

WATER NEWSLETTER

Developments in water, sanitation and environment

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NUMBER 231, JANUARY/FEBRUARY 1995

Water Supply and Sanitation in Central and Eastern European Countries: a view from the Netherlands

Central and Eastern European countries are struggling with a problems of a very different nature than developing countries. In these countries, where water supply and sanitation systems are already in place, the problems concern decentralization, financing and pollution, all of which directly or indirectly affect the quality and quantity of drinking water.

In order to get an overview of the magnitude of these problems, and to identify areas and means for transfer of Dutch expertise, the Netherlands Ministry of Housing, Spatial Planning and the Environment (VROM) contracted IRC to study where exchange of information and expertise on water supply and sanitation could be of mutual benefit.

A combination of desk research and field missions provided details about the prevailing water and sanitation conditions in Bulgaria, the Czech Republic, Rumania and the Slovak Republic. The studies were completed by delegations from the four countries, who participated in an exposure visit and seminar organized in the Netherlands in September, 1994.

Economy and Finance

The most eminent common feature shared by the four countries is the difficulty to change the sector's mode of operation from a centrally-managed plan economy to the market-oriented economy typical of the post-socialism era. The debates about the desired degree of privatization, as well as the appropriate institutional form, continue.

The difficulties facing the national economies of the countries are reflected in the amount of financing available for water supply and sanitation. The sector is still in need of budgetary support, as the low tariffs cannot be raised at once to a level which fully covers the capital and recurrent costs. Furthermore, the ability of the state and/or the local governments to subsidize the sector is diminishing rapidly. Clearly external financing is needed to get through the coming few critical years.

Environmental Issues

Protection of the water resources is urgently needed, as many indicators point to existing pollution or its imminent danger. Previous governments placed no emphasis on environmental protection in any of these countries. The main concern was production, which has resulted in growing environmental problems. In Rumania the main cause of these problems is agriculture. In the Czech and Slovak Republics industrial pollution is the culprit, but agriculture is also a contributing factor. Environmental issues are gradually becoming a topic of general discussion in the four countries. Until recently, however, citizens' initiatives were perceived as having political purposes rather than expressing environmental concerns. The roles of various actors in environmental protection are still being formulated.

Planning and Management

The role of planning in the new social environment has changed. Services are no longer planned for and provided by the central government, so the experience gained in the past is no longer applicable. The lack of experience in financial planning poses a particular problem, and the choice of technology has taken on new dimensions. The level of technical know-how appears to be generally good, but due to historical reasons experience in 'western' technology is limited.

The Czech and Slovak Republics have similar situations due to their shared history. However, it appears that the privatization process has progressed slightly more rapidly in the Czech Republic. The top priority in the Slovak Republic seems to be to find optimal solutions for the management of water supply and sewerage utilities. In the Czech Republic water supply and sewerage companies have already been formed and the majority of them have been transformed in such a way that the municipalities now own and run them.



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International Water and Sanitation Centre
WHO Collaborating Centre

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In Rumania the water supply and sewerage systems are operated by so called autonomous 'Regia', which come under local authorities. Their nature differs somewhat from those in the Czech and Slovak Republics, where these are independent.

In Bulgaria the Ministry of Regional Development (MRD) implements the state policy in the regions, including the public utilities and municipal services. MRD owns and controls the state water companies in 28 regions, while the 14 municipal companies are owned and controlled by their respective municipalities. MRD has historically been the main source of finance for the sector. The little funding still being provided is now almost entirely channelled through the municipalities from the state budget. The historical mode of operation of the state water companies is changing. The companies have been transformed into sole proprietorships, and new managers have been appointed under contracts that include performance targets. Two-thirds of these managers have been appointed under competitive tendering.

The technical level of the utilities in the four countries has been handicapped by a lack of reinvestment in the past. While original standard may have been satisfactory, the age of the plants as well as lack of funds to repair and augment them have caused the level of services to deteriorate. The situation varies from country to country and from utility to utility, but one common feature is an almost total lack of the latest sophisticated electronic equipment.

Exchanging experiences

While developments in the Czech and Slovak Republics, Rumania and Bulgaria will each follow their own country-specific courses, each can benefit from the experience in the Netherlands, where for decades similar environmental problems have been encountered and combated. The transition of the societies in these countries to a democracy renders a possibility for a new approach in the sector. For example, the role of utilities, now economic units, calls for different management. The experience in the Netherlands could assist in planning their effective and efficient operation.

The traditional development cooperation approach is not applicable when planning cooperation between the Netherlands and these four countries. The countries are already developed, but have a different recent history than the 'western' industrialized countries. The cooperation must be one of partnership, with both parties actively contributing to a common goal.

It is not wise to rush into project or programme cooperation without first creating an enabling environment. This can be achieved by conducting seminars/workshops where experts exchange experiences on key issues. These seminars/

workshops can be conducted as separate events or in connection with a larger programme. The cooperation should be continued after the seminars by arranging various kinds of training opportunities at various levels, both in water supply and sewerage subsectors.

The scientific and professional associations within the sector are the best channels to exchange experiences. Addressing the sector professionals and also the decision makers through their own associations renders a possibility to discuss various issues without the hierarchy limitations of the sector organizations/institutions.

Long-term support to the sector should be channelled through the water supply and wastewater associations, for example by means of twinning. This would be very effective, as the countries concerned, which are in transition, already have a highly educated technical sector cadre who lack experience in acting in a market economy environment.

Direct project support deserves consideration. To establish an independent water company and to run it for a short period, for example, could be an useful pilot project which provides hands-on experience in how to manage, operate and maintain a waterworks in the prevailing socio-economic environment, in a financially sound and sustainable manner. Clearly the required funds must be made available for both the software and the hardware. The investment capital should be provided in the form of a long term (preferably soft) loan. The technical assistance component could be either a grant or a soft loan. The financing of all of the proposed activities could be divided amongst various external support agencies depending on their specific capabilities and interests.

A special case is environmental protection and particularly source protection. How to organize support and how to raise awareness at the political level and with the population in general needs further study and consultation.

The study reveals clear potential for mutually beneficial cooperation between the Netherlands and the CEE countries. The experience of both parties, when combined, can contribute greatly to improvements in the water supply and sanitation sector performance.



News from the Collaborative Council

From 20-22 October 1994, the Council held a meeting for the coordinators of the working groups and on the Rabat Action Programme, at WHO Headquarters in Geneva. The working groups and the Task Force reviewed their activities in follow-up to the Council's Oslo and Rabat meetings, and

discussed its response to the request made at the Ministers' Conference on Drinking Water and Environmental Sanitation held in Noordwijk, the Netherlands in March 1994, to study the appropriate form of a World Water Council. Country reports were considered with a view on application of Council outputs, and preparations were discussed for the Council's next meeting later this year in Barbados.

Working Groups' Activities

Promotion of Sanitation

Coordinator: Dr. Mayling Simpson-Hébert, WHO

Two 1994 meetings identified the problem of sanitation and the areas needing priority attention. The primary focus will be on on-site sanitation for the poor, especially in high-risk areas. Special consideration will be given to overcome the negative connotations which sanitation has. Issues to be addressed by the working group include institutional barriers to promotion of sanitation and the tendency for sanitation to be overshadowed by other sectors within institutional priorities.

Institutional and Management Options

Coordinator: Mr. Frank Hartvelt, UNDP

The group concentrated on looking at different models of delegated management and presenting 'best practices' as models for replication. A meeting earlier in 1994 concerned privatization, and a meeting early in 1995 will focus on public sector models for urban and rural sectors and community and NGO arrangements. A collection of case studies has been compiled; its dissemination and feedback mechanism are currently being considered. The group plans to explore ways of establishing and strengthening professional associations in countries. In future, the intention is to extend the scope to include coverage of water demand management conservation.

Water Pollution Control

Coordinator: Dr. Richard Helmer, WHO

This group will produce models of regulatory frameworks, institutional arrangements and policy structures, as well as guidelines. The models will be based on ten case studies which will be compiled in a book, as a tool to provide developing and rapidly industrializing countries with practical approaches to water pollution control. The first part of the book will deal with policy, legal, economic, institutional and technology issues, while the second part will present case studies from various countries. The group's developing country members will ensure the acceptability of suggested controls, which will include gender roles.

Operation and Maintenance

Coordinator: Mr. José Hueb, WHO

Plans for the coming period include a look at comprehensive and complementary tools for achieving

sustainability in water supply and sanitation services; promotion of the use and testing of tools already produced; completion of the guidelines and training packages currently being developed; and to seek feedback on materials produced. The group learned that Chile had benefited greatly from the group's tools, to achieve a high level of efficiency in the Santiago Water Services. Promotion and use of tools are planned in West Africa, African Lusophone and Francophone countries, Burkina Faso, Vietnam, Philippines, and Central America.

Communication and Information

Coordinator: Mr. Hans van Damme, IRC

Communication: In view of the emphasis on community-level control or management of water supply and sanitation systems, this working group aims to develop suitable communication techniques, and to ensure that communication becomes a two-way process, both to transmit information and to obtain feedback. Activities at the national level are planned in association with UNICEF in Guinea Bissau, Uganda, Burkina Faso, Peru, the Dominican Republic and Indonesia.

Information Management: The group has updated the international water thesaurus. While considering different categories of information (sectoral, management, project and public), the group will promote models for enhancing information systems in developing countries, and foster national workshops to build interest in the Council's information materials.

Gender Issues *Coordinator: Ms. Wendy Wakeman, UNDP-World Bank Water and Sanitation Programme*

The Gender Issues group will continue to increase its membership as needed; distribute its first sourcebook; continue preparing its second sourcebook on gender issues concerning the policy level; and issue a press kit for the Conference on Women to be held in Beijing. The group confirmed that arrangements were in place to ensure that gender issues were considered by other groups in all aspects of the Council's work.

Global Applied Research Network (GARNET)

Coordinator: Mr. Andrew Cotton, WEDC

At its Advisory Committee Meeting in early 1994 a new framework of activities was drawn up for GARNET, which established the scope of its networking. A series of working papers and fact sheets were publicized in the latest GARNET newsletter. The next newsletter, with a circulation of 6000 English, 2000 Spanish, will disseminate information on the Council's applied research activities.

Country Reports

Reports on the status of the water supply and sanitation sector were presented by six countries: Chile, Morocco, the Philippines, South Africa, Uganda and Zimbabwe. Readers

interested in more details may contact the Council's Secretariat* for copies of the report on the Coordinators' and RAP Meeting, 20-22 October 1994.

Rabat Action Programme (RAP)

The Rabat Action Programme was established after the Council's last meeting in Morocco in 1993. The various activities concern application and/or implementation of the ideas, products and tools of each of the working groups. Items discussed included the need to disseminate reports prepared by or under the aegis of the Council more widely and in other languages; the urgent need for advocacy; the importance of national and regional professional associations; benefits of the WHO/UNICEF Joint Monitoring Programme; involvement of NGOs in the work of the Council; attention to informal sector activities; awareness of the sector situation in the newly independent states in Eastern Europe and the Central Asian Republics, and their possible participation in the Council; community management; and water sector strategies.

World Water Council

The Secretariat of the Council agreed to assess the interest in the proposal for a World Water Council by participating in the upcoming IWRA conference in Cairo, where a similar proposal will be discussed, and by canvassing environment ministers, as well as traditional supporters of the Council, for further funds for a study. The Swiss Government has already donated US\$ 10,000. Funding would enable a two-step approach to the study: the assessment of the need for a formal or informal body, with a proposal for an appropriate arrangement to the Commission on Sustainable Development (CSD); and further work towards the establishment of a World Water Council subject to a request and financial support from the CSD. Should no financial support be made available for the study, the Council will hand the matter over to the CSD together with a brief report.

Next Meeting

The Council will meet again from 30 October to 3 November 1995 in Barbados. A Steering Committee will draw up the agenda in consultation with members.

* WSSCC Secretariat c/o WHO, 1211 Geneva 27, Switzerland.

New Publications



Towards Better Water Resources Management. A Catalogue of Policies of External Support Agencies, Visscher, Jan Teun, and Sörensson, Maria. IRC, The Hague, The Netherlands, 1994, 208 pp.

Towards Better Water Resources Management describes the policies and strategies of 26 bilateral and multilateral

external support agencies. It serves as a basic source of information for those working in the area of water resources management, particularly those involved in project formulation and proposal preparation. It includes a synthesis of the various ESAs' experiences with their water resources management policies and strategies. It then provides a profile on each ESA, which includes information on the status of its policy and strategy, as well as some general information about the organization.

The catalogue was originally prepared on request of the Swedish International Development Authority (SIDA), as a paper for the meeting of the Development Assistance Committee of the Organization for Economic Cooperation and Development (OECD) in May 1994. It is available from IRC for US\$28/NLG 50.

Note to our readers: In our previous issue we announced the new publication *Workshop on Gender and Water Resources Management. Lessons Learned and Strategies for the Future*, published by SIDA. The following is the correct address for ordering: SIDA/INFRA, Ms M. Sundgren, S-105 25 Stockholm, Sweden, Fax: 46 8 612 08 89

Upcoming Events

7th International Conference of the International Rainwater Catchment Systems Association, Beijing, China, 19-25 June 1995

Rainwater Utilization for the World's People is the theme of this conference, being organized by the International Rainwater Catchment Association. The conference will address issues that include environmental, ecological, socio-economic, political, institutional and cultural aspects associated with rainwater catchment systems utilization. The role of women in the complete cycle of rainwater catchment project development and application will be explored, recent advances in technology and new innovations will be reported, and water quality standards for providing a safe and reliable rainwater supply will be established. For more information contact:

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22 March is World Water Day!

Look for Activities in Your Area

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WATER NEWSLETTER

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IN THIS ISSUE: - WORLD WATER DAY 1995
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NUMBER 232, MARCH/APRIL 1995

World Water Day 1995

WMO Secretary-General stresses link between women and water

At its forty-seventh session in 1992, the United Nations General Assembly adopted a resolution designating 22 March of each year as World Water Day. The theme chosen for the celebration of World Water Day 1995 is 'Women and Water'.

This year's theme recognizes the special relationship between women and water. In the majority of the world's households, it is the women who generally control and manage the use of water. They determine its use in preparing food, washing clothes, and in keeping the family and household clean. It is the women who traditionally collect and carry home the water in many places in the developing world. And where women work on the land, they are usually responsible for ensuring that there is sufficient water for the crops and the animals in their care. However, the recognition of the importance of the link between women and water for sustainable development has gained prominence only in the last decade or so.

By the end of this century, it is estimated that water availability per inhabitant in Africa will be 5100 m³, one-fourth of that of 1950; in Asia and in South America it will be 3,300 m³ and 28,300 m³ respectively. These are one-third of their 1950 values. The ever growing scarcity of clean and fresh water is bound to increase the present hardship of women.

At the national level, recognition of the role of women is demonstrated by their increasing involvement at the grass roots level in water projects and programmes especially in developing countries. This is true for both hands-on construction and for planning and management of water supply and sanitation schemes at the community level. National development plans, however, should place greater emphasis on strengthening the managerial capabilities of women to improve the efficient and sustainable use of water at local and national levels.

At the international level the relationship between women and water now receives particular attention, amongst others from governmental and non-governmental organizations and the donor community. The outcome of the International Conference on Water and the Environment in Dublin in January 1992 also gave special attention to this issue. The Dublin Statement states that if women are to play a central part in the provision, management and safeguarding of water, positive policies are required to address their specific needs and to equip and empower them to participate at all levels in water resources programmes, including decision making and implementation, in ways they themselves define.

UNCED's Agenda 21 calls for women to be fully involved in decision making and in the implementation of sustainable development activities. Furthermore, the World Conference on Women which will be held in Beijing in September 1995 will provide further opportunities for highlighting the important role of women in the field of water. While there has been an increase in the involvement of women in certain aspects of planning and management of available water, women have been less involved professionally in overall planning, design and operation of the systems that assess water resources, capture the raw water, treat it, carry it to the users and dispose of the polluted water.

While women normally play the major role in managing the use of water at the household level, and in the community in some cases, they usually occupy a minor role in water resources assessment and in the other activities related to hydrological services. Within the field of hydrology, and other geophysical sciences, there are generally too few professional women, particularly at the advisory and policy-making levels.



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Opportunities to advance professional competence and the role of women generally in freshwater and more particularly in hydrology and water resources are provided through education and training at various levels. While the total number of women receiving training fellowships for hydrology and enrolling in hydrology courses seldom exceeds 15%, there are signs that hydrology and other geophysical sciences are beginning to attract more women. A survey of the American Geophysical Union indicates that the younger the age, the higher the percentage of women members. In the age group 60 and above, only 3% are women, compared to 30% of those in their twenties.

One of the reasons for the lack of women in hydrology and sciences generally, must lie in basic education. In many countries fewer girls have access to education: this gap starts at the primary level and widens towards higher levels. Opportunities need to be provided to alter this pattern, especially so as to permit more women to enter the physical sciences and engineering. This will allow women to play an increasing role in the development and management of one of the world's priceless resources.

Furthermore, it is essential that basic knowledge about water resources assessment is included in all programmes involving the capacity building of women. It is only through broader understanding of water resources and its implications for the livelihood of humankind that women will be able to contribute effectively to sustainable development as called for in Agenda 21.

The preceding is an excerpt from the statement issued by the Secretary-General of the World Meteorological Organization (WMO), Prof. G.O.P. Obasi, on the occasion of World Water Day 1995.

One World Water and Sanitation Problems

Recent environmental news headlines illustrate that water and sanitation problems exist all over the world. What makes the bad news worse is that the problems are not caused by natural disasters alone, but are also the result of bad practices by man.

Major stories in the news around the world in recent months include:

- *More than a quarter of a million Dutch evacuated because of river floods in North-western Europe.*
- *Floods because of heavy rains in the Italian Po area.*
- *One-fifth of the Netherlands soil is dehydrated.*
- *Groundwater pollution is the number two environment problem (after air pollution) in Europe.*
- *Plague outbreak in India.*

Flooding in the Netherlands

With the Delta Plan against water from the sea the Dutch have secured their front door, but in January 1995 they were unpleasantly surprised by massive flooding through their back door: the rivers Meuse and Rhine. Heavy rainfall in Germany, France and Belgium caused flooding in more than those countries alone. Record amounts of water came down through the Meuse and Rhine, which end in the North Sea on the Dutch coast, flooding parts of the Limburg province in the south of the Netherlands.

In the areas further west along both rivers the water reached record levels, threatening to break the dikes which safeguard hundreds of thousands who live up to five metres below the water level. Authorities could no longer guarantee that weak areas of the dikes would hold, and decided on a phased evacuation plan for more than 250,000 people, hundreds of thousands of cattle and business inventories.

Government Action

Public opinion demanded quick action to speed up existing plans for strengthening the river dikes. Politics followed suit. The Dutch Cabinet initiated an emergency law for a new Delta Plan against the river water, at an estimated cost of Dfl 2.8 million (US\$ 1.7 million). Work is scheduled to begin in April on strengthening 80 kilometres of the most fragile dikes. In total 685 kilometres of dikes must be strengthened by the year 2000, instead of the earlier planned 2008. The acceleration will cost an extra US\$ 300 million.

The floods and their impact have put water management of international rivers in Europe high on the political agenda. The German Government announced restrictions on use of land along the rivers for agriculture and construction. It will also slow down the canalization and streamlining of small rivers. River management in Europe is very decentralized, as a result of which there is no coordination between provinces, states and countries.

After the water had receded and the people had returned home, European ministers of environment meeting in Brussels called for measures to avoid flooding of Europe's big rivers. The European Commission of the European Union has set up an interdisciplinary working group which has to produce an action plan for a common approach on water crisis management.

Earlier disasters

Three days of rain in north-west Italy at the end of last year wreaked havoc, because of monoculture agriculture in the mountains, slashed trees, mismanagement of the rivers,

uncontrolled road construction and illegal construction works in valleys. Rainwater from the Alps now rushes into the Po river in three to four hours, instead of in weeks, as in the past.

In the Netherlands a similar package of drainage problems, water withdrawal for irrigating crops, groundwater withdrawal for home consumption and industry, expansion of urban areas and increasing soil cleaning operations are contributing to dehydration of a larger part of the Netherlands than expected. Drinking water companies have already warned that the price for drinking water in this country will need to be doubled to cope with all the problems they face.

In its first report since its foundation in 1993, the European Environment Agency in Copenhagen listed groundwater pollution as number two of the twelve most pressing environmental problems in 43 European countries.

Two-thirds of all Europeans depend on groundwater for drinking and other home use. In many parts of Europe the water contains higher levels of nitrate and pesticides than European Union guidelines allow. There is also an unacceptable level of water loss from piped systems, in some countries as much as 50 percent.

Last year's plague in India started in Surat, one of the richest cities in the country, whose authorities paid dearly for not having spent sufficient attention and money to provide basic waste disposal and sanitation systems. The plague "not only reduced India to the status of an international pariah, but poked holes through its health system as well", *Down to Earth* magazine wrote.

All these disasters cause great misery for the people hit by them. For water and environmental sanitation people they provide an opportunity to draw the attention of politicians to the great importance of improved water supply management and environmental sanitation.

Swedish Schools Raise Awareness about Water

Creating awareness about water, environment and development while raising funds for water and sanitation in Namibia. That is the dual objective of **A Drop of Water**, a comprehensive campaign for children, water and the environment launched in Swedish schools at the end of September 1994. The campaign is the work of the Swedish Committee for UNICEF, in close cooperation with the Swedish Development Authority (SIDA) and the Swedish Water and Waste Water Association. The pilot project

interlinks education for development, information, fundraising and media activities. The campaign will clarify the importance of clean water for community development in Sweden and in developing countries, strengthen the solidarity with poor countries, and show that the funds raised actually reach their targets.

Education

The first part of the campaign is educational. UNICEF has produced a Teacher's Manual for primary schools called *A Drop of Water*. Starting with the basic fact that water is a need for all living species, it presents other interesting facts about water and poses questions. Each chapter contains a part in which the situation in Sweden is compared with the situation in Namibia. Suggestions for investigations and experiments with water are also presented. To date, over 12,000 copies of the manual have been sold - half of all primary school teachers have it. For an extra boost to the activity, a thematic issue of *UNICEF Today* was published, and forty copies were sent to every primary school in Sweden.

A competition is being held between school classes for the best collage of text, pictures, photos or comic strips of water in Sweden and Namibia. The first prize is a trip to Namibia for four students and their teacher.

Videos

Two video films were made in Namibia which aired on Swedish television in October. One film is about a family in northern Namibia and their relation to water in their everyday lives. The second concerns the water situation in northern Namibia.

Fundraising

In February the fundraising activities began, supported by Swedish television and with a fundraising period in the Swedish Broadcast Fundraising Foundation. School children will be involved in raising funds for clean water in Namibia. In cooperation with UNICEF Namibia, the campaign also hopes to support construction of water catchment systems and VIP Latrines in schools, improvement of existing wells, and provision of pumps.

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Training Materials

The UNDP-World Bank Water and Sanitation Program has developed a *Participatory Development Tool Kit* to help project managers, trainers, social scientists and other development practitioners to incorporate participatory processes and methods into their programmes. The kit is based on training experiences in 20 developing countries, and helps to promote participation by providing fieldworkers and artists with new concepts that can be adapted to the local socio-cultural setting. The package contains an instruction booklet and activity envelopes for 25 techniques that can be used to work with agency staff, trainers, researchers and community members for planning, managing, monitoring or evaluating. Each prototype activity has a description which includes the purpose, audience, duration, materials required, and usage instructions. A list of trainers experienced in participatory development techniques is also included in the booklet.

The tool kit is being sold through the World Bank Bookstore and its international affiliates, and costs US\$ 39.95. For further information contact:

World Bank Bookstore
The World Bank
1818 H Street, N.W.
Washington, DC 20039
USA

Tel: +1 202-477-1234
Fax: +1 202-477-0164

New Publications

With funding from SIDA and the Botswana Government, two publications have been produced with the objective of encouraging girls in secondary schools in Botswana to make a professional career in the water sector.

Work with Water: A Guide to Careers presents the jobs that are available to these girls in Botswana and explains the need for both women and men in these jobs. It emphasizes that women and men *can* do the same type of work, and that there is a great need for both women and men who have technical knowledge and who are responsible and serious about their work.

A Teacher's Guide to Work with Water is a companion to *Work with Water: A Guide to Careers*. It provides information and ideas for teachers and contains examples of different activities which students can undertake, which have been designed to stimulate their interest in the water sector and its opportunities. It also contains a number of activities which focus on gender issues, and encourages

active learning through participation and investigation.

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Woman, Water, Sanitation: Annual abstract journal.

No. 4, December 1994. IRC, The Hague, The Netherlands

This issue of the annual review of gender issues in the water and sanitation sector focuses on sanitation. It contains seventy-nine abstracts of important recent documents on project preparation and implementation, health and hygiene, evaluation, tools and training, and the environment, and of bibliographies and reference documents. The abstracts are analyzed in an introductory state-of-the-art review. A section on 'Resources' includes descriptions of resource centres and materials and news of recent developments. Author and subject indexes are included. *Woman, Water, Sanitation* is published in association with PROWESS/UNDP-World Bank Water and Sanitation Program with financial support from the Government of Norway and UNICEF. The journal costs US\$ 17.50; a subscription for 1994-1996 costs US\$ 35. For more information contact IRC.

Upcoming Events

World Environment Day: We the People - United for a Better World. International Event, 15 June 1995

While there will be many activities internationally, the main celebration of World Environment Day will be held in Pretoria, South Africa. World Environment Day aims to give a human face to environmental issues; empower people to become active agents of sustainable/equitable development; promote communities as agents for environmental change; reinforce understanding of global environmental issues and environmental education; and advocate global partnerships. World Environment Day is organized by UNEP, the United Nations Environment Programme. For more information contact:

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NUMBER 233, MAY 1995

Can The Challenge of Serving the Urban Poor be Met?

"Korin lives in that corner, where you can see those kids playing in the mud", says Miluc, a ten-year old girl in a typical slum in Brazil. "She has gone to fetch water from the standpost to prepare their food. She'll be away for only one hour. Korin is already ten and she takes care of her two brothers and her sister. She does not go to school. This way, her mother can work in a rich lady's house in the city. They came from the countryside for a better job for the mother and the grocer is renting two rooms to them.

Hey, there's Korin - she's brought her two buckets full. That's good. One bucket for drinking and to prepare the food. The other for washing. Sometimes when the queue at the standpost is long, Korin goes to the big reservoir, where we don't have to pay. Water from there tastes like rotten fish but it is good for washing the clothes and the kids. Her little sister is ill. My mother told me. That's why she's inside now. Usually we don't talk to them because they are different and they talk funny. The brothers collect all the paper and empty cans they can find in the streets and take them to the grocer. He gives them something to eat or a can of milk. Yes, we have a latrine. The grocer built a special room for women and girls who live in his rented rooms and houses. We can also go outside our rooms, in the back, when the latrine is too crowded... Some people have pigs back there. My father also has a pig. I fetch food for it in the big dump across the river. Sometimes I also go to the river. The pig likes the garbage you can find in the river. My father told me that before I was born there were less people here and the river had more water. My father has been living here for twelve years now. He sells fishes he catches from the reservoir. We don't eat the fish. The reservoir is dirty and the fish does not smell good. Our house stinks from it. We wash the house every week with the water fetched in the reservoir. My father always promises my mother he will build a latrine for us but he never does it because he is always saying that he will go back to his village in the South. We would like to have a fancy latrine. Sometimes I can watch television at the

grocer's. I see the beautiful houses rich people have, with fancy latrines. Maybe I can have one like that too when I grow up."

Miluc's story made me wonder what her future will hold. Will she ever get that fancy latrine she dreams of?

By the year 2000 more than half of the poor in the developing countries will live in urban areas. Today more than 330 million, or one-quarter of all urban inhabitants in the developing countries, live in poverty. An estimated 140,000 people migrate to the cities each day. Can the cities cope with the enormous task of serving these people?

The World Health Organization estimates that 25% to 30% of urban residents in Latin America, Africa and the Middle East lack access to potable water. More than one-third of urban residents in Asia and the Caribbean are not served. Only 25% to 55% of the waste generated in large cities is collected by municipal authorities, and often no refuse disposal service is provided to slums and squatter settlements.

A Heterogeneous Population

There are important differences in the characteristics between the urban poor community and the rural poor community. The urban community is made up of people from various origins, and the degree of heterogeneity within and between communities is often very high. Within same low-income settlement there can be enormous variations in social, cultural and economic positions. Their economy is to a great degree a cash economy, while in rural areas, people can grow at least part of their own food.

One feature unites all these urban people, however: the desire for a better life, for which they have migrated to the cities. This desire for improvements makes the community a very dynamic one.



IRC

International Water and Sanitation Centre
WHO Collaborating Centre

Legal and Economic Limitations

The formal structures responsible for providing services to the urban population are characterized by a hierarchic structure. As a result of the legislation to which they are bound, they are unable to serve squatter settlements because the land is not legally designated for dwellings.

Legalization of the status of the squatters seems to be a burning issue. The problem is an enormously complex one with impacts which have an adverse effect on the target group. The price of land and houses tends to soar in the aftermath of legalization. The complexity and high cost of bureaucratic and legal procedures for regularization of settlements is another problem. How can we solve the dilemma so that these people will have access to adequate water and sanitation facilities?

The limitations to provision of water supply and environmental sanitation services to urban areas is an economic issue. The complexity of financing is one of the major problems. The society does not have the resources to provide all the desired services without cost to the beneficiaries, not even at subsidized prices. While for the basic urban infrastructural services the low-income areas cannot be seen in isolation from the total urban system, quite often priority is therefore given to the higher income areas and industry, who can pay for the services. Quite often the revenues collected in a traditional approach, with an authority or a utility to supply the services, do not cover the total costs incurred, and the increase of tariffs meet both economic and political resistance.

New approaches are needed. They are constantly being sought by external support agencies, governments, local authorities, NGOs and community-based organizations (CBOs). There is not one universal solution, but many, which complement each other, compete with each other and promote problem solving. Whatever approaches are chosen, they must consider the socio-economic relations and existing organizations within the areas.

A Two-Tiered Approach

It appears that at least a two-tiered approach must be applied when addressing the problem of serving the urban poor: it is important to work with the official structures responsible for provision of the services, as well as with the community itself. Working through and with NGOs, CBOs and the private sector can help overcome legal constraints, fractalism of the slums, and people's mistrust of the public administration. Incorporation of income-generating components in the interventions could help to overcome the problem of inability to pay and serve as an incentive for some key actors inside the peri-urban settlements to

participate. The interventions may vary, and should do so according to the area's prevailing situation and history, culture and social structure. It is not possible to copy the approaches successfully used in rural areas to the urban environment: its dynamic nature, heterogeneity, survival strategies and order of felt needs are different.

Rada Water Supply and Sanitation Project Keeps Users Informed

The Rada Water Supply and Sanitation Project addresses sanitary conditions in Rada, a rapidly growing town of about 40,000 inhabitants in the Republic of Yemen. The technical components of the project include community information and environmental health and education. The project has been operational since 1988 and is being implemented by the Government of Yemen, through the National Water and Sanitation Authority (NWSA) and the Rada Municipal Office, assisted by a consortium of Dutch consultants. It is funded by the Government of Yemen and the Netherlands Government. An environmental health and training section informs communities about their services.

Leaflets and Hygiene Education Sessions

Besides an expatriate female consultant, there are four Yemeni women and two men working in the section as community relations officers and facilitators. The activities carried out by the section run parallel with the progress of infrastructure construction. An information campaign begins with house-to-house distribution of five different leaflets at different stages of construction. The leaflets are followed by meetings for men (during qat sessions) and women (during tea parties). The section requests somebody in the neighbourhood to invite about 20 neighbours for a meeting. Generally, one officer reads a leaflet, after which another officer explains it. Questions from the audience follow. The women, though illiterate, are enthusiastic and prefer this over radio, video or cartoons. It has to be kept in mind that illiterate people are much better listeners than literate people. At a later spot-check in randomly selected houses, all women still had their leaflets and said they would have the leaflets read to them by a literate family member if they wanted to hear the information again.

In all districts a series of 12 hygiene education sessions are organized as soon as construction begins, three in each of four separate houses, dealing with diarrhoea, sanitation, and clean water respectively.

A public information centre has been established which is open specifically for women one day a week, and other days for men. The centre has a beautiful model house, showing in- and outdoor plumbing, pipe parts, and

photographs of how to connect water and sewerage from the house to the new system. There are also specific women's sessions held in the centre.

Requests for combined house connections for water supply and sewerage (no water supply without sewerage connection) are now coming in the first two districts.

Houses which have not sent in an application are visited by a male and female section officer. It appears that often the cause for non-application is the absence of a male in the household, in which case the woman is helped with her application by the female officer.

Continuation of the Section's Activities

One of the issues in the institutionalization of the project is the incorporation of the environmental health and training section as the consumer relations section in the new Rada NWASA branch. The project staff sees continuation of the section's activities as crucial for the sustainability of the water supply and sanitation systems, such as prevention of sewer blockage; flushing of toilets; in-house maintenance; economic water use; school sanitation; and education on water and sanitation-related issues which come up as a problem preventing the system from functioning well. Consumer relations is also important, such as receiving complaints and questions; referring consumers to relevant departments; payment problems.

Among the advantages of keeping the present staff is their experience in disseminating information and acting as the link between the community and the technical sections, and that four staff members are women. The women help overcome the strict religious practices in Rada which prohibit the contact of male staff with female heads of households. As women are the main managers of water and sanitary facilities in the house and the instructors of their children, interaction with them is of great importance in ensuring proper operation and maintenance, and thus the sustainability, of the water and sewer system in Rada.



News from the Collaborative Council

Network on Services for the Urban Poor

In the Collaborative Council's column of our *Water Newsletter* no. 231 we neglected to mention the activities of the Network on Services for the Urban Poor, as reported to the Council at its Meeting of Coordinators in October 1994. The present issue of the Newsletter, focusing on urban problems, is an appropriate opportunity to do so. The Network on Services for the Urban Poor is the successor to the WSSCC Urbanization Working Group

(WG/U) that operated from September 1991 to September 1993. The objective of the WG/U was "on behalf of the Council, to assess and make recommendations on ways of increasing sustainable service coverage to the urban poor".

At the Council's Meeting in Rabat in September 1993, the WG/U presented its final report based on constraints and options for action. A mandate was then given to a Core Group of Collaborative Council members - MAE/DGCS (Italy), UNCHS(Habitat), USAID/EHP, and WEDC (UK) - to build on the Information Bank and Network that had already been established by WG/U to disseminate the Group's recommendations and gather feedback from the field on their application.

The Core Group members met in Paris in February 1994 to establish a *modus operandi* for its activities. It was decided then that CERFE, the Rome research institution that had acted as the scientific and operational Secretariat of the WG/U, would perform the same functions for the Network. The next meeting of the Network's Core Group is scheduled for 4-6 May 1995 at UNCHS (Habitat) headquarters, Gigiri, Nairobi, Kenya.

The Network has about 400 members, who are practitioners and institutions that are actively involved in activities related to the provision of water and sanitation services to the urban poor. When the USAID/EHP Peri-Urban Network, with which a strategic alliance has been formed, is included, membership totals nearly 1000.

Activities in the 1993-95 period have included, among others, the dissemination of the WG/U report, updating of the Information Bank and related research, and the promotion of the field application of WG/U recommendations in several countries.

CERFE has prepared a draft research report on new developments and trends, on the basis of the analysis of new entries to the Information Bank. The Information Bank, which gathers case studies and other published and unpublished literature on water and sanitation services for the urban poor, is kept up to date by the continuous flow of information from Network members, and it is likely that it will be made accessible via Internet before long. Its physical location is at CERFE in Rome, and it is available to be shared with other institutions.

Apart from the above, the Network, through UNCHS (Habitat)'s Settlement Upgrading Programme (SUP) is now assessing the demand for capacity-building projects in six representative cities (Amman, Jordan; Ankara, Turkey; Brazzaville, Congo; Caracas, Venezuela; Concepcion, Chile; Ibadan, Nigeria) with a view to implementing

projects in 1996. Such projects, which will aim at enhancing local capacity to address the needs of the urban poor in terms of infrastructure and services will be based on the WG/U's recommendations and proposed strategy elements: security of land tenure, people's participation, cost recovery and resource mobilization, institutional reform and capacity building, appropriate technology, and water resources conservation and management. The same approach is already being used in a large ongoing informal settlement upgrading project, known as Alvorada, in Belo Horizonte, Brazil.

It is hoped that the field application of the WG/U recommendations will in turn produce feedback that the Network can make available to practitioners, governments, and research institutions. Two regional workshops are scheduled for 1995 in Latin America with this purpose: in Belo Horizonte (September) and Caracas (November).

The Network is coordinated by Mr. Ivo Imparato of UNCHS (Habitat), Nairobi, Kenya. Funding for the activities comes principally from the Government of Italy, through UNCHS. For information on the Network and its activities, please contact:

Network on Services for the Urban Poor
Secretariat, c/o CERFE

via Monte Zebio, 32
00185 Rome, Italy

Tel: (39-6) 32 32 437
Fax: (39-6) 32 21 218

Catalogue of Urban Case Studies in Preparation

IRC is currently collecting case studies relating to the upgrading of infrastructural services to the urban poor. The collection already contains the description of 100 cases from Africa, Asia and Latin America. The preparation of a standard format for the write-up of the cases is now being tried out. Focus falls mainly on origin of settlement, security of tenure; degree of homogeneity/heterogeneity of the neighbourhood; level of integration; proportion of landlords/tenants; employment; participation of men and women; institutional link between citizens/municipal council and imbedding of project; level/existence of organization; cost recovery or resource mobilization and main actors. IRC is interested in enlarging its collection and kindly requests readers of the *Water Newsletter* to send a description of on-going or past activities, emphasizing the variables mentioned above. Please forward the description of cases to IRC, attn. Maria-Lúcia G. Borba.

Upcoming Events

Challenges of the Informal Town: Routes Towards the Integration of Peri-Urban Settlements. Belo Horizonte, Minas Gerais, Brazil, 11-15 September 1995

This international seminar, sponsored by the Ministry of Foreign Affairs of Italy, UNCHS and UNDP, includes plenaries on ways to integrate the informal town, technological and financial tools for urban rehabilitation, and methodologies and experiences of peri-urban areas rehabilitation in seven Brazilian capitals; workshops on land rights, housing and people's participation, income generation, urban services, crime, and children; a visit to the Alvorada programme; and a plenary about the Habitat II conference in Istanbul in 1996.

For more information contact:

Executive Secretary International Seminar
"Challenges of the Informal Sector"

International Service Volunteer's Association
Av. Leovigildo Filgueiras, 270 - Garcia
40100-00 Salvador, Bahia, Brazil

Tel: +55-71-247 9737/237 2534, fax: +55-71-245 5064

The City Summit: 2nd UN Conference on Human Settlements (Habitat II). Istanbul, Turkey, 3-4 June 1996

Habitat II is a world conference called by the UN General Assembly on managing urbanization and improving the urban living environment. The objectives are to:

- raise awareness of the positive role of cities and towns as, among others, centres of employment investment and trade, production and consumption, culture and learning; market places for rural populations; and sources of social harmony;
- improve living environments through new and more effective investments in shelter and urban development;
- design, adopt and implement a Global Plan of Action in support of national plans of action.

The conference will consist of a global conference; world assembly of cities; audio-visual forum; world shelter and settlements expo; thematic round tables; and partner forums. For more information contact:

Habitat II Secretariat, c/o UNCHS

PO Box 30030

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WATER NEWSLETTER

Developments in water, sanitation and environment

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- NEWS FROM THE COLLABORATIVE COUNCIL
- HOLLYWOOD'S WATERWORLD
- NEW VIDEO
- NEW PUBLICATIONS

NUMBER 234, JUNE 1995

Working Together for Improved Programming

Great effort, backed by resources, has been put into water supply and environmental sanitation programmes over the past decades. However, these efforts have fallen short of their goals. Millions of adults and children are still subject to water-related diseases. Millions of women still have to walk, often for hours each day, to collect water for their families. To achieve the promise which they hold, water and sanitation facilities must function well and be used consistently. Services must be sustainable, with timely maintenance and financial resources for repair and replacement as needed. They should also be replicable at sufficiently low cost. For this, a high level of commitment and collaboration is needed among all parties, including the users, the service providers and political leaders. While some technical challenges remain, the experience of the past decade has demonstrated that the quality of programming must improve at all levels.

Lately a "new wave" of seeking better approaches has been dominating the water supply and environmental sanitation scene. At the international level, the 1992 Earth Summit has led to a growing global concern for the environment and new political commitment in water and environmental sanitation. Agenda 21's fresh water chapter (Chapter 18) gives a set of guidelines on issues affecting human relations with the environment, including fresh water and waste management. Sixty environment ministers and UN leaders met in Noordwijk, the Netherlands in 1994 to translate the aims of Chapter 18 into national action plans. The goals towards 2000 and beyond are now in place.

Evident is the need for a partnership approach among the community, service providers and policy level, where decisions are based on a dialogue about the attitudes and needs of the rural and urban communities, and on what they can manage, maintain and pay for. This approach requires two-way communication about the content of water supply

and environmental sanitation and about new roles as partners with joint responsibilities. This communication in turn requires behaviour change at all levels to make listening, reflecting and sharing second nature, so as to be able to collectively plan, manage, control, assess, mobilize and sustain the necessary actions required.

A starting point for this approach lies in improved programming focusing on behaviour. Experience of the past decades has shown that behaviours - what people do and can do to improve their health - need to be placed nearer to the centre of planning and implementation. This approach presents a framework for programming addressing communication processes, community participation, advocacy and social mobilization as key components to achieve the following:

- commitment of political and social leadership to WES and to shared responsibilities among all partners;
- commitment within administrations, service providers and institutions to encourage community/user participation in decision making, planning, implementation and management of projects;
- capacity-building at all levels using relevant participatory methods to stimulate interpersonal and two-way communication that respond to community cultures, behaviours and requirements;
- project designs that are demand-driven and that optimally match interests, potential contributions and responsibilities for sustained behaviours and participation needed to improve health.

The focus on behaviours, social processes and commitment seeks to ensure that the application of technology will actually improve the quality of human lives. This requires the development of specific strategies, carefully adapted to local circumstances, which concentrate the action of all partners on the agreed goal.

UNICEF and IRC have been working together, under the aegis of the Collaborative Council to demonstrate this new approach of programming in a few countries. The first country where this approach will be tested is Guinea Bissau. A draft programme document *Improved Programming through Communication, Mobilization and Participation* has been prepared and is available from IRC, attn. Jennifer Francis, upon request.

Social Mobilization for Sanitation: a case in Bangladesh

Safe latrines have been promoted in Bangladesh for over 30 years - but until the end of the 1980s they won little acceptance amongst the majority of the population. This was in marked contrast to the success in bringing safe water supplies to villages: safe water covered 80% of the population while sanitation coverage was only 8%. In 1989 UNICEF set out to find out why the sector programme for the previous ten years had used all its available funds, yet failed to meet a single annual target for sanitation.

Between 1964 and 1978 the Bangladesh programme focused on water-sealed latrines, with promotion based on the health and germ theory. However, research showed that for the 75% of the population who were illiterate, the main attractions of latrines were privacy, convenience, comfort of women and prestige. To change this mismatch between the sector and the community, a process of social mobilization was launched in 1990. Advocacy was used to mobilize senior government staff, members of parliament, the media, NGOs and the community. The phrase 'pathogen overload' was used to describe a situation where every sector of society was prone to water-borne disease. Politicians and senior government decision makers were made aware that sanitation was a top priority in the drive against diarrhoea, which accounts for 300,000 child deaths each year.

This advocacy was a successful first step in social mobilization for sanitation. Intensive promotional efforts followed. The Department of Public Health Engineering and UNICEF found allies to help promote sanitation. The leadership of a village-based organization, Ansars, with four million members, trained its officers in sanitation. Islamic clergy allowed a UNICEF communications officer to address 1.5 million people at a religious gathering and to distribute half a million leaflets on sanitation.

Three pilot schemes in the early 1990s for intensified promotion of sanitation in selected thanas provided lessons, which were used by DPHE and UNICEF during national-level workshops and meetings to create broad

political and societal support for sanitation. At the inauguration of a national conference on "Social Mobilization for Sanitation" in 1992 the Prime Minister, Benagem Khaleda Zia, showed that sanitation had become an issue of national importance, and launched a logo for the new communication drive.



Sanitation promotional material now highlighted women's preferences and cultural values, rather than simply repeating health messages. A strategy for participatory planning was agreed, and courtyard meetings were used to explain the benefits of latrines to 25 - 30 families at a time.

At the same time the sector and UNICEF agreed that they would stop promoting the water-sealed latrine as the only hygienic option. Although sold at a subsidized price, the technology was still out of the reach of many families. A smaller version was designed, less than half the price of the original, but suitable for stable soil formations. A do-it-yourself latrine was also introduced as an acceptable option. It has a life about five years and can be produced at little or no cost to the family. The new integrated approach adopted in Bangladesh was scheduled to cover the whole country by 1995.

The percentage of rural families with a sanitary latrine rose from 10% in 1989 to 26% in 1991. Where coverage had been high and more than 70% of families had latrines, use of the latrines was reported at over 90%. Related hygiene behaviour has also improved. A recent survey showed that hand washing with soap or ash after defecating was up to 27% from 5% in 1985. Hand washing before handling food had remained unchanged at 3%.

The annual costs of the pilot schemes in selected thanas since the late 1980s are estimated at US\$ 70,000 - 100,000 per year. The budget for the Social Mobilization for Sanitation Programme, which is targeting the rural areas of the whole country from mid 1992 to 1995, is nearly US\$ 4 million, funded by Danida and the Swiss SDC.

By 1994 Bangladesh had achieved its Mid-Decade goal of the national Plan of Action in follow-up of the World Summit for Children: to provide 35% of its people with access to safe sanitary means of excreta disposal. In October 1994 the Prime Minister launched a Sanitation Week, setting a target to reach 50% by the end of 1995. High political will and commitment was shown during this week from district to union levels.

The Bangladesh example shows that resources can be used more effectively where the efforts of the sector are closely tuned to the knowledge and beliefs of the community, and where advocacy persuades allies to encourage a real change in people's thinking and behaviour.



News From The Collaborative Council

Council-Sponsored Working Groups

Promotion of Sanitation (WG/SAN)

This new working group has met three times. Of a total of 44 participants, 24 were from developing countries and 16 were women. In the first meeting the group designed its terms of reference and produced a concise paper on *The Problem of Sanitation*. At the second, 17 issues were identified for attention. Volunteers from the Group and consultants were engaged to prepare papers on the topics to be considered at the third meeting, which took place from 28 April to 3 May 1995 in Geneva. The papers provided the material for rich discussions leading to consensus on the main messages, guiding principles and tools to be presented at the Third Global Forum in Barbados. Financial support for the WG/SAN has come from SDC, Switzerland and SIDA, Sweden. Dr. Mayling Simpson-Hébert of WHO is the Coordinator of the Group.

Council-Mandated Activities

Network on Services for the Urban Poor

At their meeting in Nairobi from 4-6 May 1995, members reviewed the activities of the Network since the first Core Group meeting in February 1994. The Network's research output and dissemination activities were analyzed, and report arrangements were made, in view of the upcoming Barbados Forum later this year.

The need to strengthen dissemination mechanisms and to launch more field level activities was discussed. The main components of the strategy that was put together at the Nairobi meeting to address these needs are the following:

- The Network's Core Group, currently composed of UNCHS (Habitat), Italian Development Cooperation, USAID/Environmental Health Project, and WEDC/Loughborough University, UK will be joined by IRC, UNICEF/Urban Basic Services and WRC/Water Research Commission of South Africa. The three latter institutions have already taken part in the Nairobi Core Group Meeting.

- In cooperation with IAWQ, the Water Research Commission of South Africa and the University of Natal, Durban, the Network will make its information available through an information server on Internet. It is hoped that using the Internet may boost interaction among Network members as well as attract new members and establish linkages to other WSSCC activities such as GARNET, and sector institutions such as EIIP, IRC, CERFE and WEDC.
- The Core Group has also agreed to work towards setting up a testing cum demonstration project in South Africa, in order to further disseminate and encourage the application of the guidelines and tools that have been developed by the Working Group on Urbanization and are being promoted by the Network. This will complement the successful testing and demonstration activities that are already ongoing in Brazil. The Network coordinator is Mr. Ivo Imperato, UNCHS (Habitat).

Water Pollution Control

Core Group meetings to prepare and monitor the Group's work plan took place in October 1994, March 1995 and May 1995. The main meeting of the group took place from 7-9 June in Bad Elster, Germany. The Group addressed the policy-making process, water quality requirements, institutional needs, legal and regulatory aspects, economic instruments, technology choices, wastewater use and information needs for pollution control. The frameworks, source information, guiding principles and models will constitute tools for presentation to the Council. A series of illustrative case studies will also be included. Funding is from DGIS (Netherlands), UNEP, and WHO. The Group's Coordinator is Dr Richard Helmer (WHO).

Preparations for the Third Global Forum

Following contacts by the Secretariat with the Government of Barbados in late 1993 and early 1994, it was concluded that the Barbados Water Authority in cooperation with other government agencies would host the Third Global Forum of the Collaborative Council from 30 October to 3 November 1995. The venue of the Forum will be the Sherbourne Conference Centre, St. Michael, Barbados. After discussion at the Steering Committee meetings and following consultation with a good number of members, the theme of the next Forum has been decided as "People and Water - Partners for Life". The Main Issue Papers will be concerned with (i) The Pressure of Population on Water Supplies; (ii) The Critical Importance of Water Supply and Sanitation to Small Island States; and (iii) The Issues Related to Decentralization. A total of 250 participants is envisaged, with a share of 50% each from developing countries and ESAs.

Hollywood's Waterworld

Hollywood is paying attention to water! Renowned actor Kevin Costner is playing the leading role in *Waterworld*, a movie which will start showing on American screens in July. It promises to become one of the sensations of the 1995 film year.

In the futuristic science fiction epic, Costner is the saviour of an inundated planet. He plays the leader of a group of

men-fish in the year 2065, when the planet Earth is flooded by melted water from the poles. Costner's mission is to find a girl with a tattoo of a map indicating where there is still dry land on the planet.

The costs of the film is estimated at US\$ 175 million - no drop in the bucket!

New Video

Developing a Pictorial Language: A guide for field educators and communicators. Rana, Indi. Foundations, New Delhi, India. 1993. Video. 60 minutes. PAL/VHS

This educational video retraces the steps in a field test conducted at the DANIDA-supported Orissa Drinking Water Project in India. It is aimed primarily at field educators and communicators, but will also interest policy makers. It is a practical guide to conducting a field survey to evolve pictorial materials, underlining resistance points and attitudes. It also provides theoretical parameters against which visual materials can be analyzed, in order to create visuals which will communicate with people who perceive the world differently.

The video has been tested on field educators and communicators. Complex concepts are repeated often in order to facilitate comprehension.

The video can be obtained in India for Rs 600 plus Rs 60 for registered airmail, and overseas for US\$ 20 plus US\$5 for registered airmail from:

Foundations
B/G-1 Rosewoods
Mayur Vihar Phase I Ext II
New Delhi 110091
INDIA



New Publications



Hygiene Education in Bangladesh, Boot, Marieke T., UNICEF, New York, USA, January 1995.
ISBN 92-806-3155-9. 107 pp.

Hygiene education is not teaching, but learning. It is planned with clear objectives, and helps people make decisions for themselves and to acquire confidence and skills to put these decisions into practice. It is widely recognized that hygiene education and hygiene behavioural change are essential if water supply and environmental sanitation programmes are to achieve maximum health benefits.

This case study presents an overview of developments in Bangladesh, where a challenging programme of social mobilization for sanitation has been running for a few years. It identifies three main learning points for the development and improvement of hygiene education as part of water supply and sanitation programmes. They concern the effectiveness of hygiene education, the competence and availability of staff at all levels and the organizational structure for sustainable hygiene education.

The publication is available for US\$ 11.95 plus 10% for shipping and handling from:

UNICEF

Programme Publications, DH-49B

3 UN Plaza

New York, NY 10017

USA

Fax: +1 (212) 755-1449

In our last issue (no. 233, May 1995) we announced the international seminar **Challenges of the Informal Town: Routes Towards the Integration of Peri-Urban Settlements** in Belo Horizonte, Brazil, 11-15 September 1995. The secretariat has since moved to a new address:

AVSI
Praça da Sé, 1
40.020-210 Salvador - Bahia
Brazil

Tel: 55-71-322-1366
Fax: 55-71-322-1367 or
55-71-245-5064

Deadlines for booking stands:
Registration deadline:

30 July
31 July

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WATER NEWSLETTER

Developments in water, sanitation and environment

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- THE CASE FOR TRADITIONAL WATER MANAGEMENT
- GENPACK: COLLECTION OF PROWESS AND IRC MATERIALS ON GENDER
- NEW PUBLICATIONS

NUMBER 235, SEPTEMBER 1995

Guinea Worm: Disease-free countries to be certified

Guinea worm, the ugly, string-like worm that emerges through the skin, causing burning pain and often leading to multiple co-infections, is coming closer to global eradication as a result of the joint initiative of WHO and several other major international institutions. The disease, dracunculiasis, is transmitted when a person dips the place where the worm is emerging into a pool of water to ease the burning. The cool water induces the worm to eject hundreds of thousands of embryos. If the pool contains the intermediate host, a tiny "cyclops" crustacean, the crustacean is also infected. Drinking water containing the almost invisible infected cyclops completes the transmission cycle.

The global initiative has demonstrated that modern wells or water filtration together with limited vector control and health education can break transmission.

In May 1991 the World Health Assembly, in its resolution WHA 44.5, "Declares its commitment to the goal of eradicating dracunculiasis by the end of 1995, this being technically feasible given appropriate political, social and economic support." However, social and political instability in some endemic areas, and a lack of local motivation for what is becoming a minor disease in many countries (as a direct result of eradication measures), are impeding progress towards this goal.

Nevertheless, the known global burden of the disease has been reduced by more than two-thirds since 1989 as a result of the eradication campaign, and the global eradication target is close enough that the process of country-by-country certification of eradication of the disease can begin.

Earlier this year WHO established an "International Commission for the Certification of Dracunculiasis Eradication", an international jury analogous to the commission that certified countries for the eradication of smallpox (the only disease so far to have been eradicated worldwide).

The 12-member commission will review data and reports compiled per country - with the assistance of International Certification Teams appointed by WHO - evidencing the complete absence of the disease from the country. The commission may certify eradication on the basis of this analysis, or, if unsatisfied, ask for more data or investigations. A country must report absence of transmission for three years before the certification can be granted. It is recommended that some level of surveillance, integrated within the normal health services, should continue until WHO can declare the disease eradicated globally.

The first countries to pass through the certification process are likely to be those of the American continent and Iran, with Guinea, Guinea Bissau, The Gambia, and the Central African Republic to follow. Altogether 70 countries are targets for certification; all have had, or are suspected to have had, the disease at some time in the recent past, including 18 which are currently infected.

For 1994, 164,973 individual cases were reported to WHO, and at the end of that year just under 10,000 villages worldwide were believed still affected by the disease. Some 95% of these have been identified at least by name, and 80% have been physically located and mapped.

Presently 16 African countries, plus India and Yemen remain endemic. Densely populated countries such as Nigeria, and areas of social and political instability such as Sudan are areas where important difficulties remain in the fight against dracunculiasis. Pakistan, however, reported zero cases for the first time in 1994, and India is in a position to eradicate the disease within two years.

Until the necessary funds are obtained, the new commission must delay implementation of the certification process.

Based on "Guinea worm: countries to be certified cleared" in TDR News, no. 46, November 1994; updated by Dr. P. Ranque, Division of Control of Tropical Diseases (CTD), WHO Headquarters, Geneva.

Village Walk: Start of joint problem identification

A village walk in the villages of Nyen and Mbemi, about 30 kilometres from Bamenda, Cameroon, turned out to be an excellent start of the actual participatory problem identification phase in the *Role of Communities in the Management of Improved Rural Water Supplies* research project.

This four-year participatory action-research project assists communities and agencies in six developing countries to assess and enhance self-reliant management of their improved rural water supply systems. The project is being implemented by PAID in Cameroon, CINARA in Colombia, Agua del Pueblo in Guatemala, NETWAS in Kenya, NEWAII in Nepal and Aga Khan Rural Support Programme in Pakistan, in close collaboration with IRC. The project is financially supported by the Netherlands Government.

Three regional workshops have been held this year, in Nepal, Cameroon and Guatemala. The workshop in Cameroon, of which the village walk formed part, brought together the project teams from Cameroon and Kenya. It contributed to further development of skills for using participatory tools in community diagnosis, for example for problem identification and identification of available resources. It also contributed to mutual learning, not only between the project teams of both countries, but also between the communities involved, the project teams and the outside officials.

The village walk in Nyen and Mbemi, in which village water committee members as well as officials from in- and outside the villages took part, was an excellent tool to get more acquainted with the community members, the different areas, and problems and potentialities in different zones of the two neighbouring villages. During the village walk in Nyen the group was directed through all the quarters of the village while noting the important features. While walking the members of the group discussed among themselves and occasionally stopped at a household to talk with the people of the compound. The walk gave a good overview of the water situation, and also the uses of the palm and raffia trees, which are the main sources of income for the villagers. The processing of palm and raffia demands a sizeable amount of the communities' water. The three-hour walk in the villages which depended on the water scheme aroused much interest among the population and the officials and it facilitated a good understanding with the villagers.

This made it a good starting point for the planned village mapping. "When in the afternoon we were making the two maps the group of participants was considerably bigger. This continued the next day. Some 30 community members participated during the Venn diagram. During the household sketches the group of researchers was tripled with the participation of village researchers," said one project team member. The Venn diagram shows the key institutions and individuals in a community and their relationships and importance for decision-making. It is developed by first identifying key institutions in a community and representing them by different-sized circles. In discussion with participants the size and arrangement, overlapping or not with other circles, is made until the representation is accurate.

The whole exercise aroused a lot of enthusiasm and confidence on the side of the villagers, as well as on the side of the project team. This became clear at the end of the two-day visit during the feedback, the concluding remarks, and the meal the villages offered to the project team. The villages were now ready for problem identification.

During the last evening the project team analyzed the lessons learned from the field work. For the team, one of the lessons learned from the two-day visit was that the village walk was far more useful than they had initially anticipated.

At the end of the two-week regional workshop a closing ceremony was held to which representatives of key ministries in Cameroon were invited. In his address the Director of Rural Water Supply of the Ministry of Mines revealed that the ministry now understands the importance of encouraging rural communities to manage their respective water schemes. He claimed that the research project could help significantly in doing this.

For more detailed information on the action-research project experiences, or addresses of local partners, contact Mr. Marc Lammerink at IRC.

The Case for Traditional Water Management

Traditional water management is the management of water sources such as traditional wells, ponds, and small rivers and streams. It must be understood in terms of systems which integrate the beliefs, institutions, social organizations, division of labour, know-how, practices and techniques of handling water as well as the behaviours involved in the conservation and sustainable use of water.

An international workshop, *Traditional Water Management: Citizen and Local Know-How*, was held from 2-7 April 1995 in Ouagadougou, Burkina Faso to deal with the future of traditional water management (TWM) systems. The workshop was initiated by the International Secretariat for Water (ISW), the World Conservation Union (IUCN), le Centre régional pour l'eau potable et l'assainissement à faible coût (CREPA) and UNICEF.

TWM systems have been marginalized due to pressure from population increase, ecological conditions, and economic and political transformations. The workshop was held to discuss the various technical, sociocultural and institutional conditions characterizing TWM systems within a variety of ecological social systems, and to find ways to maintain and strengthen these systems through frameworks for local actions and establishing cooperation between local actors, governments and development agencies.

The workshop highlighted the value of traditional water management systems. Conventional modern systems which have been introduced in drylands and semi-arid regions are costly, and have other negative effects. These include increased dependency of local populations, exclusion of water users from the decision-making process, and the rather precarious character of the systems. The traditional systems, on the other hand, contribute to meet the water needs of local populations, and have their basis in the local and native mastering of knowledge and techniques. Rehabilitation and maintenance are inexpensive with regard to equipment, expertise and training. Finally, the systems operate within the scope of locally-established institutions and power structures. These factors contribute greatly to the argument for rehabilitation of these systems, rather than the introduction of more modern ones. Furthermore, human, material and financial interventions from development agencies will be better used and more cost-effective, with longer-lasting effects.

Emphasizing opportunities to revitalize TWM systems, the workshop identified four areas for action:

- sensitive and adapted approaches with local people, recognizing their institutions and know-how, and including participation in all stages of revitalization;
- developing ways to improve TWM systems through the use of local languages and traditional communication methods, and introducing TWM know-how in schools;
- capitalizing on experiences through a.o. production of publications, networks of local TWM practitioners and self-evaluation and monitoring tools; and
- enabling institutional conditions by implementing protocols of collaboration prior to field interventions and impact assessment studies for any action affecting TWM.

IUCN and UNICEF will pioneer pilot actions in West Africa, and in Latin America and the Maghreb-Machreq regions regional workshops will be held in 1995 and 1996 with regional practitioners of TWM systems. The IWS will promote this approach and facilitate implementation of actions within a renewed partnership with UNDP, UNICEF, IUCN and some bilateral donors and NGOs.

For more information or a copy of the meeting report in English, French or Spanish at a cost of US\$7.00, contact:

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GENPACK: Collection of PROWESS and IRC Materials on Gender



Gender is an integral part of community-managed, low-cost water and sanitation programmes in rural and low-income urban areas of developing countries. Collectively, a wealth of information and documented experiences exists, but is not readily accessible. To solve this problem, PROWESS and IRC have developed a *reference shelf* for programme offices, to give staff involved in gender issues easy access to key documents containing information on the subject. **GENPACK**, as the package is called, is a basic set of one video and thirteen documents, including the first three issues of the annual abstract journal *Woman, Water, Sanitation*. The materials contain every aspect of gender in water supply, sanitation and hygiene. All materials have been produced by PROWESS and IRC, either individually or jointly. They cover over 1000 field accounts and projects in over 80 developing countries, and some have been written by local authors. Among the subjects covered in the gender context are programme planning, local decision-making, operation and maintenance, hygiene promotion, gender-sensitive monitoring and evaluation, and participatory tools and methods. **GENPACK-PLUS** is supplemented with a computer printout of the latest gender documents and a subscription to the three most recent issues of *Woman, Water, Sanitation*.

GENPACK and **GENPACK-PLUS** are available for US\$ 200 and \$250 respectively from IRC. All orders must be prepaid. For more information, including means of payment, please contact IRC's Publications Department.

New Publications

Assessing the Gender Impact of Development Projects: Case studies from Bolivia, Burkina Faso and India.

Gianotten, Vera; Groverman, Verona; Walsum, Edith van; Zuidberg, Lida. KIT Press, Royal Tropical Institute, The Netherlands. 1995. 112 pp.

This book describes a new methodological approach for use in planning and assessing project designs. The authors argue that gender impact assessment is an appropriate way to estimate the expected impact of an intervention, such as a development project, on women; and how the specific interests and needs of various categories of women will be affected. The book describes how development projects either positively or negatively affect the division of labour, and access to and control over allocation of resources, benefits, and decision-making in a society. It recognizes that the interests of women cited in a proposed project or programme must be reflected in the design of activities and institutional linkage, so that intentions become reality.

The book concludes that it is essential that gender differences are explored and addressed throughout the planning phase and before implementation of policies or project work, to avoid negative consequences for women.

Aside from the three case studies, the book includes and introduction to the methodology, conclusions regarding its use, and the lessons to be learned.

For more information contact:

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103-105 Southampton Row
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Tel.: + 44 171-436-9761
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The Use of Structured Observations in the Study of Health Behaviour. Bentley, Margaret E.; Boot, Marieke T.; Gittelsohn, John; and Stallings, Rebecca Y. IRC International Water and Sanitation Centre, The Netherlands. 1994. Occasional Paper no. 27, 58 pp.

This handbook is a revised version of a contribution to a 1991 workshop at the London School of Hygiene and Tropical Medicine on the measurement of hygiene behaviour.

The handbook provides detailed guidelines for the use of structured observations, which are a method to measure

behaviour. It is meant to provide a contribution to the methodology of health/hygiene behaviour assessments both for programme workers and academic researchers. Part One describes the general framework in which they are used, Part Two covers general research design issues, and Part Three provides a step-by-step guide for the use of structured observations. Practical examples in which structured observations have been used can be found in two other products from this workshop: *Actions Speak: The study of hygiene behaviour in water supply and sanitation*, edited by Marieke Boot and Sandy Cairncross, (IRC, 1993) and *Studying Hygiene Behaviour: methods, issues and experiences*, edited by Sandy Cairncross and Vijay Kochar.

The Use of Structured Observations in the Study of Health Behaviour and *Actions Speak: The study of hygiene behaviour in water supply and sanitation*, are available from IRC's Publications Department.

Studying Hygiene Behaviour: Methods, Issues and Experiences. Cairncross, Sandy and Kochar, Vijay, Editors. Sage Publications, New Delhi, India, 1994. ISBN 81-7036-387-X, 334 pp.

This publication is another product of the 1991 workshop hosted by the London School of Hygiene and Tropical Medicine. The first section, *Methods and Issues*, deals with general methodological aspects such as hygiene behaviour measurement and tools. The second section, *Hygiene Education*, deals with the importance of hygiene education and its relationship with hygiene behaviour at the community level. Finally, the third section, *From the Field: Reports, Notes and Experiences*, deals with experiences in using qualitative and quantitative techniques, and throws light on the practical problems faced in the application of these methods and techniques.

For more information contact:

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WATER NEWSLETTER

Developments in water, sanitation and environment

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NUMBER 236/237, OCTOBER 1995

Operation and Maintenance Today: Constraints and Trends

Operation and Maintenance (O&M) is crucial to the successful management and sustainability of water supply and sanitation systems, whatever the level of technology, infrastructure and existing institutional framework. The benefits of effective O&M are clear: improved health and well-being, and social, economic and financial advantages. Nevertheless, in the past the O&M of water supply systems of small communities has been neglected in a great number of developing countries. According to the World Health Organization it is estimated that 30 to 60 percent of existing water supply systems are not operational, having an important impact on the well-being of the populations concerned.

Operation and maintenance is not limited to the sole activity of a caretaker or a technician; it includes the activities of various actors at different levels. It requires forward planning and technology transfer at all stages of the project cycle, from installation of plant and equipment, through operator training and handover, to routine operation and upkeep, including purchasing of spare parts, repair procedures and financial management, as well as best practice in operating and maintaining the system.

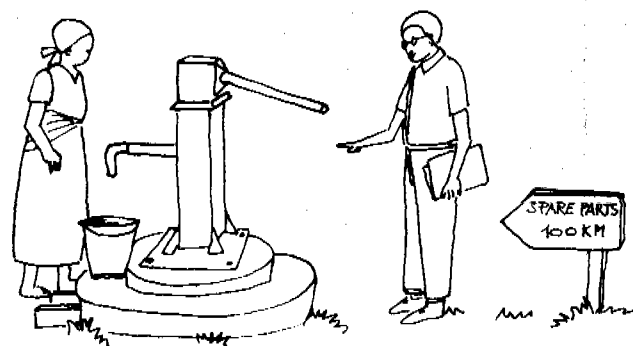
Constraints

Proper O&M has been subject to many constraints in the past. Among the many factors that have been found to contribute to inadequate O&M procedures are:

- the low profile of O&M, and the lack of priority it is given by policy makers;
- lack of clear policies, appropriate legal frameworks and a well-defined division of responsibilities to support O&M;
- too much political interference, i.e. provision of free water, which makes sustainability difficult to achieve;
- governments' and external support agencies' (ESAs') neglect of the maintenance of existing supplies in favour

of focusing on capital construction and expansion;

- poor management and overlapping responsibilities within projects and agencies, diverting funds away from O&M;
- inappropriate design and technology choice, often caused by a lack of community involvement in project development;
- inadequate access to data and field experiences about O&M, for use in planning O&M strategies;
- insufficient funds and misuse of funds earmarked for O&M, restricting availability of spare parts and tools, and recruitment and training of competent staff.
- inappropriate management at community level.



Trends

Governments and external support agencies, as well as communities, are increasingly concerned about the importance of integrating operation and maintenance components in the planning, implementation, management and monitoring of project activities. Sector professionals are also realizing that O&M is not just a technical issue - it encompasses social, gender, economic, institutional, political, managerial and environmental aspects. The following are some of the most noticeable trends which reflect the changing attitudes towards O&M, and are

leading to increased sustainability of water supply and sanitation interventions.

Water is being increasingly seen as an economic good, which implies that communities must pay for the water they use. Governments, because of heavy financial burdens and efficiency problems, are gradually changing their role as provider of services to that of facilitator of processes. Communities are thus becoming involved in selecting the type of service they want and can afford, and have increasing responsibilities, not only in operation and maintenance of their water supply systems, but also in the financial management of these systems. Actors such as private entrepreneurs from the informal and formal sectors are also becoming more involved in operation and maintenance. At all levels, more integrated O&M strategies are being developed, in which the concerns of safe water, sanitation, hygiene education and waste disposal are tackled simultaneously. Women, as the principal users of (rural) water supplies, are playing an increasingly prominent role in management and maintenance activities. Greater attention is being given to appropriate and affordable technology, with easy maintenance, in-country manufacturing, durability, standardization and low capital and recurrent costs being the chief criteria. Finally, donor and national policies are showing evidence of due attention to O&M, with water tariff adjustments and revenue allocations in support of O&M by national governments, and, on the part of donors, well-defined policies to ensure that O&M is a central concern of the projects they support, and promotion of measures to assess O&M problems and solutions.

This special issue of the *Water Newsletter* aims to show what is currently being done to improve the status of operation and maintenance internationally, and includes case studies from Africa, Asia and Latin America, news about the Water Supply and Sanitation Collaborative Council's Working Group on O&M and the O&M tools it is currently developing, reports from courses and workshops, upcoming courses and new publications.

Water Loss Control in São Paulo, Brazil

In Brazil, each state has a company which is responsible for water supply and sanitation - 26 companies in all, serving 80% of the population. In addition, each state has several municipalities, which operate their own services. There are 2500 of these, covering the remaining 20%. Both companies and municipalities are responsible for O&M. The range of present levels of service between regions is vast, 72-94% in the case of water supply, 7-60% for sewage

services. Achievement of the projected increase in service levels by the year 2000 will require investment of US\$ 8.3 billion for water, and US\$ 2.6 billion for sewage services. In the past, only companies received funds from the Federal Government, and funding for municipalities was insufficient. The present Federal Government is modifying this policy to encourage municipalities to improve their services. Privatization of facilities is currently being tested in Brazil, and São Paulo has one sewage treatment plant which is privately operated. It is thought that privatization, along with better distribution of funds, will have a positive effect on O&M of the services.

O&M programmes in Brazil have been developed in attempt to postpone the construction of further new systems and to sustain service levels of existing ones, which have traditionally been large to cope with demand. The reduction of operating expenses by elimination of wastage, uniform planning and preventive maintenance, and the development of more difficult technologies, are some of the major goals set by the companies. Institutional changes were also made, including giving priority to a national programme to implement new technical and management structures, awareness campaigns and staff training.

In São Paulo, emphasis was placed on one particular programme goal - the reduction of water loss, which in the metropolitan area of São Paulo, reached 40% in 1992. The first step was a study to review and collect data such as pipe types and ages, network pressures, and leakage. As a result of the study the following activities were carried out:

- detection of invisible leaks in the older parts of the network with high pressure;
- cleaning and cement mortar lining previously unlined pipelines more than 25 years old;
- replacing galvanized iron house connections more than 10 years old with high-density polyethylene;
- pipe replacement in critical areas where it was not cost-effective to clean and line.

In addition, water loss and leakage was accurately determined by:

- replacing inaccurate or broken micrometers, resulting in an increase in measured production of 500 l/s;
- repair of 18 large meters, resulting in an annual gain of US\$ 46,500 for the company;
- improving the operational control system by upgrading primary elements and pressure transmitters;
- installation of new pitometer units for more accurate flow and pressure measurement;
- instigation of improved customer meter replacement and meter reading policies, resulting in a revenue gain of more than US\$ 4 million per year.

To reduce water lost from leakage, the company has asked the public to report visible leaks, and has repaired leaks more quickly, using better materials and better trained staff. A high profile team of "Leakage Hunters" with well-equipped vehicles and good equipment has reduced leak repair response time from an average of 33.5 hours to less than 24 hours. Enthused by success of the awareness campaign and the technical programme, the company is now upgrading its computer system, and is looking towards updating the telephone service to receive and deal with leakage information more quickly, and to enhance the company's image to the public. One social problem remains - the loss in sales from subsidized tariffs in squatter areas.

O&M and Save the Children Fund

The importance and the influence of non-governmental organizations (NGOs) in development has been steadily growing during the past 20 years for several reasons. The interest of several donor agencies in the involvement of the private sector in the development and supply of services is a sign of the diminishing role of the public sector. Keeping in mind that the demand for services is continuing to increase, NGOs are being asked more and more often to intervene and fill the "gap". Furthermore, NGOs are often considered more flexible and efficient. This is especially true at community level, where NGOs are flexible enough to intervene.

Save the Children Fund (SCF) is an NGO which intervenes in a rural water supply project in Burkina Faso. Its objective is to reinforce the maintenance system of handpumps in the Sahelian region of that country. An important aspect of the project is the capacity building at village level, but also of the private sector, artisans, and the public sector, who all face the problem of maintenance.

Project Experience

* **Support to the artisans**

In 1988, there were 20 teams of artisans in the three provinces of Oudala, Séno and Soum. They were trained mainly through financing obtained by donor agencies, but their training was usually limited to one type of pump. SCF has retrained all the artisans willing to do repairs on all types of pumps in the zone.

Furthermore, 10 new teams (chosen by the communities) were trained in order to ensure better coverage. Each team is responsible for 50 to 60 pumps. The artisans have fixed the prices of repairs to be paid by the communities. It is estimated that a team repairs 20 to 25 pumps in a year, with an average repair price of FCFA 8,000. Each team can earn up to FCFA

200,000 per year. The firm which takes care of the installation of certain pumps encourages the communities to pay a kind of insurance fee, a sort of guarantee, of FCFA 15,000 instead of paying for the repairs every time. It is not yet clear if this system is efficient or not. All the teams have received tools of good quality in order to insure the quality of the reparations. A contract is signed between the artisans, the DREAU (Direction Régionale de l'Eau) and SCF. It is not guaranteed that the artisans can replace the tools, their cost being FCFA 700,000. Therefore, as pump repair is only a part-time activity for the artisans, the project encourages them to diversify their activities in order to generate more income.

An "emergency" mobile team was created in 1988 in order to support the artisans and help them with difficult repairs. SCF has found this mobile team very useful in the good support it provides to the artisans. However it is not sure that the present structure will be able to sustain the existence of this mobile team, once the assistance of SCF is terminated. Meanwhile, SCF and DREAU are encouraging the work of the artisans by developing artisans' associations, by training activities (literacy and motorcycle maintenance), and by the development of follow-up and data collection activities.

* **Support to the DREAU (Direction Régionale de l'Eau)**

SCF assists in the capacity building of the DREAU, as a technical unit coordinating activities of various actors in the sector, and more precisely with:

- the monitoring and support of the artisans
- the training of community water committees
- the development of a data collection system and its analysis
- the coordination of the rehabilitation of wells
- the reinforcement of the spare parts distribution

* **The manufacture of adapted tools**

In collaboration with two pump manufacturers, SCF has developed the manufacture of lifting devices, and "fishing" tools for rods and tubes. All tools have been tested in the field and have proven to be efficient.

* **The repairs of parts**

SCF encourages the repair of certain parts of the body of the pump. SCF has found some welders who can repair these parts for 7 to 32% of the price of a new part, depending on the damage.

* **The replacement of pumps**

The experience shows that the Vergnet pump is not adapted to the Sahelian reality. SCF offers the possibility to replace these pumps by a more adapted pump, where communities contribute 10 to 20% of the cost of the new pump.

Ensuring O&M in Water Schemes: ACTIONAID Pakistan's Approach

An underlying principle in all our work is to ensure sustainability through enabling communities to fend for themselves and not become dependent on us for their development", writes Irum Hashmat of ActionAid Pakistan (AAPk).

AAPk initiated implementation work in its project area of Kalinger Union Council, North West Frontier Province of Pakistan, by working in the water, sanitation and health sectors. Insufficient water supply has been singled out by many men and women as a major problem. AAPk has tried to contribute to developing a system which encourages community management and accountability, thereby ensuring planning, maintenance and operation of sustainable development initiatives. Its projects are characterized by the following:

Involvement of the Community Throughout the Project Cycle: Members of the community are involved in the planning, design, and implementation of their water scheme, as well as monitoring and evaluation of interventions. When options are presented, the cost of maintenance is also presented, and poorer members of the community are given the opportunity to voice their concerns about each option.

The water supply schemes are used as a catalyst for organizing communities. A community management structure (CMS) is responsible for monitoring the water supply scheme; drawing up agreements between AAPk, suppliers and consultants, and the community; ensuring the community's physical contributions and reporting progress on a regular basis.

Involvement of Women: Women are involved in deciding about the location of the standpipes. They feel a sense of ownership, and have even been able to exert peer pressure within the communities for fairer development.

Quality of Material Used: Material of optimum quality is used. Together with AAPk technical and procurement personnel, the community forms part of the purchasing committee so that they are aware of where the material is purchased and what is involved, enabling them to act on their own in the future.

Community Commitment: Before initiating any work on a water scheme the community has to guarantee that it will take the responsibility of maintaining the scheme. Money for maintenance is collected on a monthly basis, and is saved in an account in the name of the community. The signatories (two community members and an AAPk staff

member) keep the financial records of funds deposited and maintenance expenses, and the members of the CMS collect the households' monthly contributions.

System of Caretaking: The community has to decide on a system of caretaking once the water scheme has been completed, to ensure that problems are quickly identified and remedied. In the Swabi Meira water supply scheme the community decided to employ an operator. The man on whose land the water tank was built was chosen for the position, and he receives a monthly salary from the community's bank account for his services, which include opening and closing the valves, examining the main line for damages, and overseeing repair work.

In monthly meetings CMS members and AAPk staff discuss issues related to the water schemes, which creates a habit of regular monitoring. The community can seek technical assistance from AAPk, but must take the financial responsibility of sustaining the scheme.

Adherence to AAPk's Principles : Upon designing and planning a water scheme, the community and AAPk set out rules for working together. One of these is that once a design has been agreed upon, no changes can be made without community consensus and approval of a technical specialist.

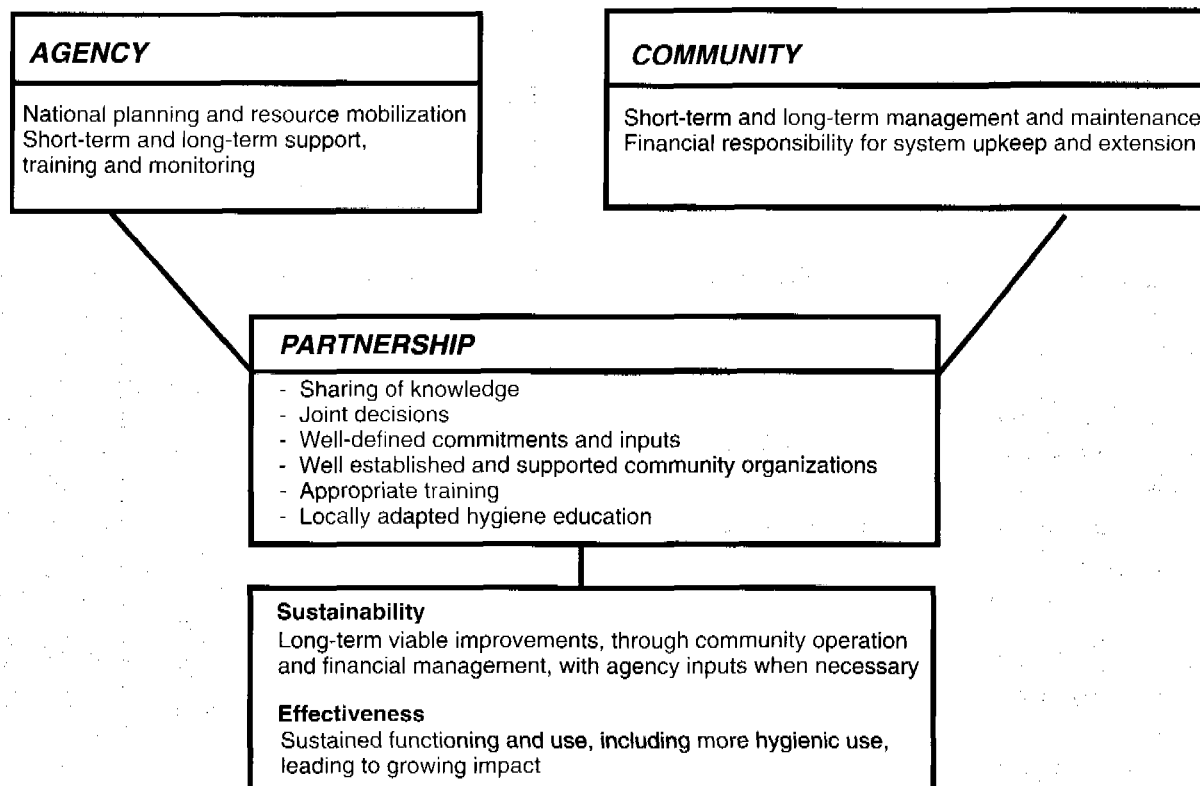
Despite all these efforts, problems do arise now and then. Mr. Hashmat reports of a person taking an illegal house connection because he felt he had been unfairly dealt with in deciding upon the placement of the standpipe in his locality. The connection led to tension in the community, and demands from other households for extra standpipes followed.

In another instance some of the people dismantled old pipes and used them in their houses for semi-permanent connections to the standpipes. These pipes, which were supposed to be handed over to ACTIONAID for use in the new scheme, are exposed, forming a potential health hazard.

O&M cannot be achieved overnight - there are many forces and people involved with a range of agendas. However, by remaining firm on principles and through participation of all, a real chance exists for O&M to be secured.

Adapted from an article contributed by Irum Hashmat, ACTIONAID Pakistan.

Agency and community partnership for improved water supply and sanitation



A partnership approach can contribute significantly to a water supply's sustainability and effectiveness
(IRC, 1991)



News from the Collaborative Council

O&M Working Group Meets in Geneva

From 29 May - 2 June the Water Supply and Sanitation Collaborative Council's Working Group on Operation and Maintenance met in Geneva to review the group's work to date, and discuss future activities.

Recognizing the high place O&M occupies on the agenda of most developing countries, the group discussed a strategy for the integrated application of tools at country level, and assembly and promotion of O&M toolkits.

Planned activities for the future include: testing, promotion and implementation of tools; training; demonstration projects; and organization of an O&M network.

Promotion: Promotional strategies include the consolidation of a strategy for the Group for interventions at country level; promotion of tools produced by the group and others in the form of toolkits, and the production and dissemination of promotional materials.

Training: The group agreed that training in O&M should be part of a human resource development strategy (identification of institutional capacity, needs assessment, identification of additional O&M training tools, and promotion of inclusion of O&M training in university and engineering school curricula). The tools available will be further developed, and translated into French, Spanish, and Portuguese.

Demonstration: To demonstrate the use of its tools the group will promote the implementation of demonstration projects, initially at city level, and thereafter at the national level.

O&M Network: The strength of the group lies in the professional expertise of its members, and their ability to implement activities in their own countries and regions. However, the consolidation of the strength of the O&M group and its continued success depend on networking between individuals both within and outside the group. In follow-up to the decision of the group to form an O&M network, a database is being set up of contacts, professionals and experts who are integral to disseminating and sustaining O&M activities. Persons interested in

contributing to the consolidation of the network can send the following information to the coordinator of the Working Group, Mr. José Hueb, at WHO (address at the end of this article):

- name and address;
- name of key training institutions in your geographical area, and field of experience;
- name of focal contacts in each training institution (these could be key actors linked to O&M by a project, or an NGO, consultant or manufacturer);
- names of experts in different O&M issues.

It was agreed that the group's role in future years should reflect the need to continue to achieve results and demonstrate them; continuously update existing tools and expand toolkits, and convince policy makers of the importance and benefits of O&M. With increasing privatization and decentralization, attention will be given to how O&M can flourish under new initiatives and privatization. This needs the close involvement of the beneficiaries, who need to be convinced of the cost savings and improvement of services.

Tools Developed to Date

Management of Operation and Maintenance in Rural Drinking Water Supply and Sanitation. This training course package has been developed to raise the level of training and to optimize the scarce resources for training activities in developing countries. Provides hands-on material for conducting a course. The structure allows its adaptation to local circumstances and needs. The course consists of eight modules and includes an action plan, evaluation and conclusion. Field-tested in Namibia and already used in several countries. Developed by IRC for the O&M Working Group. (English, French, Portuguese)

Selected O&M Case Studies. Twenty-two case studies produced by group members, describing their experience in different projects, and concepts of O&M. (English, French, Portuguese)

Status Assessment. Developed as a response to lack of sufficient guidelines for assessing O&M services in both urban and rural areas. Combines a literature review and information database with a methodology for assessing O&M status. Now being tested in selected countries. (English)

A Guide for Managers of Utilities. Examines the factors which may prevent systems from working efficiently, and provides guidelines and solutions for optimization in the context of institutional development. Published in 1994 as

an official WHO publication. (English)

Leakage Control Training Package. Provides another link in the chain of system optimization. It adopts a logical and user-friendly approach to training water practitioners at a range of levels, from senior managers to leak inspectors. Each module can be varied in content depending on the depth of knowledge required for a particular level of training. Currently being reviewed by Working Group members and leakage experts prior to distribution. (English)

Optimizing Drinking Water Plants. A practical approach to the improvement of water treatment plant performance. Summarizes field experience in upgrading and improving a wide range of water treatment plants throughout the developing world. Guidelines show how both capacity and water quality can be improved. (English)

Technology Choice. A manual for guiding the selection of technology for O&M. Aims to inform users of the O&M implications, particularly cost factors, of selecting a particular technology. Currently being developed. (English)

Applied Network Survey. This new tool is a manual for conducting field assessments of piped distribution systems through the use of portable equipment. Currently being developed by WHO.

Aside from the tools mentioned above, the Working Group is currently conducting many country-level activities. Limited space prohibits further description, but selected activities are mentioned elsewhere in this newsletter.

For more information about the tools produced by the Working Group, its activities, or the O&M Network, contact:

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Switzerland

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Francophone Workshop on Operation and Maintenance

A Sub-Regional Workshop on Operation and Maintenance of Water Supply and Sanitation Systems, sponsored by the World Health Organization, was held in Ouagadougou, Burkina Faso, from 18-21 April 1995. The workshop was attended by senior representatives from ministries of health and water and sanitation-related ministries from nine different countries: Algeria, Benin, Burkina Faso, Guinea, Guinea Bissau, Mali, Niger, Togo and Senegal. It received

support from UNICEF, Save the Children Fund-UK, the Dutch Directorate-General for International Cooperation, EIER, CREPA and IRC.

The workshop identified the problems encountered by these countries in terms of operation and maintenance, both in rural and urban water supply and sanitation systems, and formulated possible solutions to overcome these problems. The highlight of the workshop was the setting up of concrete national plans of action, which each country formulated and presented in plenary sessions.

Among the main problems encountered are: the absence or poor application of legal texts; poor coordination among actors; poor involvement of private sector; lack of funds and poor financial management; inadequate mobilization campaigns; diversity of technologies, as well as problems of spare parts availability.

Among the main recommendations were: a greater attention given to conscience-raising campaigns, including community financial management; definition of a clear O&M policy and system; limitation of the number of trademarks, and use of suppliers in the distribution of spare parts; use of more appropriate technologies; improvement of participation of local-level actors as well as the private sector; and integration of sanitation in water supply sector.

The following mechanisms were discussed by the participants as follow-up to the workshop recommendations:

- dissemination of the results of the workshop
- recommendations to the relevant national authorities
- national meetings of concerned actors
- identification of focal persons at national level
- improvement of information transmission
- WHO to be used as facilitator together with other multilateral and bilateral agencies, upon request from national governments
- making use of "Africa 2000 Initiative" activities.

Management of Maintenance Course in Burkina Faso

A course on *Management of Maintenance for Rural Water Supply and Sanitation* was held for the first time from April 24 to May 13, 1995 in Ouagadougou, Burkina Faso.

The course was organized by four leading institutions in the sector, EIER (Ecole Inter Etats d'Ingénieurs de l'Équipement Rural), ETSHER (Ecole Inter Etats de Techniciens Supérieurs de l'Hydraulique et de l'Équipement Rural), IPD - AOS (Institut Panafricain pour le Développement - Afrique de l'Ouest et Sahel) and IRC.

It was attended by 21 participants, sponsored by various institutions (Caisse française du Développement; Banque Mondiale; UNICEF; Save the Children Fund; the Dutch Directorate-General for International Cooperation; EIER and ETSHER), and coming from nine different countries: Burkina Faso, Cameroun, Centrafrique, Côte d'Ivoire, Haiti, Mali, Niger, Tchad and Togo.

This course benefitted from the expertise of the four above institutions, and was initially based on the Resource Training Package : *Management of Operation and Maintenance in Rural Drinking Water Supply and Sanitation*, sponsored by the Operation and Maintenance Working Group of the Water Supply and Sanitation Collaborative Council, and prepared by WHO and IRC. The three-week course, which is scheduled to be repeated from 5-24 February 1996, is divided into three parts:

Part 1: Facing O&M

Introduces an analytical tool in order to identify problems, analyze them, identify possible strategies and indicators.

Part 2 : Knowing More About O&M

Through practical exercises, in-depth presentations and field studies, analyzes various themes related to operation and maintenance, such as: O&M management systems, maintenance costs and cost recovery, human resource development, community management, gender issues, sanitation, village water supply, secondary centres water supply and O&M planning.

Part 3 : Planning for O&M

Each participant works on a problem he is faced with in his own working environment, with the support of the trainers, and formulates a plan of action which is presented in a plenary to the participants for further comments.

A great majority of the participants identified the problem of poor mobilization and sensibilization of communities as one of the key problems they are facing in their own job.

To register contact:

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Upcoming Courses: Management for Sustainability in Water Supply and Sanitation Programmes

For the 1996 calendar year, the course *Management for Sustainability in Water Supply and Sanitation Programmes* will be offered by IRC and partner institutions five times, and in four locations. The course aims to help participants broaden their view on issues related to sustainability of water and sanitation projects; improve their management skills such as problem analysis, planning and monitoring; identify and gather information on key issues; and develop a plan of action for solving a management problem in their own working situation. The course dates and locations are as follows:

10 March - 3 April 1996	IRC, the Netherlands
5 - 23 Feb. 1996	PAID, Cameroon
16 Sept. - 4 Oct. 1996	NETWAS, Kenya
25 Nov. - 13 Dec. 1996	IPD, Burkina Faso (in French)
1-17 April 1996	CINARA, Colombia (in Spanish)
26 Aug. - 11 Sept. 1996	CINARA, Colombia (in Spanish)

For more information or a brochure of IRC courses contact IRC's Training Section.



New Publications



Making Your Water Supply Work, Davis, Jan and Brikké, François. IRC International Water and Sanitation Centre, The Hague, The Netherlands. Occasional Paper Series no. 29. 108 pp.

This book provides recent information on trends and developments in the operation and maintenance of water supply systems of small communities, based on a review of available literature, comments from the Operation and Maintenance Working Group of the Water Supply and Sanitation Collaborative Council, and the field experience of the authors and IRC staff members. The technologies described are those most commonly encountered in small communities: protected dug well, borehole with handpump, gravity piped supply to standposts, rooftop harvesting and motorized pump.

Making Your Water Supply Work is intended for project staff and sector professionals. It can be ordered from IRC's Publications Department for US\$11.00/Dfl 20.00. (English only)

Upcoming Events

Water Supply and Sanitation Collaborative Council Third Global Forum

The Third Global Forum of the Water Supply and Sanitation Collaborative Council will be held in St Michael, Barbados, West Indies from 30 October to 3 November 1995. The Main Issue Papers will concern (i) The Pressure of Population on Water Supplies; (ii) The Critical Importance of Water Supply and Sanitation to Small Island States, and (iii) The Issues Related to Decentralization.

The theme of the Barbados Forum is "People and Water - Partners for Life", with a focus on poverty alleviation and environmental sustainability. As in the past, through international voluntary working groups, the search by the Council will be for strategies, guiding principles, guidelines, manuals, source information, etc. to overcome barriers to progress. The result-oriented Forum will concentrate on group sessions based on platforms prepared by these working groups to review the findings and reach consensus on the tools and approaches to be adopted.

A total of 250 participants is envisaged, with a share of 50% each from developing countries and ESAs.

For more information contact:

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Note from the Editor:

In *Water Newsletter* no. 234 we announced the new video *Developing a Pictorial Language* by Rana Indi. The price of the video has been changed and is now:

For institutions in India: Rs 800 + 60 for postage; elsewhere: US\$ 35 + \$5 for postage.

For individuals in India: Rs 600 + 60 for postage; elsewhere: US\$ 25 + \$5 for postage.

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WATER NEWSLETTER

Developments in water, sanitation and environment

IN THIS ISSUE:

- RURAL SANITARY MARTS IN INDIA
- SANITARY LATRINES POPULAR IN BANGLADESH
- WASTE COLLECTION IN AFRICA
- LOW-COST ADAPTABLE LATRINES IN COSTA RICA
- NEW PUBLICATIONS

NUMBER 238, NOVEMBER 1995

Note from the Editor: This issue focuses on sanitation, and emphasizes the role of the private sector in innovative solutions to sanitation provision. Examples from Asia, Africa and Latin America are included.

Rural Sanitary Marts in India

While universal access to sanitation by the year 2000 is among the goals set at the World Summit for Children, the National Sample Survey (1988-89) indicates that latrine coverage in rural India is only 11%. Of this, only 3% is through the government programme and 8% through households' own efforts. There is thus a tremendous potential to promote sanitation through private initiatives.

As of 1990, around 100 million rural households and 14 million urban households in India did not have access to a latrine. It is impossible to get the necessary Rs. 20,000 crores or more from government sources, but promoting sanitary facilities through private initiative seems to be a plausible solution to reach the goal of universal access.

The subsidy-linked government sanitation programme, which is confined to selected areas of a state, leaves much of the population unserved. Many households would like to have their own sanitary facilities without waiting for government subsidy. These people need the know-how and ready availability of construction materials at a reasonable price and within close proximity. Establishment of rural sanitary marts (RSMs) is an alternative for the existing subsidy-linked system in India. It is a step towards commercializing the provision of appropriate sanitary facilities in rural and peri-urban areas, and facilitates the private initiative for accelerating sanitation coverage.

Rural sanitary marts are outlets dealing in all the materials and services needed for construction of latrines, soakage pits and other facilities including guidance on construction.

They can become important points for dissemination of knowledge on environmental health and sanitation, ultimately bringing about behavioural change. It is thus a commercial enterprise with a social objective.

Selecting the product mix

The number of latrines constructed is a generic indicator of the marts' effectiveness in accelerating sanitation coverage. As this is the primary objective of the marts, it must be kept in mind when determining the product mix to be stocked. The RSMs should carry several categories of materials:

- materials for construction of various types of latrines and other sanitary facilities (such as pans, pit covers, pipes, doors);
- items relating to home sanitation (such as food safes, ladles, water filters, materials for cleaning latrines);
- items relating to personal hygiene (popular soaps, nail cutters, footwear).
- in areas where community-based handpump maintenance is introduced, essential handpump parts and a list of local mechanics' addresses.

Location

The location of the RSM should be such that the venture is economically workable and eventually self-supporting, such as market towns with rich surroundings, expressed in terms of high irrigation and cropping intensity. A marketable surplus of agricultural produce usually indicates that people can afford to buy sanitation facilities. Such areas generally have a greater need for latrines due to a lack of open land available for defecation. High population density and high literacy levels will also contribute to the success of an RSM.

Who should run it?

Selection of the right type of agency to run the RSM is a large factor in its success. The agency should have adequate experience in manufacturing and/or trading for the rural market. Cooperative marketing outlets and well-established and interested NGOs are examples.

Financing

There are two financial requirements for running an RSM:

- funds to meet one-time non-recurring costs (furnishings, sign boards);

- funds to meet working capital requirements of a recurring nature (inventory, sales promotion, rent, electricity, salaries).

The working capital must be correctly estimated and managed, and there should be a short turnaround time in the stock, so as to maximize the return on the invested capital. Funds should be raised from the agency's own resources, or through a bank loan. Assistance from a donor organization or the national government could also be sought.

A production centre

To obtain its supply of materials, the RSM can manufacture some of its own items, or link with production centres in the area. Where a few RSMs are already operating, a network where each RSM produces selected items to sell to the others, would help. This, of course, will require additional financial support for meeting fixed and working capital requirements.

Source: Adapted from the article 'Rural Sanitary Mats' by B.B. Samanta, Sanitation Coordinator, UNICEF, New Delhi, India

Sanitary Latrines Popular in Bangladesh

While Bangladesh has achieved remarkable success in providing safe water supply (96% of rural inhabitants drink tubewell water), unsanitary environment and unhygienic habits continue to spread communicable diseases. A recent survey revealed that over 70% of the free latrines in a WHO/UNICEF village sanitation project which began in 1962 were not used. Of latrines built through a government/UNICEF programme started in 1975, 60% were in use.

In 1978 the Department of Public Health, together with UNICEF, began establishing village sanitation centres (VSCs) at thana (district) headquarters which sold waterscal latrine parts at subsidized prices. This was later expanded with production points in selected unions.

Affordable Home-Made Latrines

Despite the subsidized cost (TK 300/US\$8 for a set of one slab with waterscal pan and five rings and TK 120/US\$3 for the same set with one ring), 80% of the rural households can still not afford the cost. Hence, a do-it-yourself sanitary latrine with a wooden and bamboo platform was introduced in 1987. Based on the materials available in the home, it costs a family TK 100/US\$2.40, and is an acceptable technology for the communities.

Use and continued promotion of the home-made latrines has increased the demand for sanitary latrines in general.

From 1990 to 1993 sanitation coverage in rural Bangladesh doubled from 16% to 33%. Of the sanitary latrines, 60% are home-made and 40% are waterscal.

Effective Social Mobilization

Water-borne and filth-borne diseases still threaten communities, due to the 65% of the population that still defecate in the open or use unhygienic latrines. In 1987 the Department of Public Health therefore adopted and integrated approach to promote safe water, improved sanitation and good personal hygiene, with UNICEF support. A three-year (1993-1995) social mobilization programme for rural water supply, sanitation and hygiene is now being implemented by DPHE with funds from the Swiss Development Cooperation (SDC) and DANIDA through UNICEF. This has led to concerted efforts by district administrations, schools and NGOs, among others, and within 18 months, 70% coverage in sanitary latrines, and a significant change of hygienic habits of washing hands with soap after defecation has been achieved in several project areas.

National Surveys

The demand for sanitary latrines over the years has stimulated the growth of latrine producers. A national survey on latrine producers and market situation was conducted in 1994 to assess the status and roles of latrine producers and to formulate a strategy to expand rural and urban sanitation coverage.

Bangladesh now has over 4100 private latrine producers, compared to 119 in the 1970s. They are located in 25% of the 4400 unions in the country. Sixty-five percent are located in rural areas, and 35% in urban areas. The demand for sanitary latrines is increasing, particularly in rural areas, and nearly 95% of the private producers service either rural areas or a mix of urban and rural. About 88% of them are self-financing and 6% obtained bank loans or credit. More than 50% set up their business without technical assistance. Over 80% manufacture and sell latrine parts as their primary business. The quality of the products from the DPHE VSCs is best, followed by those of NGOs and private producers.

Another survey, on people's attitudes and practices, revealed that all households surveyed, regardless of whether or not they have sanitary latrines, are aware that using sanitary latrines results in a cleaner environment, better hygiene and health. Households without a latrine are willing to pay up to TK 200/US\$5 for one. Most of them were not aware of the home-made option and the subsidized cost of latrine parts at the DPHE's VSCs. This

suggests the need for wider promotion and publicity for DPIIE's VSCs.

Reaching Universal Coverage

The intensive promotional activities in the recent years, strengthened by the readily available latrine parts in both urban and rural areas, may well be the key factors which contributed to doubling Bangladesh's sanitation coverage from 16% to 33% between 1990 and 1993. Bangladesh has already reached the mid-decade goal set by the government, which is 35% for rural and urban areas combined. The task ahead is total mobilization for universal coverage by the year 2000.

Source: Adapted from the article 'Sanitation and Latrine Producers, Bangladesh' by Ms. T.V. Luong, Sanitation Coordinator, UNICEF, Bangladesh

Waste Collection in Africa

Some eighteen months ago an assessment was made of the performance of community-based primary solid waste collection in four low-income urban neighbourhoods, one in Ouagadougou, Burkina Faso, and three in Abidjan, Ivory Coast. A brief summary of the findings reveals how the programmes fared

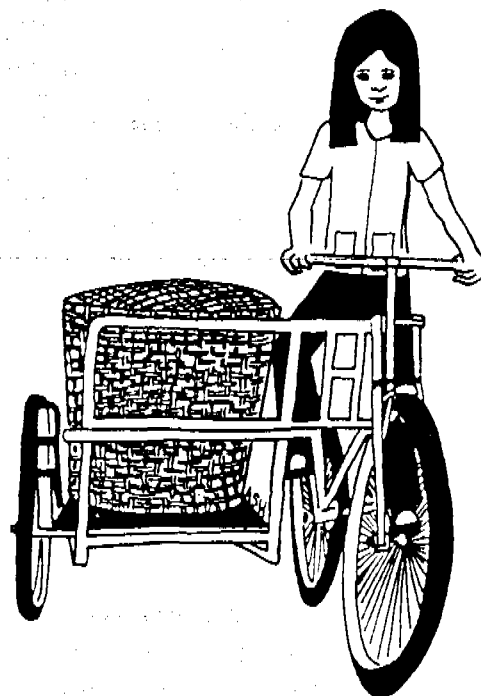
The scheme in Ouagadougou is managed by a local sanitation committee with support from two Burkanese NGOs. Member households pay a monthly tariff for bi-weekly collection by local collectors with donkey carts. At the time of the assessment the system had been operating for six months. Coverage was 20% and increasing. Cost coverage was low, but increasing. In Abidjan, three schemes operate(d). The first is run by two entrepreneurs, a cooperative and a local businessman, with concessions from the local authorities. Their collectors use one-axle handcarts financed by the EEC. Waste is collected daily and brought to central points. Member coverage is 30%. At the point of assessment the scheme had been running for two years and was being copied by entrepreneurs in other quarters.

In the second scheme a local sanitation committee placed bins at every 60 meters and hired and equipped unemployed, chief-appointed youths to empty them. Coverage was 100%. Fees were voluntary. When these dwindled, the youths added bathroom and toilet cleaning. When large trucks from a private company which collects refuse collection in the main city began to make stops and collect waste free of charge, the boys gave up. After a while, people's willingness to bring refuse to the trucks

dwindled, due to the longer carrying distance. Indiscriminate dumping is now back.

In the third scheme a neighbourhood sanitation committee employed teams of two with barrel push carts. They passed daily, announced by whistling. Every week the teams collected fees, of which they could keep 80%. Coverage was 70%. The scheme worked for one year, but stopped when a private company's trucks began to call.

The study shows that 20-70% of the households in the low-income urban areas want to pay for refuse collection. Collection by private entrepreneurs had the best cost coverage; a community-based service had the best (universal) coverage, although not all paid. All schemes suffered from lack of secondary collection. Competition from a central service killed local initiatives and then proved to be ineffective.



Asked about the gender aspects of the scheme, the author added by letter that the schemes were a joint initiative of men and women. Both are members of the committees. In Adjoufou also young women are employed as collectors, they are called 'amazones'. Moreover, the staff of the two local and one expatriate NGOs include females. The community mayor who started the youth collection schemes is also female. The scheme is run by private enterprise and all secondary collection and collection management is done by men. A gender problem is that fees are monthly and too high to be paid by the women alone. Husbands do not always want to contribute. The women would bring this issue up in the next committee meeting.

Direct benefits from better refuse collection go to women and children, but all family members including men benefit from the broader impacts of an improved environment and less work.

Source: Adapted from the article 'Community involvement in municipal solid waste collection in two West-African cities' by Werner P. Meyer in IRCWD News, no. 27, August 1993, p. 11-15

Low-Cost Adaptable Latrines in Costa Rica

For many people in the developing world defecation is still an uncomfortable and degrading experience due to a lack of proper sanitary facilities. Furthermore, inadequate facilities and means of excreta disposal cause the transmission of many illnesses.

In Costa Rica, an affordable solution has been found to improve the level of sanitation. A lightweight latrine made of fibreglass is being produced which can be purchased in hardware stores. The latrine weighs a mere seven kilos, making it easy to transport from store to home. It costs half as much as a traditional cement latrine, and is available in several colours. The lid seals hermetically to keep out mosquitos and other insects, and an apron all around ensures clean surroundings. An important feature of the latrine is that it is adaptable, and can be installed in three ways:

- on a dry pit fit with a wooden frame;
- as a pour-flush latrine over a wet pit away from the house;
- as a pour-flush latrine attached to the house, with PVC piping to carry the excreta to a wet pit away from the house.

The latrines can be easily installed by the owner with help from friends and neighbours. They are being promoted by the community health promoters and the Ministry of Health.

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New Publications



Low-Cost Sanitation: A Survey of Practical Experience.

Pickford, John (1995). London, UK, Intermediate

Technology Publications Ltd. ISBN 1 85339 233 2. 176 pp.

This practical manual describes and compares a range of low-cost systems - what they are, where they are appropriate, and how they can be planned, built, operated and maintained. Particular emphasis is given to 'software' aspects - the role of women and agencies in sanitation projects and programmes, and how individual householders and communities improve their own sanitation. The author examines the underlying health, social and cultural aspects and preferences in diverse regions of the world; and gives evidence of the diseases which occur through lack of adequate sanitation provision, and the health benefits which result from its installation and upgrading. The publication can be obtained for £8.95 from:

Intermediate Technology Publications Ltd.

103-105 Southampton Row

Tel: +44 (0) 171 436 9761

London WC1B 4HH, UK

Fax: +44 (0) 171 436 2013

In the USA for US\$ 17.50 from:

Women, Ink

777 UN Plaza

Tel: +1 212 687 8633

New York, NY 10017 USA

Fax: +1 212 661 2704

Affordable Water Supply and Sanitation. Pickford, John et al. (eds.) (1995). London, UK, Intermediate Technology Publications. ISBN 1 85339 294 4. 176 pp.

The book comprises over forty papers presented at the 20th WEDC Conference held in Colombo, Sri Lanka in 1994. Specialists from all over the world consider the different aspects of, and the issues surrounding, affordable water supply and sanitation. They examine both 'software' aspects - people, communities, health, management and institutions - as well as technological considerations such as waste management.

The publication can be ordered for £12.95 from:

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