Forum of the Water Supply and Sanitation Collaborative Council was held in Rabat, Morocco in September 1993 (IRC Newsletter no. 220). We now take a look at the progress on the implementation of decisions made at that meeting, and the activities of the Council and its Secretariat.

RABAT ACTION PROGRAMME

Work on the "Rabat Action Programme" (RAP) has been initiated. It contains twelve activities which include, among others, i) appropriate policies, strategies and institutional frameworks for the sector and in the context of integrated water resources management, and ii) the use of tools developed by the Council's Working Groups. Attention would be given to finding the most appropriate ways to involve NGOs in WSS programmes, and the Eastern European states and Central Asian Republics in Council activities.

COUNCIL-SPONSORED WORKING GROUPS

A new Working Group on Promotion of Sanitation, coordinated by Dr. Mayling Simpson-Hebert of WHO, met in March and produced a statement on why sanitation has not moved forward. The group is collecting information on the range of available affordable technologies, and information from countries and programmes on available strategies, tools, guidelines indicators.

The Working Group on Institutional Management Options, including water demand management and conservation is also new. The Group's meeting in early June 1994 was to consider draft terms of reference and a plan of operation prepared by its coordinator, Mr. Frank Hartvelt of UNDP. It will study existing models for public sector and private sector management of sector services through selected case studies, and will meet again in early 1995.

COUNCIL-MANDATED ACTIVITIES

Water Pollution Control

The group will prepare systematic methodology papers which will review strategies for water pollution control; case studies to highlight successful models; and make a comparative evaluation of different management systems and approaches including regulatory arrangements. A core group will meet in August 1994 and the full Working Group in February/March 1995. Coordinator: Mr. Richard Helmer, WHO.

Although the working groups which existed prior to the meeting at Rabat have been dissolved, follow-up activities continue by their members.

Services for the Urban Poor

As follow-up on activities of the Working Group on Urbanization, this group's mandate is to apply and disseminate the recommendations of its predecessor - key principles, strategy elements, basis for action and guidelines for immediate action, and to carry out research on selected topics. Coordinator: Mr. Ivo Imparato, formerly Italian Ministry of Foreign Affairs, currently of HABITAT.

Operation and Maintenance (O&M)

The main thrust of the group in the coming year will be to develop cooperation between developing countries and ESAs in applying the tools produced by the Working Group towards better O&M through capacity building, and addressing the engineering aspects of the problem. Coordinator: Mr. José Hueb, WHO.

Applied Research

At Rabat the Council mandated the Global Applied Research Network (GARNET) to become the focus for action and advice in the field of applied research.



IRC

International Water and Sanitation Centre
WHO Collaborating Centre

An advisory group met on 4 and 5 May 1994 to assist in the implementation of GARNET's expanded responsibilities. Coordinator: Dr. Andrew Cotton, GARNET in (WEDC) Loughborough University of Technology, UK

Communication and Information

This group comprises follow-up activities of the earlier Working Groups on Information Management and on IEC - Information, Education and Communication. The IEC group on communication initiated strategies towards advocacy for the sector which will be piloted in Guinea Bissau and Nigeria, and possibly Pakistan and Uganda. Behavioural change will be the basis of the strategy. Information activities, coordinated by Mr. Han Heijnen of IRC, include the preparation of a Water Thesaurus, preparation of a monitoring schedule for developing countries and a workshop on information management at the WEDC Conference on Affordable Water Supply and Sanitation in Sri Lanka in August 1994. Coordinator: Mr. Hans van Damme, IRC International Water and Sanitation Centre.

Gender Issues

UNDP/World Bank is publishing a source book prepared by the group, which relates to gender activities at the operational level. Contacts are being made with countries, agencies and individuals for its promotion. Another source book, on gender issues at the policy/decision making level, is in preparation. Coordinator: Ms. Wendy Wakeman on behalf of UNDP/World Bank.

COUNCIL INITIATIVES

The Council continues to support various initiatives in collaboration with its members.

- *Small Island Nations and their Specific Needs:* A UNDP team is identifying the main constraints and priority needs in Pacific Island Countries, and recommending specific actions.

- *Development of the WSS Sector in Lusophone African Countries:* This activity concentrates on sector improvement through development of information management capability, education and training. Contact has been initiated with the EU for the funding of missions and provision of information materials; in Mozambique an information component is being included in the UNICEF/DGIS-assisted project in Nampula.
- A workshop to initiate greater involvement of the newly Independent Central and East European states in the activities of the Council.

MINISTERIAL CONFERENCE

At the Ministerial Conference on Drinking Water and Environmental Sanitation held in Noordwijk, the Netherlands on 22-23 March, the positive contribution of the Council towards sector development was recognized, and a request has been made to the Council to advise on the mechanism for a World Water Council, embracing the entire water spectrum. Financial and human resources are now being mobilized to undertake the study in question. Chairperson Mrs. Margaret Catley-Carlson made a statement on behalf of the Council stating that the Council's activities placed emphasis on good country-level collaboration, promotion of sanitation, and greater attention to the needs of the unserved/poor; that changes were required in the way things have been done to realize those objectives; and that the Council, as an instrument of change, was producing, through collaborative effort, the tools required to support such change. Members of the Council and the Secretariat contributed substantively to the *preparations and documentation for the Ministerial Conference.*

Further information on the above activities can be obtained from the WASSANCO Secretariat, c/o WHO, 1211 Geneva 27, Switzerland

Rescue Attempt for the Guarapiranga Water Basin

The metropolitan area of the Municipality of São Paulo is the most important urban-industrial region of Brazil. It has a population of 16 million inhabitants and accounts for approximately 27% of the National Industrial Product. Being a preferential site where the accumulation of capital favours urban and social changes, the region also displays the typical constraints encountered in the developing countries' mega-cities: absolute poverty, absence of urban infrastructure, lack of improved sanitation and a housing shortage. The metropolitan area of São Paulo has a shortage of approximately 350,000 new housing-units. If the existing houses which cannot meet proper health and safety standards are added, this figure climbs to 1.7 million.

The Guarapiranga Reservoir stretches throughout the southern area of this metropolitan region and provides 25% of the water consumed in São Paulo. In addition to being a regional water source, the Guarapiranga Basin is a stronghold of flora and fauna. Extensive natural forests still flourish on its southern boundaries, particularly at the headwaters of the water courses adjacent to the Serra do Mar Park. The basin is protected by the "Water Source Protection Law" of 1972. Nevertheless, due to the lack of suitable housing sites, low-income populations take over the watershed areas and pollute the Guarapiranga reservoir, mainly through direct excreta disposal in the water and improper garbage disposal. In 1992 the population located

at the basin was estimated at 577,000. Housing standards were extremely low and pollution potential high. If no immediate measures were to be taken for the recuperation of this important water source, before the end of this decade the Guarapiranga system would become unfit for human use and eliminated as the mega-city's second most important water supply.

Recuperation Programme

The Programme for the Recuperation of the Guarapiranga Water Basin System, launched in 1993, involves a US\$ 260 million investment over a five-year period. The World Bank is providing 47% of this amount, and the remainder will be covered by local (state and municipal) funding. The Programme is divided in five projects: water supply and sewage services, collection and garbage final disposal, urban recuperation/housing, environmental protection and environmental management.

The "Water Supply and Sewage Services" project comprises the provision of facilities for the collection, interception and removal of household sewage in the basin's densely populated area and improvements in the operations system; an operating safety system in order to protect the reservoir from the inflow of excessive loads; and a direct investment in the treating system for the water supplied.

"Collection and final disposal of garbage" covers the investment in equipment and urban sanitation services (garbage collection and street cleaning); regular and selective collection of garbage and the provision of appropriate disposal locations are also foreseen.

"Urban recovery" involves upgrading of the infrastructure, stabilization of the slopes in order to control erosion, introduction of a drainage system affecting the creeks, and upgrading of the road system.

The "Environmental Protection" project involves the development of green areas and the recovery of the river bank rain forest and of the public land strips (rights of way) close to railroads and highways; the planting of trees in urban areas where shantytowns will be removed from and on the banks of the reservoir; and the establishment of a

park system linked to an environmental education project, which comprises the promotion and control of economic activities such as farming, fishery and forestry.

The "Management" project is divided in three modules. Module 1 includes studies and surveys on subjects such as environmental development and protection; research on compatible economic activities; institutional models for basin management; housing programmes; sewage, drainage and solid-waste management programmes; control of mining activities; and water quality control. Module 2 aims at the integrated development of environmental education and technical training for basin management as well as for NGOs. Module 3 refers to the operation of the basin, which requires functions such as integrated surveillance and control of sources of pollution; introduction of the management unit; operation of sewage systems; information system for monitoring environmental conditions; urban area operation; and a system of evaluation.

Innovative Ideas

Innovative ideas emerge from these projects. One of the most innovative aspects is the urbanization of the slum areas and the subsequent relocation of the population away from risky areas and water pipe network sites. This urbanization effort entails experimental alternatives so as to ensure the viability of the Programme, meeting the demand of the population and overcoming the difficulties resulting from the traditional housing policies. Propositions focus on new methods of household financing, compatible with the socio-economic characteristics of the population. Other ideas include avoiding new chaotic urban settlements by establishing agriculture and animal husbandry in the preserved areas still not occupied by human settlements; and the use of environmental education campaigns as a key element in raising social awareness and stressing community participation.

A positive outcome for the Programme depends on the successful combination of the various elements encompassed by the specific projects so as to obtain environmental and economic sustainability linked to water resource management.

New Video from Kenya

Participatory Rural Appraisal (PRA) offers a rich set of participatory activities with the aim of putting community members in charge of their own development by helping them in analysing the strengths, limitations and development possibilities of their community. Although

PRA has a simple basis (listening and learning), the full potential can only be realized when the activities are used in combination with each other, through a "triangulation" approach which combines teamwork, tools and participatory techniques, and on-the-spot analysis.

The Rural Domestic Water Supply and Sanitation Programme (RDWSSP II), based in the Nyanza Province in Kenya, has produced the video *SAGA, Participation in Practice*, for field staff trained in PRA methodology. The aim of the video is to reinforce the triangulation approach of this methodology, to illustrate how activities could be carried out in the field and to serve as a discussion starter. A community team guides participatory processes such as wealth ranking, gender discussions and making a community map and seasonal calendar. On-the-spot problem ranking and analysis occur during review meetings, and findings are combined into community action plans which focus on development activities.

The RDWSSP II project is carried out through the Lake Basin Development Authority, with assistance of the Kenyan and Netherlands Governments. Its objectives focus on providing safe and accessible water; safe and low-cost disposal of human waste; ensuring user participation and responsibility for facilities; and decentralizing programme planning, implementation, and operation and maintenance.

The SAGA (Luo word for a bunch of bananas and working together) video can be ordered for dfl 40.00 exclusive of postage, from:

BKH Consulting Engineers
attn. S. Nederhorst
PO Box 5094
2600 GB Delft, The Netherlands

New Publications



Galvis, Gerardo; Visscher, Jan Teun; Fernández, Javier; and Berón, Fabiola (1994). *Pre-Treatment Alternatives for Drinking Water Supply Systems. Selection, Design, Operation and Maintenance* (Occasional Paper, no. 22). The Hague, The Netherlands, IRC International Water and Sanitation Centre - 110 pp.

This document comprises information about the selection, design, operation and maintenance of different pre-treatment alternatives all using coarse media filtration followed by slow sand filtration. It also includes some general concepts and considerations on drinking water treatment for domestic use. The document has been developed in the context of an integrated research, development and transfer project on pre-treatment systems for drinking water supply in Colombia.

Copies are available at Dfl 36/US\$ 20. (SAL + 30%, airmail +40%) from:
IRC Publications Dept.
PO Box 93190, 2509 AD The Hague, The Netherlands
tel: +31-70-33 131 33, fax: +31-70-38 140 34

Forthcoming Events

FOURTH STOCKHOLM WATER SYMPOSIUM
Stockholm, Sweden, 9-13 August 1994

The Stockholm Water Symposia, organized by the Stockholm Water Company, are a series of future-oriented water policy symposia addressing key environmental issues. This fourth symposium will address the benefits and problems of achieving lifestyle changes and integrated land and water management. The programme includes plenary speakers and workshops. A lecture will be given by Water Prize Laureate Prof. Takeshi Kubo of Japan.

For further information contact:

Symposium Secretariat
Stockholm Water Symposium 1994
Stockholm Water Company
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AFFORDABLE WATER SUPPLY AND SANITATION: 20TH WEDC CONFERENCE
Colombo, Sri Lanka, 22-26 August 1994

The theme of this conference is providing and managing appropriate, affordable and sustainable water supply and sanitation for all people. Plenaries, specialist sessions and field trips will deal with, among others: affordable water and sanitation technology, cost recovery, management by communities and agencies, water-related diseases, health and hygiene education, solid waste management, drainage, and competitive demand for water.

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WATER NEWSLETTER

Developments in water, sanitation and environment

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 - SWISS SECTOR POLICY STRESSES PARTNERSHIP
 - TRAINING ESSENTIAL FOR MANAGEMENT OF INFORMATION
 - AFRICAN FRESHWATER RESOURCES WORKSHOP
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NUMBER 226, AUGUST 1994

Affordability and Training

Guest Editorial by Prof. John Pickford

Before, during and since the International Drinking Water Supply and Sanitation Decade (1981-1990), international organizations and other agencies have emphasized a succession of themes. Early on particular attention was given to the relation of health (or its converse, disease) to availability of good water and adequate sanitation. Then 'appropriate technology' came to the fore. Particular attention was given to low-cost systems, often ignoring the true significance of what is appropriate. Low-cost systems may not be most appropriate for people who can afford something better.

Other themes that were emphasized during the Decade were institution building and strengthening, community participation, operation and maintenance, replicability and sustainability. Later on came the horrible word 'enablement' which only international bureaucrats could have invented. The idea is sound - that governments and other agencies should actively support (or enable) communities to provide facilities, rather than taking the lead themselves. Alongside this came the change from community participation (communities participating in agencies' projects) to community management (communities managing their own projects).

In recent years quite a lot of attention has been given to economic factors. Cost recovery is important. If communities (or individual households) are to pay for services provided by an agency, the services must be affordable. So affordability comes high up on the water supply and sanitation agenda.

Appropriate and Affordable Services

Affordability is difficult to measure. In some places quantifiable tests have been used, such as the type of dwelling and ownership of radio's and bicycles. Enquiry, for example by conducting house-to-house surveys, is

WE CONGRATULATE WEDC FOR FACILITATING EXCHANGE OF INFORMATION AND EXPERIENCE THROUGH ITS 20 YEARS OF WEDC CONFERENCES. PROF. JOHN PICKFORD, THE DRIVING FORCE BEHIND THESE CONFERENCES, PRESENTS AN IMPORTANT MESSAGE ON AFFORDABILITY, THE THEME OF THE 20TH WEDC CONFERENCE, TO BE HELD IN COLOMBO, SRI LANKA FROM 22-26 AUGUST 1994.

JOHN PICKFORD IS EMERITUS PROFESSOR OF WATER AND WASTE ENGINEERING FOR DEVELOPING COUNTRIES AT WEDC, LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY, ENGLAND.

generally unsatisfactory. Respondents are influenced by their perception of the effect their replies will have. It may be anticipated that an inflated figure will increase the chances of receiving facilities. Conversely low ability to pay may be given in expectation of greater agency assistance. Consequently *willingness to pay* may be a more useful gauge.

Affordability should have a significant influence on the choice of technology. One of the criteria for determining whether technology is appropriate is whether it can be afforded. There is little value in providing a low-income community with a good piped water supply planned for full plumbing in every dwelling and then to expect full cost recovery. Yard taps or conveniently placed public standposts are likely to be more affordable and therefore more appropriate.

Often sanitation systems that cannot be afforded have been proposed. As with a piped water network, householders are often expected to pay for connections to public sewers which they cannot afford. Many so-called low-cost sanitation methods cannot be afforded by the majority of the population. In Africa VIP latrines with concrete block shelters have been advocated in many countries, ignoring the inability of the majority of people to pay for them. Simpler and cheaper methods such as SanPlat latrine slabs are available. In Asia many programmes include twin pit pour-flush latrines with a standard design that most householders cannot afford. Some non-government organizations have offered householders a choice of designs. For example, in one programme, a dozen



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alternatives were available, the cheapest costing only one tenth of the cost of the most expensive.

Training Needs Different Focus

Affordability is neglected in the training of most professionals and technicians who are (or will be) involved in the provision of water supply and sanitation.

Universities, colleges and technical training institutions usually teach 'good standard practice' based on what is done in Europe and North America.

Economic and social matters receive scant attention in most college courses. Calculation of the required steel reinforcement for concrete slabs is deemed to be essential, but costs, suitability for self-help and the true benefits of good water and sanitation are hardly touched on at all. So the student graduates with virtually no appreciation of how to provide what people can afford or of what they really want. The potential beneficiaries of professional activity in water and sanitation are not concerned with biochemical oxygen demand or what coagulants are added to raw water. They want reasonably good water that can be obtained at a convenient distance for a cost they can afford, and for sanitation they want privacy at a convenient location for a cost they can afford.

Hygiene education and the promotion of better hygienic practices at grassroots level are now seen as fundamental parts of water supply and sanitation programmes. They enhance the likelihood of effective community management and ensure that facilities are properly constructed, used and maintained. Here again it is of the greatest importance that any technology to which people are introduced is affordable. It is pointless to try to inculcate an interest in systems which are too expensive.

Swiss Sector Policy Stresses Partnership

The Swiss Development Cooperation (SDC), in its sector policy on water supply and sanitation, places strong emphasis on the recognition of the natural environment and the specific socio-cultural context in which collaboration and partnership take place. Failing to recognize these factors properly is one of the key causes of the unsatisfactory performance of services and utilities. SDC sees the following five building blocks as essential for collaboration and partnership.

1. **Participation and motivation of all parties involved are decisive.** The support agency has to provide the people with what they want and not what it thinks is best. Mobilization for participation is required but fair negotiation of the terms for operating facilities is the basis for efficient management, whether it is by a utility

company or community-based. Gender-balanced approaches are a must.

2. **Clarification of the role of the different actors is necessary.** The transfer of the role of governments from provider to enabler and regulator is crucial but has to be coupled with the strengthening of the role of communities, NGOs and the private sector.
3. **Adequate financial participation of the users is required.** This implies that tangible advantages for the users must derive from their contribution to water supply and sanitation. Projects should be designed to enable users to choose and pay according to that choice. Upgrading the level of services in stages may be another requirement of a demand-oriented approach.
4. **Appropriate technologies should reflect the users' preferences.** Choosing a technology also means being aware of potential new risks to cope with. Reduction of health risks or ecological risks may create new risks, like high maintenance costs or the risk of weakening the existing organizations.
5. **Sustainability of any service or utility depends on the ability of the users to cope with new problems.** Training for new skills has to be based on reinforcing the existing problem-solving capacity. The right information and appropriate communication tools to transfer know-how are basic. Many networks exist already which need to be coordinated and strengthened.



This policy is described in detail in SDC's booklet *SDC Sector Policy on Water Supply and Sanitation*, Series SDC Sector Policies, May 1994, Swiss Development Cooperation, Berne, Switzerland 52 pp.

The booklet is also available in French from:

Swiss Development Cooperation,
Water and Infrastructure Service
3003 Berne, Switzerland

or:

SKAT - Swiss Centre for Development Cooperation
in Technology and Management
Vadianstrasse 42
9000 St. Gallen, Switzerland

Training Essential for Management of Information

Effective information management is crucial for the sound planning and implementation of water supply and sanitation programmes in developing countries. To let others benefit from its extensive experience of generating and disseminating information, IRC has developed a short training course, which was offered in June of this year.

The First Steps

IRC took the first steps to develop a course on managing information in water supply and sanitation in 1991. A 3-week course was given in November of that year for three participants from Indonesian governmental organizations working together in the WASIN Project (Water and Sanitation Information Network). The course was one of the suggestions made by an IRC information management consultant in his report to WASIN and IDRC, regarding ways to enable the WASIN project to sustain its activities in the organizational environment in which it was functioning. The objective of the course was to introduce the participants to various information services which could be developed and provided by WASIN. This objective called for a course tailored to the specific needs of the project.

In November 1993 IRC organized a second course for three participants from Kenya. Their backgrounds and interests, and the nature of the project they worked in again required a tailor-made course. Cooperation was sought with other (training) institutes in the Netherlands to take care of the training needs. The participants received three days training in Geographical Information Systems at the Larenstein Institute, and spent two days at ISNAR (International Service on Agriculture Research) to learn about Monitoring and Management Information Systems.

Developing the Objectives

From the constructive comments given by the participants of the two courses it was clear that the time was right to develop a standard information management course. IRC Information Department staff decided to further develop the course concept into a regular short training course, with a standardized programme in which participants from different organizations with different objectives could participate.

The objectives of this course are to help participants develop or improve their knowledge and skills regarding:

- understanding the basic concepts of information management and how they apply to the water and sanitation sector;

- identifying information users and their information needs;
- identifying and accessing key sector information sources, including on-line databases and document delivery services;
- organizing information and making it available through various information and documentation techniques, including the use of new information technologies such as computers and CD-ROM;
- creating information products and services in-house;
- promoting and evaluating information products and services;
- determining the human, physical, and financial resources required for effective information management.

The course is designed for professional staff in sector institutions in developing countries who are, or who expect to be responsible for supervising information units such as libraries and documentation centres. Participants will normally be either sector professionals, such as engineers or sociologists, with responsibilities for information management, or information specialists such as librarians or information specialists.

First Standard Course

The course given in June 1994 was attended by four participants from projects in Kenya, Indonesia, Sri Lanka, and Uganda. Lectures on various aspects of information management aimed at both documentary information and project data were alternated with an excursion, presentations on electronic mail and management information systems, and discussions on the individual assignments on which the participants worked during the third week of their stay. Each participant gave a presentation at the end of the course based on the issues arising from their individual assignments.

The suggestions and comments given by participants so far have been very useful and will help to improve the course contents. We trust that by building upon experiences gained in these three courses, we will be able to provide training that helps future participants to improve the performance of their institutions with regard to information management issues.

The course, called *Managing Information Resources in Water Supply and Sanitation: a method for improving the performance of sector programmes* will be held again from 3-23 May 1995.

Upcoming IRC Courses

The following is a schedule of IRC's other Short Training Courses in the Netherlands and abroad for the remainder of 1994 and the first part of 1995.

Management for Sustainability in Water Supply and Sanitation Programmes

12 Sept. - 9 Oct. 1994	Netherlands (in English)	3.5 weeks*	US\$ 3400
19 Sept. - 7 Oct. 1994	Kenya (in English)	3 weeks	US\$ 3300**
21 Nov. - 9 Dec. 1994	Burkina Faso (in French)	3 weeks	US\$ 3300**
30 Jan. - 17 Feb. 1995	Cameroon (in English)	3 weeks	US\$ 3300**

Hygiene Education in Water Supply and Sanitation Programmes

31 Oct. - 18 Nov. 1994	Netherlands (in English)	3 weeks	US\$ 3300
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* extra time allowed for use of IRC Documentation Unit

** includes food and lodging and a 3-day field trip.

Further information and registration forms can be obtained from IRC, Training Department.

African Freshwater Resources Workshop

From May 30 - 3 June Africa Water Network (AWN) organized an NGO workshop in Nairobi to take a critical look at UNCED's Chapter 18 of Agenda 21 in the context of Africa's freshwater resources development needs, and propose a community-based action plan for implementation at the grassroots level. The three themes discussed by the working groups were:

- African perspective and issues specific to Africa
- community needs, abilities and limitations
- operational strategies for the 90s and beyond.

As indicated in the preamble of Agenda 21, NGOs have a fundamental role to play in the creation of an interactive policy-making process. The role of the NGOs in this interactive process, is that of a mediator between the grassroots community and the government. It is understood to be a dynamic mediation in both directions: enabling the communities to address their needs on one side, building confidence and understanding for the communities on the other. The draft action plan resulting from the workshop works towards this, and is oriented to three levels of actions:

- Strengthening NGO capacity through networking, training, information exchange and collaboration among NGOs;
- To enhance the role of the NGOs as mediators between the communities and their national governments and the donors. This includes the sensitization of donors to de-emphasize their traditional project approach which favours short-term projects at the expense of sustainable programmes;

- To support the empowerment of the communities. Among others NGOs should liaise with community groups to develop appropriate and enabling management and legal structures.

The enthusiasm and good working spirit of the participants showed that there is considerable goodwill, even idealism, and also entrepreneurship which can be tapped for the implementation of Agenda 21.

More information about the workshop and its outcome can be obtained from:

Workshop Coordinator

Africa Water Network

PO Box 10538

Nairobi, Kenya

Fax +254 2-555513

E-Mail:awn @ elci.gn.apc.org

New Publications



Netherlands Hydrogeological Research in International Cooperation, Netherlands Committee for the International Association of Hydrogeologists, Delft, The Netherlands, 1994, ISBN 90-801772-1-0. 124 pp.

The Netherlands Committee for the International Association of Hydrogeologists recently reviewed the "Netherlands Hydrogeological Research in International Cooperation". The proceedings of this review meeting have now been published under the above title.

The proceedings start with an overview of techniques and new developments in hydrogeological research. This is followed by case studies, illustrating the various techniques. Throughout the review the importance of information management capacity for the application of remote sensing and geographic information systems, and for water resources information and documentation centres is emphasized. Finally, education and training in relation to Dutch international cooperation is discussed. The report discusses geohydrological research and water resources management from, among others, Kenya, Sri Lanka, Botswana and Egypt.

Single copies of the publication are available free of charge from IRC.

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WATER NEWSLETTER

Developments in water, sanitation and environment

IN THIS ISSUE: - A VISION TOWARDS SAFE WATER FOR ALL
- WATER AND SANITATION SERVICE LEVELS IMPORTANT FOR
DIARRHOEA AND NUTRITIONAL STATUS
- HEALTH AND COMMUNICATION MATERIALS FROM USAID
- NEW PUBLICATIONS
- UPCOMING EVENTS

NUMBER 227, SEPTEMBER 1994

A Vision Towards Safe Water for All

Universal access to safe drinking water and to sanitary means of excreta disposal, and elimination of the water-borne guinea worm disease (dracunculiasis) by the year 2000 were among the 27 major goals set for the survival, protection and development of children at the 1990 World Summit for Children.

National leaders recently adopted a set of 'mid-decade goals' as a stimulus for achieving the year 2000 goals. These include narrowing the service gap between 1990 levels and universal access by the year 2000 by 25% for water and by 10% for sanitation, and eradication of guinea worm by 1995.

UNICEF, in its March 1994 brochure "How to Achieve the Global Goals for Water Supply and Sanitation" gives a clear vision on how it perceives the challenge, the potential, and the priorities for achieving these goals. The statistics convey a harsh reality; the potential gives hope.

The Challenge

Some 1.3 billion people in the developing world still lack safe drinking water, and some 1.9 billion have no sanitary facilities.

The lack of universal access to health, education and water services for the world's poorest people is the biggest obstacle to the global targets for sustainable development set by the 1992 Earth Summit through Agenda 21.

The investments in water and sanitation in the 1980s did not always reach the unserved. Of some US\$ 10 billion spent annually, 80% provided high-cost technology to people in cities who already had water and sanitation. Only a fraction of the remaining funds found their way to low-cost, appropriate technologies for the unserved majority in rural and peri-urban areas, who are often expected to pay an unfair share of their already low incomes for installation and maintenance of services.

Continuing the progress rates of the 1980s for water and sanitation in the 1990s will result in *more* people being unserved in 2000 than in 1990. But UNICEF concludes that "if clear priority is given to reaching the unserved population through low-cost technologies and making the necessary policy changes, the water and sanitation goals can still be achieved".

The Potential

Despite the unsettling statistics, progress was made during the International Water Supply and Sanitation Decade (1981-1990). Over 1.3 billion people were served with water and 700 million with sanitation.

The Decade taught us that people are as vital to effective water and sanitation services as pumps and pipes. There is enormous potential in findings from community-level interventions:

- there is an appreciation of and therefore a willingness to pay for safe water;
- practical, visible water services can stimulate community actions for health, education, economy and the environment;
- women, the most underserved and overworked people in poor communities, benefit directly and pervasively from improved water and sanitation;
- rural communities are highly creditworthy, and women are often the most efficient managers of community water finances.

Community empowerment and hygiene education are not only critical to water and sanitation, they are also vital catalysts for achieving the full range of health, nutrition and education goals.

Meeting basic needs through community-focused actions attuned to the local environment is the best investment for achieving sustainable development. Only then can the downward spiral of linkages between poverty, population and environmental degradation be reversed.



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These actions also make sense as a *political* investment, for national leaders and the international community. The right actions today will show results tomorrow and will still be paying dividends in 20 years.

Priorities for Policy Makers

In UNICEF's view, two principles are key to the restructuring of water and sanitation policies:

- human beings are at the centre of concerns for sustainable development, as accepted by the Earth Summit Declaration;
- water has an economic value in all its competing uses and should be recognized as an economic good, as accepted by Agenda 21.

UNICEF sees national governments as the most crucial level for political action. They must become active, enabling agents for water and sanitation, not simply service providers. A human focus will generate the involvement and energies of the unserved for sustainable behaviour change. Policy priorities should include reaching the unserved in rural and peri-urban areas; empowering communities, especially women; using appropriate technologies; and greater equity for the poor in charges and subsidies.

The Best Investment

Although Agenda 21 estimated that US\$ 35 billion a year would be needed in the 1990s to achieve the water and sanitation goals for 2000, its estimates allocated only 30% of that amount for low-cost technology for the rural and peri-urban populations, which represent 80% of the unserved. If the estimates are correct, four out of every five of the unserved can be reached for less than one third of the total resources required.

If appropriate measures are taken for reducing costs and improving cost effectiveness, the annual costs for rural and peri-urban sanitation can be brought down to about US\$ 5.4 billion - just over half of the annual expenditure of the 1980s. With an additional annual investment of US\$ 1 billion from external sources, the remaining amount can be generated domestically through restructuring water sector financing, primarily from urban to rural but also with improved cost-recovery in the urban sector and extra government allocations; and through greater cost recovery in rural sanitation.

UNICEF ensures us: "It is the best possible investment we can make in meeting basic human needs, in development, and in safeguarding the environment."

Source: *How to Achieve the Global Goals for Water Supply and Sanitation*, UNICEF, March 1994.

Water and Sanitation Service Levels Important for Diarrhoea and Nutritional Status

Over the years many studies on the health effects of improvements in water and sanitation have been carried out. Reviewing a large number of these studies revealed that the health benefits reported vary widely; some studies report substantial benefits, whereas others mention there are no benefits at all (Esrey et al., 1991).

Limiting Factors

Dr. Steven A. Esrey, Professor at McGill University of Quebec, carried out extensive research to find out the impact of various service levels for water supply and sanitation on diarrhoea and nutritional status of children. He felt that the studies carried out earlier suffered from limiting factors such as the research population already being relatively healthy, the sample size being too small or the presence of potential confounding factors. Esrey's study was designed to overcome these limitations, by including several countries in various regions (Bolivia, Burundi, Ghana, Guatemala, Morocco, Sri Lanka, Togo and Uganda), by including potential confounding variables and by distinguishing between service levels of the water supply and sanitation interventions.

The findings of the research are put down in the report *Multi-Country Study to Examine Relationships Between the Health of Children and the Level of Water and Sanitation Service, Distance to Water, and Type of Water Used*.

The study had three specific objectives:

1. to examine whether incremental improvements in water and sanitation will result in incremental improvements in health,
2. to examine whether there is a correlation between improvements in health and shorter distances to the drinking water supply,
3. to examine whether the use of improved water sources for all water needs has more of an impact on health than the use of one source for drinking and another for all other needs.

A random sample of ever-married women from urban and rural areas, 15-49 years of age with or without children, were interviewed. Weight and height data of their children between 3 and 36 months of age were included in the analysis. The health effects of using flush toilets and pit latrines were compared to unimproved sanitation, and the health effects of water on the premises and public water supplies were compared to children's health in the case of an unimproved water source.

The major findings from the study are given in relation to the above mentioned objectives:

Sanitation improvements:

- Health effects from sanitation were much larger than from improved water supplies and effects from improved water supplies were not always established.
- Flush toilets provided significantly greater health benefits than pit latrines, which in turn were significantly better than no improved sanitation.
- Water supplies via yard and house connections were usually associated with better health compared to no improved water or public supplies; public supplies provided only marginal benefits.

Distance to the drinking water supply:

- Briefer round-trip water collection time was associated with better child health, particularly nutritional status.

Improved water sources for all water:

- Use of improved water supplies for all water needs is not necessarily better for improved health than use of improved water for only drinking and cooking needs.

It was found that effects of service levels were stronger and more consistent on nutritional status than on diarrhoea. The reasons underlying this include: possible misclassification of diarrhoea because it is not well defined; measurement of height-for-age and weight-for-age being measured using standard procedures; diarrhoea incidence being a relatively insensitive indicator of improvements in water and sanitation since it does not capture the severity of the diarrhoea episodes; and possibility of water brought closer to the homes resulting in women spending more time on food preparation and feeding children, which has an impact on weight and height, but not necessarily on diarrhoea.

The results of his research have led Esrey to conclude that improvements in sanitation should receive a higher priority than in the past, sometimes even over improved water supplies. Flush toilets should receive priority over pit latrines when such an option is available. As much as possible, improved water supplies should be provided via house or yard connections. One should keep in mind, however, that social or economic arguments could possibly lead to other recommendations.

Additional information about the report can be requested from:

Dr. Stephen A. Esrey
Faculty of Agricultural and Environmental Sciences
School of Dietetics and Human Nutrition
McGill University
21, 111 Lakeshore
Ste.-Anne-de-Bellevue
Quebec, Canada H9X 3V9

Health and Communication Materials from USAID

The US Agency for International Development (USAID) has supported a unique 15-year research and development programme - the HEALTHCOM Project - to understand the role of communication and marketing in public health. It has provided assistance to child survival efforts in 35 countries. During these years the project has produced several publications which illustrate a systematic approach to influencing behaviour among those who are closest to the child - the family, the community, and the health care provider. Lessons learned from around the world demonstrate the importance of balancing demand creation activities with service delivery support, and the need for advocacy at the highest policy levels.

Communication and Marketing for Child Survival is the project's basic methodology manual, now used in major public health schools in the US and around the world. *Notes from the Field in Communication for Child Survival* presents practical lessons from almost two decades of experience in applying the methodology to promote the health of infants and children. *Results & Realities: A Decade of Experience in Child Survival* summarizes significant evaluation data. *Communication for Health and Behavior Change: A Developing Country Perspective* demonstrates how a focus on behavior change can be incorporated into each step of the communication process.

Besides additional publications, The HEALTHCOM series also includes audio-visual materials. A complete list of the available materials (some also in French and Spanish) can be obtained from:

USAID
Office for Health
Bureau for Global Programs, Field Support & Research
320 Twenty-First Street, N.W.
Washington, DC 20523, USA

New Publications



International Journal of Sustainable Development and World Ecology, Parthenon Publishing, ISSN 1350-4509

Parthenon Publishing has just launched this new quarterly journal, which provides a forum for the report and discussion of issues and ideas surrounding the important concept of sustainable development. By linking sustainable development to world ecology the journal publishes original research papers, articles and reviews that deal with all aspects of sustainable development, aiming at a balanced discussion, including the economic viewpoint. Contributions related to major environmental issues such as

biodiversity, global climatic warming, resource management and wildlife conservation, especially those which deal with Third World ecosystems and developing countries, will be especially featured.

Subscription rates for Volume 1 (March, June, September and December 1994) are - £75 (\$120) for institutions and £35 (\$85) for individuals. For subscriptions or additional information contact:

The Parthenon Publishing Group Ltd
Casterton Hall, Carnforth
Lancaster LA6 2LA, United Kingdom

The Parthenon Publishing Group Inc
One Blue Hill Plaza, PO Box 1564
Pearl River, New York 10965, USA

Manual for Simple Water Quality Analysis, Lange, Esther de; International Water Tribunal, Amsterdam, The Netherlands: International Water Tribunal Foundation, 1994. ISBN 90-70803-02-X, 140 pp.

This manual aims to help in detecting water pollution, indicating the type of pollution involved, and determining its sources(s). It is intended for use by people without any specific knowledge about water quality, but it is also suitable for those with an environmental background. The manual has been written primarily for organizations and persons in developing countries, but it can also be used elsewhere.

Besides basic information on water and water pollution problems, the manual explains four different methods to assess water quality. These include field survey, biological survey, health survey, and basic physical and chemical analysis. Practical activities to improve the water quality and quantity at household, community and higher levels are suggested, as well as a number of social activities and legal actions to counter or stop water pollution problems.

The manual costs US\$ 20 excl. postage, and is available in English, French and Spanish from:
International Water Tribunal
Esther de Lange
Damrak 83-I
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The Netherlands
Fax: +31 (20) 622 8384

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Upcoming Events

8TH IWRA WORLD CONGRESS ON WATER RESOURCES, Cairo, Egypt, 21-25 November 1994

The congress theme is satisfying future national and global water demands. Major topics include water demands (agricultural, industrial, domestic, energy-related, etc.); institutions for managing water demands, economic aspects (cost recovery, water pricing); environmental aspects, demand management for international water bodies. There will also be special sessions, technical tours and post-conference study tours.

The conference is organized by the International Water Resources Association (IWRA) and sponsored by Water Research Centre (Cairo), African Water Resources Network, Mediterranean Agronomic Institute of Bari (MAI Bari), USAID, World Bank, SIDA, DANIDA, FAO, UNEP, and the Professional Employment Exchange Programme.

For further information contact:

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Telex: 5101011969 UI TELCOM URUD

INTERNATIONAL CONFERENCE ON WATER RESOURCES MANAGEMENT IN ARID COUNTRIES, Ruwi, Sultanate of Oman, 12-16 March 1995

The conference aims to share information and expertise with other countries; explore the state of the art of new developments, legislation and water resources management for arid regions; encourage multidisciplinary approaches to managing water resources, and present Oman's accomplishments in assessing, developing and managing their water resources. Topics will include water resources assessment, development, management, usage and conservation, as well as unconventional processes such as re-use and desalination. The working languages of the conference will be Arabic and English.

The conference is organized by the Ministry of Water Resources (MWR) and the International Water Resources Association, and sponsored by MWR and the World Meteorological Organization.

For more information contact:

Acting Director General, Water Resources Management
Ministry of Water Resources
PO Box 2575, Ruwi-112, Sultanate of Oman
Fax: (986) 799563



WATER NEWSLETTER

Developments in water, sanitation and environment

IN THIS ISSUE: - REALIZING AND SUSTAINING BENEFITS OVER TIME
- NEWS FROM THE COLLABORATIVE COUNCIL
- UNACCOUNTED-FOR WATER
- LOW-COST URBAN SANITATION IN LESOTHO - LESSONS FOR SUCCESS

NUMBER 228, OCTOBER 1994

Realizing and Sustaining Benefits over Time

Water supply projects are not to be seen as an end in themselves but, when sustainable, as the initiators of a range of benefits which continue long after projects have been handed over.

Sustainability is a widely-used term which has a variety of meanings depending on the context in which it is used. A drinking water supply is sustainable if:

- the water consumed is not over-exploited but naturally replenished;
- facilities are maintained in a condition which ensures a reliable and adequate potable water supply;
- the benefits of the supply continue to be realized over a prolonged period of time.

Some benefits, such as health improvements, may take a considerable period of time before they are realized. Others, such as easier access, may be realized upon completion of construction. A benefit such as access to greater quantities of water may decline from an initial high level but still continue as an overall benefit compared to a previous supply. Regardless of when the benefits are realized, it is clear that they cannot be sustained without effective operation and maintenance (O&M).

Trends in O&M

The growing emphasis on O&M is not unique to rural water supplies but reflects the changes that are occurring generally within developing countries. Many of the trends are a result of declining investment in infrastructure. In the absence of new investment, the only affordable option is to maintain what currently exists (Wyatt, 1988).

The major trends in O&M are summarized below.

Decentralization, collaboration and cost recovery

There is a trend towards decentralization and greater collaboration between government departments, external support agencies and water supply users, including the

greater involvement of communities in determining the level and type of service they want and can afford, and in the management of O&M by the users themselves.

The integration of health, water and sanitation activities

Effective O&M encompasses the maintenance of systems, promotion of the safe and efficient handling of water from source to home, and measures to prevent the contamination of water sources.

Environmental concern

O&M now tends to encompass the protection of the environment to ensure that the quality of source water does not deteriorate or quantity decline.



Women's involvement and gender awareness

As the principal users of rural water supplies, women are encouraged to participate in decision making and take active roles in management and maintenance activities. A gender approach to maintenance and management ensures that work, authority and benefits are more equally shared with men.



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Human resources development

As a consequence of greater community involvement there is a shift in O&M responsibilities from skilled professionals to previously untrained community members who are

expected to provide an improved O&M service. Such a radical change of roles requires corresponding changes in personnel support and training.

Private sector involvement

The private sector has always had a role to play in the design and construction of rural water supplies or in providing equipment, materials and skills for construction, operation and maintenance. An even greater private sector involvement in O&M is now being promoted.

Appropriate and affordable technology

Much greater attention is now being given to choosing technology according to the capacity of a community to operate, maintain and finance a system. The hardware should be:

- easy to maintain
- locally manufactured
- robust and reliable
- standardized
- low in capital and recurrent costs.

The trend now is to offer communities a range of water supply options from which to choose based on technically feasible options suited to the local conditions.

Improving effectiveness

There is a greater emphasis on how supplies are managed, operated, maintained and utilized to achieve the desired benefits such as improvements in health, increased production, and reductions in women's workload (Glennie, 1994).

National policies

Many national policies still lack clear strategies on how to develop effective O&M. Revised water tariffs and more accountable systems for the recycling of revenue to support O&M activities have been gradually introduced where national policies have reflected the need to generate recurrent revenue.

Revision of donor policies

Donor agencies have begun to implement well-defined policies to ensure that O&M is a central concern of the programmes they support. Leading donors have supported

the promotion of measures to assess O&M problems and potential solutions through sponsorship of and participation in workshops and conferences. Donors have also sponsored studies into O&M practices and issues, resulting in a growing range of literature.

This article is an excerpt from the paper *Making your Water Supply Work. Trends and developments in the operation and maintenance of water supply systems* prepared by Jan Davis and François Brikké, soon to appear in the IRC Occasional Paper Series. For more information contact IRC.



News from the Collaborative Council

A meeting of the Operation and Maintenance Working Group (OMWG) of the Water Supply and Sanitation Collaborative Council was hosted by WHO in Geneva from 31 May to 3 June 1994. Some 30 participants from national agencies, bilateral and international organizations, which constitute the traditional OMWG, reviewed ongoing activities, discussed improvements to the products derived from these activities and defined strategies for testing, adjusting and applying the tools produced by the Group.

Scope of Work

The revised scope of work of the O&M Working Group after the meeting can be summarized as follows:

- to promote the improvement of O&M performance and raise the level of awareness;
- to improve the profile of O&M in the sector and promote optimum management of existing assets;
- to consolidate work carried out to date by various agencies on guidelines, manuals and training packages;
- to improve O&M by having guidelines, manuals and training packages prepared by the Working Group;
- to promote and facilitate the exchange of information on O&M;
- to promote and facilitate the use of the "tools" prepared by the Working Group;
- to conduct a study on the development of a systematic inter-agency programme to collect and disseminate information.

It should be highlighted that the Group's concerns deal not only with the technology aspects of operation and maintenance but also and mainly with the social, institutional and financial aspects.

Tools

Different tools (guidelines, manuals, training packages) have been prepared by members of the OMWG. Whilst some of these tools have been fully developed and tested others are ongoing. Completed tools include selected case studies on O&M of water supply and sanitation systems, development of a training course package on management of operation and maintenance of rural water supply and sanitation, and characterization and evaluation of models of management systems for the operation and maintenance of rural water supply and sanitation facilities. Tools currently being developed are tools for assessment of operation and maintenance status of urban and rural water supply and sanitation, guidelines for the management of operation and maintenance of urban water supply and sanitation systems (being printed), a training course package on leakage control, and guidance materials on optimization of drinking water treatment plants.

Proposed Additional Activities

In addition to the above work the OMWG felt they should make every effort to develop selected additional activities. Priority issues include establishment of a process of operationalization of community management for improved O&M; influence of appropriate technology in O&M through preparation of a manual on "linking technology choice with O&M in the context of small community water supplies"; and optimization of water supply and sanitation facilities through preparation of a manual on "Field Network Surveys".

Conclusions and Recommendations

The Group agreed that the completion and implementation of tools currently being developed should receive priority over the preparation of additional tools. Strategies have been discussed to improve the access of potential users to the tools prepared by the OMWG. Amongst these are the possibility of having members of the OMWG attend international conferences to promote these tools, or promote regional or country workshops. It was strongly recommended that the tools should be used in a wide context and in an integrated manner and not in isolation.

Different mechanisms should be explored for the dissemination of information produced by the OMWG, including the possibility of using widely disseminated sector newsletters. Mention was made of both the Water Newsletter published by IRC and the WHO Newsletter on Health and Environment. The Rabat Action Plan (RAP) of the Water Supply and Sanitation Collaborative Council should be also actively involved, particularly in promoting the use of the OMWG's tools in ESA-funded projects at the country level.

Unaccounted-for Water

There is no water system that does not leak. Loosely referred to as 'unaccounted-for water', losses due to leakage cannot be accounted for in either production costs or water sales. The difference between the quantity produced and the quantity consumed, however, can give an indication of the quantity of unaccounted-for water.

Unaccounted-for water forms a major constraint on the operational efficiency of any water supply agency and, in effect, limits the agency's effort in improving the level of water services to the consumer. A leak detection programme was carried out for the Kaduna State Water Board in Nigeria in 1988, where a total of 484 cubic metres of treated water was supplied to the pilot area. The analysis indicated that the overall efficiency of the pilot area (which is the ratio between the quantity of water billed for the pilot area and the quantity of water supplied to the pilot network), was 56.5%; the remaining 43.5% represented 'unaccounted-for water'. This meant that only 56.5% of the water treated and supplied to the network of the pilot area was being utilized - a highly unsatisfactory situation.

The pilot programme indicated the importance of developing a programme where all forms of unaccounted-for water could be identified within the water distribution system immediately and all necessary repairs be undertaken. An ambitious "Unaccounted-For Water Programme" has now been established and included within the framework of Nigeria's National Water Rehabilitation Programme (NWRP).

The primary objectives of the programme are:

- improving the level of service to the consumer;
- reducing water wastage and damage to roads and property from leaks;
- improving the utilization of the water source;
- improving the quality of water in the network by preventing seepage into the pipeline.

To start with, the various causes of leakages will be investigated. These include:

- large water busts;
- leaks that occur immediately after a major extension of distribution mains and tank;
- leaking joints;
- leaks that occur through gland packing of sluice valves;
- leaks from in-house plumbing systems due to defects on fittings such as taps, cisterns, showerheads and float valves - leakages from in-house plumbing systems constitute one of the major causes of water loss;
- leaks due to corrosion;
- wastage due to unnecessary overflowing of water tanks.

In some cases, water agencies do not have employees that are actively involved in looking for leaks. They generally rely on reports made by the public before leaks are traced and repaired. This is called 'passive leak detection'. In 'active leak detection', a number of complimentary methods are available which include:

- checking of water metres;
- visual inspection of damp ground, de-coloration of walls, metre boxes and valves;
- minimum night flow method. In this method, consumption during the night (i.e. from 1:00 am to 3:00 am) is recorded by a bulk metre. If the recorded night consumption is beyond acceptable limits of 10 to 15%, investigations are carried out;
- sounding method. Normal flow in pipes occurs at a low velocity which does not generate any sound or vibration. However, whenever water flows from a leak, energy in the system is released and converted into another form such as vibration, popularly referred to as leak sounds. These are conducted along the pipe through the soil to the ground level. This sound is picked up by a listening device that comprises a receiver box, sensor and headphones.

It is important for any water company to understand that a leak detection exercise goes far beyond just detecting leaks. It should be seen as a means of reducing the cost of production and distribution. This can best be achieved by establishing a permanent 'leakage inspection team'.

Adapted from an article by Sani Aliyu Kankangi, Team Manager, Leak Detection Programme, in WaterLine, March 1994 published by the Kaduna State Water Board, Nigeria

Low-Cost Urban Sanitation in Lesotho - Lessons for Success

Lesotho's Low-Cost Urban Sanitation Programme began in 1980 as a pilot component of a much larger urban development project. Centred around the use of the Ventilated Improved Pit Latrine, it has now grown to a nation-wide programme with very few expatriate personnel, and modest reliance on governmental or external financing. In her case study about the project Isabel C. Blackett, an engineer who was advisor to the Urban Sanitation Improvement Team program, sketches the history of the programme, discusses development and promotion of the latrine and project financing, and explains the reasons for success.

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In short, four widely applicable lessons emerged from Lesotho's urban and rural sanitation experience:

*Get the design right

Ensure that the system is technically adequate, affordable for most people and acceptable to the users. Then standardize it for economy and simplicity. In this particular case, the VIP was the most appropriate latrine. In other situations different types of latrines may be required.

* Don't subsidize

Whenever possible, the users should finance their latrines themselves, or through a credit mechanism. The users should directly employ private sector local builders, who are trained in latrine construction. If subsidies are required, calculate the real costs first; be very cautious and be aware of the implications and likely problems.

* Focus on promotion

To attract the users, the issues of health and status should be addressed through various media. Promotional materials need not be professionally produced, but must be thoroughly tested.

* Ensure proper institutional arrangements

Work within government structures if possible. Encourage collaboration with related programmes, and keep running costs appropriate to government budgets, so that the local government can afford to take over the costs once donor financing is phased out. Select staff carefully, and create a team spirit. Hire a few expatriates who demonstrate long-term commitment to the programme, but localize the staff over time.

Setting up a successful sustainable sanitation programme cannot be done in a hurry, says Blackett, and although the Lesotho experience can be labelled a success, there are still issues that must be addressed in the future.

Blackett, Isabel C., *Low-Cost Urban Sanitation in Lesotho*. Water and Sanitation Discussion Paper Series, DP no. 10, UNDP-World Bank Water and Sanitation Program, Washington, DC, USA. circa 50 pp.

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Note from the Editor: In our September issue (227) we printed an article by Dr. Stephen Esrey on Water and Sanitation Service Levels. Dr. Esrey has assumed a new position at UNICEF and can be contacted at the following address: Dr. Stephen A. Esrey, Sr. Project Officer, Water and Environmental Sanitation Section, UNICEF DII 40B, 3 United Nations Plaza, New York, NY 10017, USA.



WATER NEWSLETTER

Developments in water, sanitation and environment

NOTE FROM THE EDITOR

IN ALL CULTURES MEN AND WOMEN HAVE THEIR OWN ROLES IN MANAGING WATER AND WASTE. WOMEN MANAGE WATER AND WASTE IN THE HOME AND WITH OTHER WOMEN IN THE NEIGHBOURHOOD. BUT HOW MANY TECHNICAL PROJECTS RECOGNIZE AND HONOUR THESE ROLES?

IMPROVING HYGIENE REQUIRES SUPPORT FROM MEN. BUT HOW MANY HYGIENE PROGRAMMES ALSO HAVE MEN AS TARGETS?

THE MORE ADVANCED PROJECTS AND PROGRAMMES RECOGNIZE AND ADDRESS SUCH DIFFERENCES - THEY USE GENDER-SPECIFIC APPROACHES. AS THE 4TH WORLD CONFERENCE ON WOMEN IN BEIJING NEARS, IT IS TIMELY TO DEVOTE A WATER NEWSLETTER TO GENDER ISSUES IN WATER SUPPLY AND SANITATION PROJECTS. IT IS TO THE APPROACHES JUST MENTIONED, AND TO THE CHANGING GENDER RELATIONSHIPS THAT THIS ISSUE IS DEDICATED.

IN THIS ISSUE:

- APPLYING A GENDER APPROACH
- GENDER AND WATER SUPPLY IN URBAN LATIN AMERICA
- GENDER STRATEGY IN PAKISTAN
- WOMAN, WATER SUPPLY AND ENVIRONMENTAL SANITATION SEMINAR
- NEWS FROM THE COLLABORATIVE COUNCIL
- CHILEAN HOUSEWIVES TRAINED AS PLUMBERS
- 4TH WORLD CONFERENCE ON WOMEN: EQUALITY, DEVELOPMENT AND PEACE
- NEW PUBLICATIONS

NUMBER 229/230, NOVEMBER/DECEMBER 1994

Applying a Gender Approach: concepts, tools and experiences from the field

For many years water supply and sanitation projects have been technical projects, focusing on construction work. Villagers were just users and beneficiaries. Since the seventies possibilities to participate in planning, maintenance, management and financing were broadened for villagers. When projects said they worked with 'villagers', 'leaders', 'committees', however, they almost invariably dealt exclusively with the male population. Women were usually only a target group for health education.

In the eighties, a more gender-sensitive approach showed that women have several roles in matters of water and wastes, by tradition and by necessity. Additionally, their participation, very enthusiastic in most cases, often enhances efficiency and effectiveness of the use and operation of water installations and sanitation.

In 1985, IRC and PROWESS (Promotion of the Role of Women in Water and Environmental Sanitation Services) jointly published an account of the experiences with women's involvement in the book *Participation of women in water supply and sanitation: roles and realities*.

Field Guides Produced

The evidence on the importance of integrating women in projects created a demand for practical guidelines on how to make the participation of women more visible and improve their decision-making roles in planning and implementation. In response, the Women's Department of the Directorate-General for Development Cooperation in the Netherlands decided to fund the preparation of three

regional field guides, in Africa, Asia and Latin America. The guides were to focus on a gender approach to ensure that also the roles of men, and the changes therein, would be addressed. Focusing only on women has sometimes caused men to reduce their own responsibilities, overburdened the women, and brought conflicts and cultural tension. The guides were produced during three regional workshops organized by IRC in collaboration with local partner institutes.

Working with Women and Men on Water and Sanitation is the title of the field guide produced in Africa. The documentation workshop, held in Naro Moru, Kenya, centred around two themes: why gender in African water and sanitation projects, and how to bring gender into the project cycle. Ten women from nine countries, working in middle-level management positions of rural water and sanitation projects, came together. They defined key concepts such as sustainability, partnership and gender, and drew an African gender tree, which lists the perceived roles of men and women in African society. They described how they deal with gender in each step of the project cycle and what steps they have found essential for an operational gender approach, giving examples and cases from their own projects to illustrate the points.

The Latin-American field guide, *Mejor Cuando es de a Dos: el género en los proyectos de agua y saneamiento* (*Better When Done Together: gender in water supply and sanitation projects*) offers a framework to incorporate the gender approach in water and sanitation projects. Past



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experience with women's projects in the region has shown that approaching women as a "sui generis" case, separated from men, has created and reinforced their isolation from community development decisions. This guide is based on the experiences of eighteen project professionals (women and men) from eleven countries of the region, who met in Cali, Colombia. It offers illustrative cases, checklists related to the gender aspects throughout the project cycle activities, and a methodology and techniques to deal with gender at community level.

The Asian field guide *Together for Water and Sanitation: tools to apply a gender approach* has been produced by middle-level project management staff from rural water supply and sanitation projects in Asia. It combines the joint experiences of fifteen participants from nine countries in Asia, who met at Mount Lavinia, Sri Lanka. After having identified and analyzed problems encountered in their work related to the involvement of women, participants together documented cases and tools they have with which to put a gender approach into practice. Each tool serves to deal with a specific issue, such as gender sensitization of project teams, identification of women's needs, avoiding society-stereotyped roles in documents and information materials, the use of appropriate technologies and gender specific investigation of project impacts.

Besides a wealth of experience and skills, the guides also reflect the commitment these women and men have to their work for better water supplies, sanitation and water resources in their countries and the joy they had in working together. The regional character of the workshops is clearly reflected in the guides.

The workshops used the background document *Methods to Involve Women in Rural Water Supply, Sanitation and Water Resource Protection* as a starter. This literature review covers the main activities and decisions in rural water supply, sanitation and water resource protection projects, which according to the experiences collected by IRC, require either a gender-specific approach or specific measures to bring women into projects.

The three field guides and the background document, all in the IRC Occasional Paper Series, cost US\$ 11/NLG 20 each. For more information contact IRC.

Gender and Water Supply in Urban Latin America

Since the 1960s young, single women form the majority of urban migrants in Latin America. Most of them live in low-income urban neighbourhoods (barrios), where many

actors deal with water supply services. These actors do not have strategies for serving unplanned urban settlements, and any existing services are often based on short-term strategies driven by political interests. Any gap in service is filled by people's organizations in the settlements. Cooperatives which occupy the land sometimes develop into an organization that initiates and manages basic services, or the inhabitants form water service organizations.

A lack of a clear strategy for supplying urban water often results in the access to water supply becoming a political struggle among the actors involved, thus reducing the chances women have to play a role and to have influence in the process, even if they are members of local water associations and groups. They often lack the capacity to negotiate with opposing interest groups and protect their own interests, which is more important than their membership and drive.



Short-Term Solutions

The high politicization and popular demand for any type of water supply have caused issues such as appropriate technology, service level and community management to be neglected, while in the long run, these are the issues that are more important than the now common, short-term solutions.

The least satisfactory and most common practice is purchasing water from private vendors or city-managed water trucks. High costs, a low service level with irregular routes and supply schedules, very poor water quality, and high intake from illegal connections make this the least appropriate way of water supply management for both cities and women.

An alternative is community-based water supply systems, whereby negotiation takes place between the authority which develops the strategy and local organizations who are to manage the systems. One example is UEBM (Unidad Ejecutora de Barrios Urbanos Marginales) in Honduras, where water systems are community-based and managed

and women have more influence on the service. However, because the organization lacks a gender strategy, women tend to be more involved in construction and secretarial duties than in decision making and control.

Sometimes a group or organization from the community itself takes the initiative with a combination of external financing and their own cash and kind contributions (self-help schemes), or with a loan to build through the private sector (autonomous water systems). Despite the local initiative and control, however, local men and women seldom play a decisive role in planning and design. Usually they are dependent on external water technicians who might have other interests and priorities than the community.

Opportunity for Women's Involvement

As individuals, women are those most directly affected by lack of water. They are the most directly concerned with water in the communities, and have a great interest in a reliable and good-quality service. They also have more management experience in services at a neighbourhood level related to health and food. Therefore, water supply systems in which the community or neighbourhood can have control over source and service offer the best opportunity for women's involvement in management.

In initiating and constructing local water schemes, women, to some extent, make a cultural breakthrough, determine gender roles and participate in physical construction and in management organization. In Cali, Colombia, the women of la Sirena, with construction maps, controlled the construction of the distribution net. They discussed with the population the criteria on which to base the tariffs, have significantly reduced water leakage and wastage, and constituted 70% of the water committees' membership.

Elsewhere, women adhere to gender-dictated roles within water management organizations. In Honduras, women form 30% of water committee membership, and in 57% of these committees they occupy secretarial positions while control over the source and distribution is in the hands of men. When women are involved, they often work as unpaid and unacknowledged stand-ins for fathers and husbands. Men formally hold the position of operator or treasurer and receive payments while their wives or daughters do the day-to-day work.

Gender Strategies Needed

Due to the lack of explicit gender focus and strategies, current women's participation is often the result of spontaneous initiatives by women themselves and does not lead to lasting changes in their condition and status. Formulation of gender strategies is needed with project organizations recognizing that water is not only a basic need, but a power instrument as well.

Projects need to take into account that for women in low-income urban communities, a sufficient and regular water supply is not merely a matter of easing domestic work and protecting family health. Water is also used for informal economic activities women do in their households, such as home production of sweets or snacks, growing vegetables for their own use and for sale. Moreover, water used in the barrios is not only limited to individual households. Women collectivize their work in order to survive economically e.g. by establishing communal kitchens, laundrettes and child care centres. A gender perspective on water in the barrios would recognize this and instead of focusing only on yard taps and house connections, would also open opportunities for women to establish communally operated and managed laundry places and bath houses.

Gender Strategy in Pakistan

Baluchistan is a male-dominated society. According to traditional patriarchal rules and customs, women must observe **purdah**, which implies their complete segregation and seclusion. Their lives are dominated by the domestic circle and men conduct all activities outside the home.

The structure of the society means that many questions have to be dealt with before development projects can become operational. Such was the case with the Baluchistan Rural Water Supply and Sanitation Project, which was launched in 1992. The project supports the Water and Sanitation Cell of the Local Government and Rural Development Department (LGRDD), by providing technical assistance in planning, design, construction and development of a community approach to the maintenance and cost-recovery of sustainable water supply and sanitation facilities. Activities target both men and women in such a way as to ensure that both sexes participate in the project process and benefit from the services delivered by it.

Among the questions that had to be dealt with before implementing this project were: how can village women be reached if male team members are not allowed to speak to women? How can we involve both men and women in the development process? How can the male project staff be convinced of the need to involve women? How can men's consent be obtained for the involvement of female relatives?

Gender Analysis

To answer these questions and to develop a gender strategy the project started with a gender analysis. This included an assessment of the situation and of the position of women in relation to men by analyzing their productive, reproductive

and social activities, and by analyzing men's and women's access to and control over assets, inputs and services. The gender analysis was followed by gender-sensitive planning: a planning approach which recognizes that men and women play different roles in society and that accordingly different needs must be taken into account. It appeared that there was often a huge difference between the sexes with regard to preferred locations for facilities. Clearly, since men handle family income and do the shopping, and are thus the ones who buy items such as soap and hygienic water containers, they need to be involved in the hygiene education programme.

The project was able to realize an effective community approach, allowing both men and women to participate in planning, selection of system design and sites for facilities, project implementation and monitoring.

Problems Identified

In the process of trial and error two types of problems were identified: problems at the level of the implementing agency and problems at the village level. At the agency level it appeared to be difficult to get female staff members who are allowed to travel to remote areas, speak at least one of the tribal languages, and who are allowed to travel with male colleagues. Another problem was that hygiene education was quickly seen as a 'feminine' task. Through information and extra training male staff were motivated to educate men on hygiene issues. At village level the main problem was how to reach sufficient women and girls to ensure substantial impact from the project. Next to appointing female staff the project works through mini-teams of a young woman, chaperoned by an older woman from the same compound. These mini-teams meet at inter-compound level and are then supported in disseminating information to other members of their compound.

Positive Results

The gender strategy applied is yielding positive results and permits useful technical information to be collected regarding the design and siting of facilities through the active involvement of women at all stages of the project. The approach also allows women to meet, to voice their opinions, and to be listened to and taken seriously on matters directly affecting their lives. This will be beneficial for the quality of life of both men and women. The project will run through 1995, and the experiences gained in the pilot area will be used to guide the project in other districts.

Adapted from an article by Linda Reijerkerk, in Land and Water International, no.80, 1994, p. 10-13.

Woman, Water Supply and Environmental Sanitation: Seminar held in Ecuador

Approximately 4.6 million people in Ecuador have no access to drinking water and 2 million have no access to health services. This lack of drinking water and basic health services, both in rural and peri-urban areas, has been affecting women and girls in particular. They are the main people responsible for the transportation of water, and often spend 6 - 8 hours daily on this activity. The water carried home is usually not safe to drink, and diarrhoea related to unsafe drinking water has been the cause of a high number of deaths among young children. Many skin and eye diseases are also related to drinking water scarcity and availability of water for personal hygiene.

A Multidimensional Problem

Like all problems related to a low degree of development, the water supply and sanitation problem is a multidimensional one. The problem lies not only in the socio-economic component of the situation but also on the technical, health and environmental components. Because of their interrelation, a problem affecting one of these components has impact on the others. This degrading situation has prompted UN agencies such as UNDP, UNICEF and INSTRAW (UN International Research and Training Institute for the Advancement of Women) to stimulate and develop water supply and environmental sanitation programmes and projects.

To bring these and related problems into debate and aiming at helping to achieve adequate solutions, INSTRAW's focal point in Ecuador, IECAIM - Ecuadorian Institute for Women's Research and Training, in close cooperation with USAID-RHUDO/SA and UNDP, held the "Woman, Water Supply and Environmental Sanitation" seminar in Quito from June 27 to July 1, 1994. Forty-eight participants, mostly women, from Ecuador, Dominican Republic, Nicaragua, USA, Brazil and England, and from national and international private and public sector organizations, gathered and discussed how to incorporate women in the planning, programmes and projects related to water supply and sanitation, from their inception through the different stages of their execution.

Six Modules

As a methodology for the seminar, INSTRAW presented a package of six innovative training modules, translated into Spanish. These modules served as a tool for the analysis, the strengthening and the application of the theoretical concepts brought up during the seminar. They can also be used by participants during training of others and during



News from the Collaborative Council

their own professional activities. Each module contains the definition of target groups; general and specific objectives; texts, additional reading and bibliographies; questions to be discussed during working group meetings; questionnaires for evaluation; and a guide for the trainer containing a list of necessary tools, a summary of each training section and audiovisual material. The package can be adapted to different situations, target group needs, group sizes, and level of qualification of trainers and trainees. The modules can be used as a set or independently.

The six modules presented at the seminar included:

1. The International Drinking Water Supply and Sanitation Decade
2. Participation of women in the planning, the choice of technology and in the execution of sustainable water supply and sanitation projects
3. The role of women in hygiene education and training programmes in the context of water supply and sanitation projects
4. Women's participation in water resources management, water supply and elimination of waste
5. Women and waste management
6. Evaluation and control of water supply and sanitation programmes and projects and the role of women

The seminar succeeded in raising participants' awareness as to the importance of involving women in all phases of water supply and sanitation projects and programmes. They committed themselves to the new approach of ensuring that women's needs and participation are included in the planning, operation and maintenance, evaluation and execution of water supply and environmental sanitation projects. Those who are normally engaged as planners have stated that the issues related to women would be introduced in policies, programmes and projects. They were also sensitized to the need for the active involvement of women in the execution of such policies, programmes and projects.

IECAIM-INSTRAW will ensure that the knowledge acquired by participants during the seminar can be transferred to practice and produce a multiplying effect. For this purpose, periodical evaluations, training and advisory services are foreseen. UNDP will support these initiatives.

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The members of the Water Supply and Sanitation Collaborative Council created the gender issues working group at their September 1991 meeting. Over the following two years, the *Gender Issues Sourcebook for Water and Sanitation Projects* was produced, and was presented at the 1993 meeting of the Council. At that time it was decided that the group should become a 'mandated Council activity', and should produce a second gender issues sourcebook, this time for the policy level.

The membership now consists of over 25 professionals, from all regions of the world and from various types of organizations. The UNDP-World Bank Water and Sanitation Program is the coordinator of this mandated activity, and INSTRAW (UN International Research and Training Institute for the Advancement of Women) is a lead agency. A meeting was recently held in New York, attended by a core group of eight. The main topic was the preparation of the second sourcebook. This document will highlight agencies' policies regarding gender, especially those relating to the water and sanitation sector. It will also discuss agency experience in implementing policies. Those at the meeting decided that a short concept paper should be produced, which would summarize the key messages for the sector concerning gender issues. Agencies' preparations for the Beijing Women's Conference were reviewed, as were strategies for incorporating gender issues into the work of other Council groups.

The first sourcebook will be published shortly. It is a compilation of 'tools' and other resources for use in gender-sensitive programming. It includes guidelines, checklists, terms of reference, charts and community-level tools. Two 'tool selection matrices' help users to find the right tools for each stage of the project cycle and for training, personnel and budgets. The resources section contains a list of bibliographies and agencies with particular expertise in gender issues in the sector. This publication will be available, free of charge, from the UNDP-World Bank Water and Sanitation Program.

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Inquiries relating to the gender issues mandated activity can be sent to the coordinator, Wendy Wakeman, at the same address.

Chilean Housewives Trained as Plumbers

EMOS, the Metropolitan Enterprise for Sanitary Work in Santiago, has been training women plumbers. Between September 1993 to August 1994, 80 workshops called 'Home Plumbing' have been held and approximately 1880 housewives from 43 communities in the Santiago area have been trained. This project is part of the EMOS programme on water conservation and environmental protection. The idea is to reach housewives, as they are the ones in daily contact with water at home and have the responsibility for administering the family's income. The course includes information on hygiene education, water conservation, problems caused by the misuse of water and sanitary facilities, the water distribution system, and on how to avoid unnecessary expenditures. Priority is given to the poorest households which are the most affected by the economic problems caused by inadequate installation of sanitary facilities or their misuse. By the end of 1994, the number of housewives trained on basic plumbing and capable of doing repairs in their homes should reach 2600.

4th World Conference on Women: Equality, Development and Peace

The 4th World Conference on Women will take place from 4-15 September 1995 in Beijing. The objectives of the conference are:

- to review and appraise the advancement of women since 1985 in terms of the objectives of the Nairobi Forward-Looking Strategies (FLS) for the Advancement of Women to the Year 2000, and to mobilize men and women at both policy-making and grassroots levels to achieve these objectives;
- to adapt a Platform of Action document concentrating on the key issues identified as fundamental obstacles to the advancement of the majority of women in the world. The focus will be on awareness-raising, decision making, literacy, poverty, health, violence, national machinery, refugees and technology;
- to determine priorities to be followed in 1996-2001 for the implementation of the FLS.

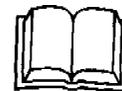
Internationally and regionally, several meetings and conferences have been held in preparation, both within the UN and in the NGO community. The UN General Assembly has determined that NGOs in consultative status with ECOSOC will be accredited with participation in the conference and its preparatory process upon request.

NGO Forum '95

An NGO Planning Committee for NGO Forum '95 and an NGO Facilitating Committee have been established in support of NGO preparations and activities at the conference. Forum '95 is open to all, and will provide women from around the world with the opportunity to discuss and develop ideas, perspectives, plans and strategies. It will be structured so that groups can organize seminars, media showcases, workshops, panel discussions, exhibits and other events. A women's media and resource display is being planned, as is a daily newspaper.

Groups wishing to organize activities during the forum can reserve a space through the NGO Planning Committee at: NGO Planning Committee for the NGO Forum '95
777 UN Plaza, 8th floor, New York, NY 10017, USA
Tel: +1 212-986-0987, fax: +1 212-986-0221

New Publications



Workshop on Gender and Water Resources Management. Lessons Learned and Strategies for the Future, Swedish International Development Agency (SIDA), Stockholm, Sweden, 1994, ISBN 91-586-7207-9. Vol. 1 approx 26 pp., Vol. 2 approx 200 pp.

To initiate a process of developing strategies and methodologies for working with gender within the broader concept of water resources management, SIDA and the OECD/DAC Expert Group on Women and Development organized a workshop in Stockholm, Sweden from 1-3 December 1993. The workshop, *Gender and Water Resources Management. Lessons Learned and Strategies for the Future* was attended by water resources management specialists and gender specialists with backgrounds in water resources management. They met to share experiences in the areas of domestic water supplies, environmental hygiene and sanitation in urban and rural areas, irrigation, wetlands management, flood control and overall river basin planning. The focus was on discussing the lessons learned in the different sub-sectors, and potential strategies for future action.

The workshop report and papers presented are now available in two volumes. Volume 1 contains the report of the meeting, and includes the workshop process, findings, and a framework for progress. Volume 2 contains the papers presented at the workshop. The set is available free of charge on request from: SIDA Infrastructure Division Section for Water and Settlement
61 Birgir Jarlgatan, S 10525 Stockholm, Sweden
Tel: +46 8-673 2141, fax: +46 8-728 5100

