



SOURCE Bulletin



water and sanitation news review

No.1

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Disseminating Practical Books: Unpacking the goods - an example from Eritrea

Dr. Astier Almedom, London School of Hygiene and Tropical Medicine

Published materials often fail to get through to those who are in the field, either because they are too expensive or not practical, or both. But even when they are down-to-earth and the price is right, books can easily remain on shelves.

Dissemination by interactive means such as training workshops and seminars is one of the best ways to introduce books to their intended users. This involves 'unpacking' the contents in a short space of time, highlighting the most important parts and enabling users to relate them to their own needs. The following example focuses on some salient points about interactive dissemination.

Following the publication of the *Hygiene Evaluation Procedures* handbook in May 1997, UNICEF took up its dissemination through training workshops and seminars. The first regional training of trainers (TOT) workshop, organized for UNICEF staff and their local partners in eastern and southern Africa, was convened by the Eritrean Government, Ministry of Health and UNICEF in Asmara in August. This was followed by a practical application of the HEP handbook in Eritrea during September.

Thirty-five public health practitioners representing Eritrea, Ethiopia, Malawi, Tanzania and Zimbabwe and various professional backgrounds including clinical medicine, public health engineering and community development participated in the Asmara workshop. This was led by the handbook's principal author and facilitated with the assistance of local and regional facilitators/resource persons. The aim of the workshop was to "unpack" the contents of the handbook and enable participants to relate it to their specific experiences, needs and concerns. In the process, the HEP handbook was set in context, enabling users to see how it links with and complements pre-existing resource materials. Each participant was provided with a "Reference/Resource Pack" of such relevant materials, a sort of portable mini-library, for use in the field. This is an important aspect of dissemination. Like most other practical handbooks, the HEP handbook is designed to bridge gaps between the desk and the field, between the social/cultural and the technical, between planning and implementing health/hygiene promotion.

The level of participation was high as was indeed the "mood-meter", an excellent device designed and monitored daily by UNICEF - Eritrea. Participants' evaluation of the workshop revealed that much had been gained from the workshop, but seven days' training was not enough to fully unpack and make use of the handbook. Obviously those who took part in the field study straight after the workshop benefited most. The fact that many of the trainees had had little or no previous experience with the application of qualitative methods was a significant factor. A training manual resulting from the Asmara workshop is now

being used in the region and may be published in the form of a small booklet for wider distribution. This manual includes a list of fifteen trainers who are familiar with the HEP handbook and related tools and can be called upon to support similar activities elsewhere.

The Asmara workshop was followed by a 16-day study of hygiene practices in the central and southern highlands of Eritrea. Again, time was short. Nevertheless, the results were of immediate use. Three sites, a village, a town and a semi-urban village were included where local youth, men and women, elders, administrators, health workers and other government employees were involved in the investigation and analysis of pressing issues around the protection of water sources, water uses, excreta disposal, drainage and rubbish disposal. This provided users of the HEP handbook with practical insights of how systematic qualitative investigations can be integrated into the project cycle with positive results.

The HEP handbook is available in English, Spanish and French and can be obtained by contacting:
Dr. Astier Almedom, Department of Public Health and Policy, London School of Hygiene and Tropical Medicine, Keppel Street, London WC1E 7HT United Kingdom
Tel.: 44-171-927 2274, Fax: 44-171-637 3238, e-mail: astier.almedom@lshtm.ac.uk

From the Editor

This is the first issue of the *SOURCE Bulletin: Water and sanitation news review*, which replaces IRC's *Water Newsletter*. *SOURCE Bulletin* is published six times per year by IRC as part of the *SOURCE Water and Sanitation News Service*, a new joint endeavour of the Water Supply and Sanitation Collaborative Council and IRC, with support from WEDC.

As in the past through the *Water Newsletter*, the *SOURCE Bulletin* will continue to bring you news on water and sanitation policy, field experiences, news from the Council, news from IRC, and information about courses, events and publications. It will also include selected material from the *SOURCE Weekly*, which is only available by e-mail and on the Council's Internet site (<http://www.wsscc.org/source>).

To curb rising costs, from 1 January 1999 onwards the paper version of *SOURCE Bulletin* will only be mailed to organizations and individuals in the developing world, and to documentation units and training/education departments elsewhere. **To continue to receive *SOURCE Bulletin*, those with e-mail access must subscribe by sending an e-mail to majordomo@bart.nl, with the message 'subscribe source-bulletin' (without quotes), and leave the subject line blank.**

You can also find *SOURCE Bulletin* on the Council's Internet site.

For future issues, I am interested to receive items of maximum 600 words from the field.

Dick de Jong, Editor

Water Awareness Campaign gets New Impulse through Theatre Shows in Palestinian Villages

Dick de Jong, IRC



This is Zamzam. Zamzam is the name of the water drop that appears in all the materials used in the *Water is ours - preserving and protecting of water resources* campaign in Palestine Territory. "Zamzam has a religious connotation, it means 'Holy water'. It also means clean and pure water". The campaign is getting new energy from thirteen new performances by the theatre character Nakhleh Al Shiber (The palm of the palm tree) on the West Bank. For most of the villages where the mini bus and the team headed by Yacqob Abu-'Arafe Muhammad Amoos appear this is the first theatre show children see. Nakhleh provides children and adults an opportunity to laugh and learn about water saving issues.

In the performance we saw in Al-Sawich village near Nablus reference was made to the high price the Palestinians have to pay for water they need to buy from the Israeli water company Mekorot. Jewish settlers on the West Bank and Gaza pay much less. Israel recognizes Palestinian water rights, but says the meaning of this will be discussed at the final status talks between Israel and the Palestinians.

Theatre shows, vocational training and activities in the week following World Water Day are among the elements of the continued water campaign, which the Water Resources Action Programme of the Palestine Water Authority started in 1994 with funding and technical support from UNDP.

From the start the UNDP Programme of Assistance to the Palestinian People wanted to join hands with campaigns already in progress. *The Campaign to encourage the habit for reading in the Palestine society* was a natural partner. It was launched in 1992 by the Tamer Institute for Community Education, one of the groups which participated in developing the Nakhleh Al Shiber theatre character.

In the workshops preparing for the campaign it was agreed that water is both a right and a responsibility. Press advertisements were helpful in getting responses to the water awareness campaign. A small poll showed that the youth were the most interested: 85% of the respondents were under 18 years old. As a result the programme decided to make children and youth the main target audience for this national campaign.

In the summer of 1995 work began with teachers from six schools. Teachers and students went through two exercises. One was to form neighbourhood committees to assess the need for water, and to explain these needs to the municipal authorities. The aim was to enhance the ability to work as a group and to make it possible to arrive at results. The second one was to find extra amounts of water, or ways of redistributing the existing amounts. Summer camp participants learned a few basic crafts related to water supply.

Lack of maintenance was one the expressed concerns emerging in this process. Three partners joined the UNDP in a maintenance campaign: the Qualandia Vocational Training Centre, the Nablus Municipality, and the Jerusalem Water Undertaking in Ramallah. Twelve students divided in three groups provided 110 homes, schools, mosques, hospitals and clinics with basic maintenance services. Engineers from Nablus and Ramallah accompanied them.

A series of other training courses on maintenance were held. In Khan Younis two workshops were held on exploring the problems of water and drainage. At the end

four women started a nine-month period of field work during which they held 51 discussion sessions involving over 940 women, and they visited 1646 homes.

Promotion of water-related messages through cultural festivals, posters, newspaper supplements, TV films and TV spots highlighting positive and negative water practices complemented the face-to-face work. This year the programme organized a week of activities around World Water Day (22 March), linking them with the Land Day celebration on 30 March.

Apart from the theatre shows, the vocational training activities are to continue to create larger outreach and target areas. The programme is also encouraging creation of pressure groups which can help lobby long-term solutions, such as building recycling plants.

For more information, contact Ms. Reem Abdul-Hadi, UNDP, Programme of Assistance to the Palestinian People, P.O. Box 51359, Jerusalem, Israel. Fax +972-2-6280089, e-mail: reem.abdulhadi@papp.undp.org



News from the Water Supply and Sanitation Collaborative Council

The Global Environmental Sanitation Initiative

At the Water Supply and Sanitation Collaborative Council's Fourth Global Forum in Manila last November, there was overwhelming support for a joint WHO/UNICEF proposal to launch a concerted global effort to gain high priority for sanitation in development agendas of developing countries. Discussion since have verified the enthusiasm for such an initiative. The result is GESI, the *Global Environmental Sanitation Initiative*. At the heart of GESI will be information sharing and common advocacy. Individual agencies will continue to develop their own programmes, but it is hoped that the access to information on what everyone else is doing will help to avoid overlap or conflict among different programmes in the same country.

IRC and WEDC (the Water and Engineering Development Centre, Loughborough University, UK) are working with the Council on a major information management system to keep everyone informed about sanitation activities. UNICEF will lead a publicity and advocacy campaign to ensure that all agencies speak with the same voice and have access to posters, flyers and press releases.

WSSCC is forming a Steering Committee of 10–12 people, who will be drawn from a larger pool of 20–25 representing all the key stakeholders in the sanitation sector. The Committee will meet periodically to review progress and develop common strategies for advancing the sanitation cause.

The Council has circulated a discussion document seeking views on the types of information agencies are willing to share and would like to know about others' programmes. Copies can be obtained from the Geneva Secretariat and comments should be sent to the Secretariat as soon as possible, so that work can progress on establishing the database. The proposals have five elements:

1. A database on each agency and each country, covering policies, projects and other relevant sanitation activities
2. An E-mail listserver enabling all participants to communicate continuously on emerging issues
3. A GESI Home Page on the Internet giving access to the database and regular news items
4. Periodic Newsletters distributed by e-mail and in printed form
5. Briefing notes for the GESI Steering Committee.

The descriptions below are taken from the discussion document, which also contains sample outputs to be made available to any parties indicating an interest in sharing information through GESI.

1. The GESI Database

To share information, we first need to collect it. That means some work for those contributing the information the payback being that they gain access to equivalent information from many more sources. As information processing takes time and resources, and too much information can sometimes be as bad as too little, the aim is to store and share only information which will be of practical use to most people. By noting contact names, the database will guide users to sources from which more information can be obtained where necessary.

Our suggestion is that the database should have two main elements:

- **Agency-based information** with an introductory section setting out the agency's sanitation policy, any special conditions for supporting sanitation programmes, and, if thought appropriate, brief notes on past activities in the sector. This would be followed by a continuously updated section listing new activities (approved and pipeline projects, policy papers, research activities, etc.).
- **Country-based information** with an introductory section on national policies and strategies for sanitation, a list of agencies involved in the sector, including donors and NGOs, contacts for more information. This might also include sector statistics, drawn initially from the Joint Monitoring Programme and adjusted as later information becomes available. Again, the basic information would be supplemented by a list of approved and pipeline projects and other relevant sanitation initiatives. GESI proposes that there should be a national GESI focal point (an individual, rather than an agency) for each country, helping the WSSCC to gather the necessary data and maintaining regular contact through the Council's regional chapters.

Because this database is going to be the core of the GESI information exchange, it is crucial to get the balance right now between usefulness and operational feasibility. The samples (not included here) illustrate possible ways in which the components of the database might be presented, including a tentative project data sheet. Feedback is wanted as soon as possible on the desirability and practicality of gathering and disseminating the type of information shown and on any additional information which people believe it would be useful to include. One particular issue is the degree to which GESI should attempt to monitor the level of investment in sanitation programmes. Bearing in mind that what comes out of the database can only be as good as what goes in, we need to consider whether agencies will be willing to contribute financial data which GESI could aggregate

2. E-mail listserver

Using a listserver, anyone who is part of the group can send one E-mail message that will be seen by everyone else. The intention is that WEDC will set up a listserver dedicated to GESI. That will create a continuous discussion forum on which anyone can post questions, comments, opinions, etc., or seek support for activities such as workshops. There is also the option to hold electronic conferences on a particular theme over a period of days, with a moderator later producing a report on the discussions. WEDC has experience of electronic conferencing and would take on the moderator role. It is also possible for selected contributions to the GESI listserver to be disseminated more widely through other listservers, so as to reach a particular audience (for example there is a listserver which is specifically for local government professionals).

3. GESI Home Page

WSSCC, IRC and WEDC are creating a family of Home Pages covering each organization's own activities and some shared news items. The intention is that there should be a page dedicated to GESI, through which anyone will be able to get access to the GESI database, as well as reading the most recent news items about sanitation progress. In this way, interested parties will be able to access information about a particular agency or country to brief themselves for visits or project appraisals. Up-to-date information will be available at any time, without the need to wait for published reports from the Secretariat.

4. Newsletters

A number of existing newsletters carry water and sanitation news items. News about Council activities appears regularly in SOURCE, which is published electronically and in hard copy form by IRC, and in the GARNET newsletters. A dedicated Newsletter for GESI will be published regularly on the GESI listserver and in hardcopy form for those without E-mail access. The Newsletter will summarise new activities notified to the Secretariat. It will also be the opportunity for spotting possible overlaps or competing activities by different agencies — one of GESI's objectives.

5. Steering Committee Briefs

Once or twice a year, the Secretariat, supported by IRC and WEDC, will analyse the data coming into GESI and produce progress reports for review by the Steering Committee. These Briefing Notes may include comments on potential conflicts or opportunities for collaboration, as well as pointers to innovative activities which may be seen as case studies for replication elsewhere. New agency policy initiatives will also be reported.

November Consultation on Water and Sanitation called by African Professionals

An *African Consultative Forum on Water Supply and Sanitation* is to be held in Abidjan, Cote d'Ivoire on 17-20 November 1998. It is being organised by the African Chapter of the Water Supply and Sanitation Collaborative Council (the Chapter has now adopted the name *Water and Sanitation African Initiative - WASAI*).

The aim is to formalise an African perspective on water supply and sanitation (WSS) priorities in the continent and to combine the many existing WSS activities into a concerted action programme, endorsed by sector professionals, policy makers and the donor community. The 150+ participants will come from all countries of Africa. They will include policy makers and practitioners from the water, sanitation, health and environment sectors, plus external support agencies (ESAs), NGOs and other "stakeholders" from civil society, research and training institutions, and community groups. They will discuss an African Sector Review and assessment of priorities for sector investments.

WASAI has the backing of the other initiatives for this coordinating role. In Abidjan, participants will have the opportunity to hear about the UN Secretary-General's *Africa Initiative*, the World Health Organization's *Africa 2000* programme, UNCHS (Habitat)'s *Cape Town Declaration*, and regional programmes of the UNDP/World Bank Water and Sanitation Program, the Water Utilities Partnership, and the Union of African Water Distributors (UADE), among others. All external support agencies active in the WSS sector are being invited to take part in an Open Forum/Panel discussion on concerted action.

At the end of the meeting, participants will reach consensus on an *Africa Statement* setting out the priorities for water supply and sanitation programmes in Africa which will

have been developed via African-led discussions but in a fully participatory way with the backing of ESAs and other stakeholders.

Themes to be discussed at the Consultation include:

- Water supply and sanitation services for the urban poor
- Community management of WSS systems
- Environmental health and sanitation
- Financing the WSS sector
- Collaboration at country level
- Water quality

Vision 21

In addition, participants will help to develop the African element of the Water Supply and Sanitation Collaborative Council's *Vision 21 - Water, Sanitation and Global Wellbeing*, a comprehensive analysis of global trends and forecasts into the 21st century. They will also formulate a regional perspective on the *Global Environmental Sanitation Initiative*, which is a major advocacy and communication initiative by the WSSCC, focused on accelerating achievement of 100% sanitation coverage (an estimated 500 million Africans currently lack access to basic sanitation facilities).

Participation in the Consultation will be by invitation, with the organisers aiming at a proportion of 2 : 1, Africans : ESAs and other stakeholders. Further details on the Consultation can be obtained from WASAI's Assistant Coordinator for the Consultative Forum, Mr. Dennis Mwanza, Water Sector Reform Support Unit, 11th Floor Indeco House, P/Bag RW 291X, Lusaka, Zambia; tel.: +260-1-226 941; fax: +260-1-226 904; E-mail: : ddmwanza@zamnet.zm

For more information about WSSCC, contact:

The Secretariat, Water Supply and Sanitation Collaborative Council, c/o World Health Organization (CCW), 1211 Geneva 27, Switzerland. Tel. +41-22-791 3685, fax +41-22-791 4847, e-mail: wsscc@who.ch. Internet: <http://www.wsscc.org>

News from IRC International Water and Sanitation Centre

Participation, Gender and Demand Responsiveness: an assessment study

Christine van Wijk-Sijbesma

A new one-year participatory assessment study in five regions (East Africa, West Africa, Latin America, South Asia and South-East Asia) is under way as part of a five-

year gender initiative of the UNDP-World Bank Water and Sanitation Program (WSP). The study uses participatory assessment tools at the community and institutional levels. It will test the assumptions that water and sanitation services are more likely to be sustained under the following conditions:

- they meet the demands of both women and men, rich and poor;
- men and women have a voice and choice in what services they will support and in the ways they will support them;
- gender-sensitive approaches in service establishment give women and men choices and voices;
- staff practicing gender-sensitive participation are more likely to be supported by their institutions than staff not practising this approach.

Partnership is a major characteristic, as the Regional Groups of the UNDP-WB Program, the IRC, PAID, CINARA, SEUF as well as communities and project staff in projects in some 12 countries are involved.

This Participatory Learning and Action (PLA) initiative is an outcome of a two-day workshop held on 7 and 8 October 1997 in the Hague, and builds on the collaboration between IRC and the WSP. This dates back to 1985 when a first joint publication *Participation of Women in Water Supply and Sanitation: Roles and Realities* was brought out with UNDP/PROWESS. An updated and expanded version of this book was published in January 1998 by IRC. IRC also contributed in the compilation of two Gender Source Books brought out by the World Bank on behalf of the Gender Issues Working Group of the Water Supply and Sanitation Collaborative Council.

The Hague workshop participants, including WSP and IRC staff, representatives of external support agencies and NGOs, defined the objectives, process, analytical framework, methodology and implementation arrangements of the PLA initiative. The guiding principle for future action is to take the issues of participation and gender from a strong advocacy focus to an operational level by making the links to impact and sustainability of WSS investments.

This is likely to contribute to greater attention to gender and poverty concerns in design and implementation of the demand-responsive approaches.

The first results are expected in the first quarter of 1999. So far, IRC and WSP staff and partners in three regions have field-tested the guide on methodology and tools for the participatory learning assessments. In Kerala, the partner with which testing was done in two villages is the Socio-Economic Units Foundation (SEUF). In Cameroun, it was done with the Pan-African Institute of Development. In Ghana, testing was done in Ho district with the Ghana Volta Rural Water Supply and Sanitation Project. In Latin America, the project is being carried out with IRC's partner CINARA and the testing of methodology was done in Ceylan, a village in the Bugalagrande district, close to Cali. The work in Latin America will involve the participation of four programmes in four different countries:

- the TRANSCOL programme in Colombia, coordinated by CINARA;
- the APRISABAC, Primary Health Care and Basic Sanitation Programme of the Ministry of Health, in the Cajamarca region, Peru;
- the National Water and Sanitation Programme of the Ministry of Works and Basic Services in Bolivia;
- ETAPA – Water and Sanitation Company – and Care International, the joint water and sanitation programme, in Cuenca, Ecuador.

In India, the field data have now been collected in and with nine communities. Processing of the first data and analyzing of the first outcomes is taking place.

Documentation Support to Partners

Cor Dietvorst

In recent months IRC documentation and information specialists have provided advisory support to partners in the field as part of the IRC's sector resource centre development programme.

The first mission in February/March of this year by Cor Dietvorst concerned assistance to help set up the documentation and dissemination activities of the Sector Resource Centre (SRC) and the Socio-Economic Unit Foundation (SEUF) in Thiruvananthapuram, Kerala, India.

The SEUF requested IRC International Water and Sanitation to provide support on documentation and dissemination as stated in the *Draft Minimum Action Plan (MAP): Sector Resource Centre of the Socio-Economic Unit Foundation, Kerala, 1997-98*. The MAP was prepared by SEUF in collaboration with IRC.

During the mission support was provided to policy issues such as the assessment of the present policy and set up of the resource centre and analysis of internal and external information sources. Practical outputs included: hand-on training in cataloguing techniques, task description and skill requirements, preparation of a user needs survey and the creation of a periodicals database. In addition a range of documentation and dissemination guidelines and tools were prepared.

The second mission, to the Institute of Water and Sanitation Development (IWSD) in Harare, Zimbabwe by Stephen Parker and Nigel Browne took place in March 1998. The mission was undertaken within the framework of the Collaborative Programme for Capacity Building in the Water Sector of Zimbabwe and the Southern Africa Region, a joint programme of the Department of Civil Engineering, University of Zimbabwe, the IWSD, and the International Institute for Infrastructural Hydraulic and Environmental

Engineering (IHE), Delft, The Netherlands. The programme is funded by the Directorate General for Development Cooperation (DGIS) of the Government of the Netherlands. Issues covered during the mission include the IWSD library

service, information products and services, library software, the Internet, manpower issues, publications, and information dissemination strategies.

For more information on IRC, contact IRC at the address in the colophon on page 8.

Resources and Events

New Publications

Helmer, R. and Hespanhol, I. (eds). (1997). **Water pollution control : a guide to the use of water quality management principles**. - London, UK, E & FN Spon, 1997. - xvi, 510 p., boxes, fig., maps, tab. - ISBN 0419229108, price: US \$44.95

This handbook addresses water resources management and water pollution control for policy makers and environmental managers. It includes several case studies, mainly from developing countries, of successful models of waste water management and pollution control. Issues covered include: a. identification of local water quality and pollution control problems; b. policies, planning, legislation, monitoring programmes, enforcement activities, training and information dissemination; c. management tools such as regulation, water quality standards, monitoring systems, models, and impact assessments; and d. long-term strategies for water pollution control. Available through booksellers or direct from: E & FN Spon, Thomson Science & Professional, 2-6 Boundary Row, London SE1 8HN, UK, E-mail: info@chaphall.com, Internet: <http://www.efnspon.com/>

WELL (1998). **Lessons learnt from NGO experiences in the water sector : water and NGOs workshop**. London, UK, Water and Environmental Health at London and Loughborough (WELL).

The proceedings of this workshop, organized by UK Department for International Development (DFID), include 32 papers on NGO water and sanitation projects, mainly in Africa and Asia. The workshop was held in London on 21 January 1998. The papers are available on the Internet in Adobe Acrobat Reader 3.0 format: <http://www.lboro.ac.uk/well/bond98/contents.htm>

Paper copy available from: WELL, c/o LSHTM, Keppel Street, London WC1E 7HT, UK, tel.: +44-171-9272211, fax: +44-171-6367843, E-mail: WELL@lshtm.ac.uk

SKAT (1998). **Basic books on water and sanitation**. St.Gallen, Switzerland, SKAT

SKAT has prepared a list of 20 basic books on drinking water supply, sanitation and waste water for planning and executing technicians and engineers. For each book the publisher's address and a short abstract is given. The books

are divided into the following categories: general, hygiene, water technology, sanitation technology; and operation and maintenance. Full text available on the Internet: http://www.skat.ch/focus/water/supply/publications/books/books_1.htm

Paper copy available from: SKAT, Vadianstrasse 42, CH-9000 St.Gallen, Switzerland, tel.: +41-71-2285454, fax: +41-71-228 54 55, E-mail: info@skat.ch, Internet: <http://www.skat.ch>

Hinrichsen, D., Robey, B., and Upadhyay, U.D (1998). **Solutions for a water-short world**. (Population reports, vol. 26, no. 1). Baltimore, MD, USA, Johns Hopkins School of Public Health, Population Information Program

According to this report, the world needs a Blue Revolution to conserve and manage freshwater supplies to avoid instability caused by water crises in the next century. It also calls on development agencies to focus more on assuring the supply and management of freshwater resources and on providing sanitation as part of development and public health programmes. A third of the world's population will be short of fresh water by the year 2025. The worst water shortages are expected in the developing world. Full text available on the Internet: <http://www.jhuccp.org/popreport/ml4edsum.stm>

Paper copy available from: Population Information Program, Center for Communication Programs, The Johns Hopkins School of Public Health, 111 Market Place, Suite 310, Baltimore, Maryland 21202-4012, USA, tel.: +1-410-6596300, E-mail: PopRepts@welchlink.welch.jhu.edu

Events

Haiti EnviroTech '98: Congrès des Ingénieurs, Architectes et Techniciens Haitiens, 16-20 November 1998, Haiti

Organized by Congrès des Ingénieurs, Architectes et Techniciens Haitiens (CIATH).

Themes: Reforestation; Water Resources; Used waters and waste energy; Education and public awareness; Degradation and restoration perspectives in the actual socio-economical context. URL: <http://www.haiti-science.com/envirotech/> Contact: CIATH, PO Box 693072, Miami, FL 33269-9998, USA, tel.: +1-305-6211189, fax: +1-305-7548994, E-mail: envirotech98@acn2.net

Water, Sanitation, and Health: Resolving conflicts between drinking water demands and pressures from society's wastes, 24–28 November 1998, Bad Elster, Germany.

Organized by Institute for Water, Soil and Air Hygiene. Conference findings will contribute to a WHO-monograph on the protection of drinking water resources from domestic sewage and excreta. Topics include: health hazards, extending coverage, improving treatment, and institutional and management aspects. URL: <http://www.umweltbundesamt.de/who/whoconf.htm>

Contact: Ms. Gertrud Schlag, Institut for Water, Soil and Air Hygiene, PO Box 330022, D - 14191 Berlin, Germany, tel.: +49-30-89031807 / 8903 1808, fax: +49-30-89031233 / 8903 1830, e-mail: gertrud.schlag@uba.de

Tenth ITN Africa Conference, 30 November – 3 December 1998, Nairobi, Kenya

The International Training Network for Water and Waste Management (ITN) was launched by the UNDP-World Bank Water and Sanitation Program in 1984 (<http://www.wsp.org/English/itn.html>). Conference theme: Water and environmental sanitation in the low income urban areas. Sub-themes: Water supplies & service options; Excreta disposal; Drainage & stormwater; Solid waste management; Hygiene education; Community mobilization & management; Socio-cultural issues; Private sector involvement.

Contact: Executive Director, NETWAS International, PO Box 15614, Nairobi, Kenya, fax: +254-2-890554/60, e-mail: netwas@nbnet.co.ke

Third Inter-American Dialogue on Water Management: Facing the Emerging Water Crisis in the 21st Century, 22–25 March 1999, Panama City, Panama.

Organized by: Organization of American States, Institute for Natural Renewable Resources, and CATHLAC (Water Center for the Humid Tropics of Latin America and the Caribbean). The meeting is a forum that seeks to identify and formulate practical recommendations and guidelines for the equitable and sustainable use of water resources in the Americas. It aims to facilitate and strengthen implementation of the recommendations contained in Agenda 21 and reaffirmed at a number of recent international water meetings. Themes include: Water and Health, Integrated Water Resources Management; Social, Environmental, and Economic Valuation of Water Resources; Public Participation in Water Resources Decision Making; and Global Change and Water Resources.

Four other international water-related events will be held at the same time of the Dialogue: (i) The 2nd Colloquium on Hydrology and Water Management in the Humid Tropics; (ii) The Inter-American Water Resources Network (IWRN) Advisory Council; (iii) Children's International Water Summit; and (iv) Exhibition AQUA '99. URL: <http://www2.usma.ac.pa/~cathalac/dialogue3.htm>
Contact: CATHALAC, PO Box 873372, Panama 7, Republic of Panama; tel.: +507-2326851 / 6738, fax: +507-2326834, E-mail: cathd3@sinfo.net

Training Courses

Cranfield University at Silsoe (UK)

- MSc courses (one year) in Community Water Supply, Environmental Water Management, Irrigation Engineering, Irrigation Water Management, and Soil and Water Engineering, URL: <http://www.silsoe.cranfield.ac.uk/courses/PG/courses.htm>
- Short courses in Water Management, Water Well Drilling and Supervision of Borehole Construction, Groundwater Monitoring and Sampling, URL: <http://www.silsoe.cranfield.ac.uk/T&CS/CPD/short.htm>

Contact: School of Agriculture, Food and Environment, Cranfield University, Silsoe, Bedfordshire MK45 4DT, UK, tel.: +44 -1525-863319, fax: +44-1525-863316, E-mail: admissions@cranfield.ac.uk

NETWAS International, Nairobi, Kenya

Gender in Water and Environmental Sanitation, 2-13 November 1998

Contact: Training Programme Manager, NETWAS International, PO Box 15614, Nairobi, Kenya, fax: +254-2-890554/60, e-mail: netwas@nbnet.co.ke or e-mail: netwas@ken.Healthnet.org

Colophon

SOURCE Bulletin is published bimonthly by IRC International Water and Sanitation Centre in cooperation with the Water Supply and Sanitation Collaborative Council.

Editor: Dick de Jong
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Aims to improve service delivery to the poor in urban areas by highlighting the vital role played by small-scale independent providers of environmental sanitation services.

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Financing of Fresh Water for All: A Rights-Based Approach

Over the past two decades a number of international declarations have sought to ensure access to safe water and sanitation with environmental sustainability. A range of criteria and financing mechanisms have been proposed for the mobilization and allocation of financial resources. Yet millions of people do not have access to basic levels of service and there are concerns about water scarcity and environmental degradation impacting fresh water resources. There is increasing competition between agriculture, industry and domestic sectors for fresh water, which is a finite resources in a given environment. The global fresh water crisis is in fact a local level crisis - in time (at particular periods during the year) and in space (particular locations) - which already exists.

<i>All people have a right to have access to drinking water</i>	Mar del Plata, 1977
<i>Some for all rather than more for some</i>	New Delhi Declaration, 1990
<i>Water is an economic good</i>	Dublin Declaration, 1992
<i>Satisfy the freshwater needs of all countries</i>	Rio Earth Summit, 1992
<i>Efficient and effective use of the available funds</i>	Ministerial Conference, Noordwijk, 1994

A recent UNICEF paper by Ashok Nigam and Sadig Rasheed argues that the international declarations on human and child rights provide the political, moral, ethical and legal imperative for ensuring that the fundamental right to water is met. Adopting a rights-based approach, it is argued, is consistent and compatible with economic efficiency. Indeed, such an approach is both efficient and equitable. Implementation of the rights already conferred will be pivotal to the mobilization of adequate resources for the twin challenges of sustainable financing and environmentally sound use of resources. The authors conclude:

- The key constraint in overcoming the challenges is not lack of financial resources but the political decision by the state to implement the rights already conferred on individuals.
- The market cannot be expected to safeguard and allocate fresh water resources equitably across income groups and across competing uses. The pressure on domestic water supply as a result of over-extraction for agriculture calls for an examination of pricing of water in its competing uses.
- The rights-based approach to financing suggests that efficiency with equity can be achieved if basic levels of services for all are guaranteed by the state. What is required is the political will to ensure that the rights are met.
- Privatization and public sector financing can be complementary, but the former should not be expected to substitute for the state's responsibility for ensuring basic levels of service.
- Privatization of water supply and sanitation services must be accompanied by effective regulation.
- Microfinance and revolving credit schemes must be promoted alongside water supply and sanitation in order to enhance the capacity of the poor to pay and maintain their services.
- Community-based management as a strategy for service delivery and financing of fresh water for all has been shown to be effective. Communities

must be in charge and participate in all aspects of management if they are to be custodians of their fresh water environment.

To find ways and means of improved involvement of small-scale private providers in the sector, be they local non-governmental organizations, community-based "businesses" or private entrepreneurs, IRC is currently executing a research project. It is entitled *Small Scale Independent*

Providers of Water and Sanitation to the Urban Poor, and is being executed for the Program for Learning and Capacity Building of the UNDP-World Bank Water and Sanitation Program. For more see detailed information the IRC section.

Taken from: *Financing of Fresh Water for All: A Rights Based Approach*, by Ashok Nigam and Sadig Rasheed, 1998, United Nations Children's Fund, Programme Publications, 3 UN Plaza, New York, NY 10017

Contributions Invited for World Water Vision 2025

The World Water Council, an international water policy think-tank NGO established in 1996 with more than 160 institutional members, has undertaken to develop a Long Term Vision on Water, Life and the Environment, or World Water Vision. The project became operational during the summer of 1998 with the establishment of a World Commission on Water for the 21st Century. The Commission is composed of many outstanding thinkers and opinion leaders. In early November His Royal Highness the Crown Prince of Orange of the Netherlands joined the Commission as honorary member. The Commission is chaired by Dr. Ismail Serageldin, Chairman of the Global Water Partnership and Vice-President of the World Bank. The Commission invites all stakeholders to contribute to the development of a World Water Vision that will be developed over the following 18 months.

The main objective of this process is to develop a widely shared vision on the actions required to achieve a common set of water-related goals and commitment to carry out these actions.

Three specific objectives are to:

- Raise awareness of water issues among the general population and decision makers so as to foster political will and leadership to tackle them seriously and systematically.
- Develop a vision of water management in the year 2025 that is shared by water sector specialists as well as international, national and regional decision makers in government, the private sector and civil society.
- Provide input to an implementation strategy that could be elaborated by the Global Water Partnership, to formulate steps to go from vision to action, including possible suggestions for investment priorities (for funding agencies).

Making young people aware of water problems

"People of my generation will be confronted with water shortages. If I can play a role in making young people aware about the water problems in the world, I'll gladly do it". This is how His Royal Highness the Crown Prince of Orange of the Netherlands explained his enthusiasm to be involved in the World Water Vision process and the Second World Water Forum, which will be organized from 16 -22 March in 2000 in the Netherlands, with the theme "From Vision to Action".

The Prince was talking to journalists after the press conference where the Vision process, the Forum and the Prince's involvement in both was officially announced. The Crown Prince has also accepted to become honorary member of the World Commission on Water for the 21st Century. Members of this high-level commission will assist in the Vision process.

Prince Willem Alexander of Orange will become active in his role as international ambassador for water in 1999, after he has taken up the position as chairman of the Commission on Integrated Water Management in the Netherlands.

Eveline Herfkens, the Dutch Minister for Development Cooperation; Ismail Serageldin, Vice-President of the World Bank; and World Water Commission Chairman Dr. M. Abu-Zeid all stressed at the press conference that special attention is needed to involve young people and women in the World Water Vision process and Forum.

The Netherlands Government gives high priority to integrated water management and is the major sponsor of the Vision development. The process is being co-sponsored by the chief officers of eight UN agencies: FAO, UNEP, UNDP, UNESCO, UNICEF, WMO, WHO and the World Bank.

The process will be characterized by a participatory approach with extensive consultation, innovative, "out-of-the-box" or futurist thinking and will emphasize communication with groups outside the water sector. The Vision will be truly global, including both developed and developing regions, but with special attention given to the needs of developing countries and of the poor.

The World Water Vision development will be based on three components:

1. Subsectoral consultations on Water for People, Water for Food, and Water for Nature;
2. Regional consultations for 10-15 regions in the world;
3. Network consultations through comments and feedback obtained through the many planned water meetings as well as network organizations.

The interim results of the World Water Vision project will be discussed at the 1999 Stockholm Water Symposium and the final results will be presented at the *2nd World Water Forum and Ministerial Conference* that will take place just before World Water Day 2000, March 17-22, in the Hague, the Netherlands.

Contributions to the vision are invited in the following areas.

1. Contribute to the development of sub-sector Visions.
2. Develop a Water Vision for your region!
3. What is the Vision of your conference or workshop?
4. What is the Vision of your network or group?

The Vision Management Unit will provide briefing materials (in print and through web sites) to support these activities and will process feedback. Further consultation will take place at the 1999 Stockholm Water Symposium in August 1999.

For more information, please contact the World Water Vision Unit.

World Water Vision Unit

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News from the Water Supply and Sanitation Collaborative Council

Urgent Actions Needed by Leaders in Africa

African water professionals have called on political and civic leadership of Africa for urgent actions for promotion of water and sanitation services. They did this in the Africa Statement of the Water and Sanitation Africa Initiative, which was accepted after the African Consultative Forum in Abidjan, 17 -20 November 1998. Lack of access to these most basic of services, necessary to sustain life, lies at the root of many of Africa's current health, environmental, social, economic and political problems. "Our vision is of an Africa in which all citizens have access to safe and affordable water and sanitation services in the shortest possible time", the sector professionals say in the statement.

In Africa today over half of the population is without access to safe drinking water and two-thirds lack a sanitary means of excreta disposal. It is a situation in which the poor are adversely affected to a disproportionate degree. Hundreds of thousands of African children die annually from water and sanitation related diseases. There are severe problems of environmental degradation. For women and children, collecting water is physically stressful and time-consuming and often results in children not being able to attend school.

Despite significant improvements during the International Drinking Water Supply and Sanitation Decade (1981 - 1990), progress has now stagnated. More people are today without adequate services in Africa than in 1990. In comparison with other regions, Africa in general has had a particularly difficult time in holding on to the gains of the past.

Although African development is said to be a growing priority among the donor community, Africa in fact receives less of the share of total international development assistance than a decade ago.

Constraints

Current levels of access to safe water and sanitation services are unacceptable, and at the current pace of progress full coverage will never be achieved. Over the past few decades a number of constraints to progress have been identified:

- Institutions responsible for water and sanitation service delivery in most countries operate in an uncoordinated and inefficient way. The enabling environment and legislative framework are often inadequate. Poor institutional management results in low cost recovery, leading to infrastructure falling into disrepair and further reducing the quality and level of service in both rural and urban areas.
- Sanitation and hygiene promotion are given very low priority in sector programming and the allocation of resources.
- Women and men use water and contribute to water management in different ways. The pivotal role of women and children as providers and custodians of water supply is not given sufficient recognition in institutional arrangements for water supply and sanitation services.
- Inadequate attention to the integration of water resources management leads to sub-optimal, inequitable and unsustainable use, and transboundary conflicts.
- Networking with key sectors (e.g. health & nutrition, education, environment) has not been given sufficient attention, resulting in lost opportunity for synergy, information sharing and exchange of experiences.
- Lack of reliable data and monitoring mechanisms have resulted in poor planning and inadequate and poorly targeted resource allocation.
- The sector has not responded adequately to the problems of urbanization, resulting in grossly inadequate services to residents of peri-urban areas and informal settlements.

- Insufficient preparedness for and response to emergency situations, resulting from civil conflict and natural disasters, have resulted in enormous suffering, disruption of household and community economies and degradation of the environment.

Guiding Principles

Basic Right - Access to safe and affordable drinking water supply and adequate sanitation is a basic right and therefore a responsibility for all governments who have signed conventions enjoining them to take appropriate actions.

Decentralization of Service Delivery - Government responsibility should devolve from provider of water supply and sanitation services to facilitator and regulator, while ensuring increased resource allocation to the sector. Responsibility for ownership and management of facilities should be at the lowest appropriate level, through the most effective arrangement.

Demand-Responsive Approach - Water supply and sanitation service delivery should be based on demand responsive and participatory approaches.

Partnership - Governments need to create an enabling environment to facilitate service delivery with due involvement of all partners including the private sector and civil society organizations.

Cost Recovery - Cost recovery should underpin sector investment decisions and actions for sustained services delivery. Appropriate safety nets should, however, be put in place to protect the poorest of the poor, taking into consideration willingness and ability to pay.

Actions needed

To address the huge backlog of unserved African people and achieve long-term sustainability of services and optimal use of scarce resources deliberate action and commitment are needed from everyone responsible.

Sector Reforms - Appropriate sector policies, legislative support and institutional frameworks need to be put in place to guide the stakeholders.

Capacity Building - Because of the changing roles in the sector, development of human resources and institutional strengthening at all levels is necessary to ensure sustainable water supply and sanitation services, including links to appropriate institutions for emergency preparedness, to meet the needs of the entire population. Special attention should be given to data collection and management as well as sector monitoring to ensure more informed decision making.

Financial Sustainability - Questions of cost recovery, affordability and equity must be addressed and appropriate funding mechanisms for sustainable service delivery developed, with attention to effective and efficient utilization of resources.

Commitment to Maintenance - Priority should be given to reliable arrangements for maintenance of installed facilities in order to prevent their premature deterioration and to safeguard investments.

Commitment to Partnerships - Where sustainable solutions have been achieved, these should be regarded as models at all levels. Pan African and South-South collaboration and the participation of the international and local private sector should be encouraged with adequate protection for the consumer.

Integrated Water Resource Management - Efficient water use and attention to integrated water resources management can 'stretch' the water supply from existing investments and provide the opportunity for increasing service coverage at relatively low cost.

African commitment and strategic concerns

Political commitment exists to address the issues noted above (OAU Decision 1998 Doc. No.CM/2057(LXVIII) Add 3). With reallocation at national and international levels, there are enough resources to support water and sanitation interventions. With increased democratic governance, people expect better services, and we the professionals should rise to that expectation.

African professionals in the water supply and sanitation sector, are dedicated to implement the contents of this Statement. There is room for a great deal of action - action which is urgently required in the face of appalling consequences of inadequate service in the water supply and sanitation sector.

They express this commitment through the establishment of the African Chapter, Water and Sanitation Africa Initiative (WASAI) to coordinate the urgent actions needed to bring the vision to reality.

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3685, fax +41-22-791 4847, e-mail: wsscc@who.ch.
Internet: <http://www.wsscc.org>*

Revised Sanitation Promotion Kit Available

The Sanitation Promotion Kit produced by the Water Supply and Sanitation Collaborative Council's Working Group and circulated for review at the end of 1997 has now been substantially revised and published as a spiral bound book. The 277-page book is published jointly by WSSCC and the World Health Organization (WHO). It contains comprehensive guidelines and practical tools for promoting the sanitation cause, based on four years of analysis and wide-ranging discussions among scores of sanitation specialists.

Copies of the book can be purchased from WHO. The cost is Swiss francs (CHF) 28.00 for purchasers in developing countries and CHF 40.00 for those in industrialized

countries. Payment should come with the order and credit card payment can be accepted (please include a note of the credit card expiry date as well as the number). Orders should be sent to: Distribution and Sales Unit, World Health Organization, 1211 Geneva 27, Switzerland.

WSSCC has a limited number of copies to make available free of charge to those in developing countries who are unable to make foreign exchange payments. Requests will be reviewed by the Secretariat. Write to: Water Supply and Sanitation Collaborative Council, c/o World Health Organization (CCW), 1211 Geneva 27, Switzerland. E-mail: wsscc@who.ch

News from IRC International Water and Sanitation Centre

New Research on Small-Scale Private Providers

Marc Vezina

Small-Scale Independent Providers of Water and Sanitation to the Urban Poor is the focus of research carried out under the Program for Learning and Capacity Building of the UNDP-World Bank Water and Sanitation Program and implemented by IRC.

The research aims to improve service delivery to the poor in urban areas by highlighting the vital role played by small-scale independent providers of environmental sanitation services. Studies will be conducted in seven cities of sub-Saharan Africa to:

1. identify the gamut of operators and the scale of their operations as well as the institutional and legal context in which they operate;
2. assess the comparative advantages of independent services providers and why poor people turn to them for service provision;
3. identify their strengths and weakness to evaluate the potential for further developing their activities;
4. identify bottlenecks that hinder the development and recommend they can be overcome.

Methods to collect data range from desk research and interviews with key informants; household interviews with users; in-depth interviews with operators; and focus group discussion with operators.

The project includes two workshops to plan and clarify the methods of data collection and review findings. In the first,

a methods workshop, consultants will present the findings of initial exploratory work in the field and will be briefed as to the methodology of part 2. The second is a synthesis workshop scheduled in February 1999. Consultants will present a draft version of their final report. The group will react on the findings, identify information gaps and together formulate recommendations.

African cities in which research will be carried out are:

West Africa	East Africa
Dakar, Senegal	Kampala, Uganda
Conakry, Ghana	Nairobi, Kenya
Bamako, Mali	Dar es Salaam, Tanzania
Cotonou, Benin	

Partners involved are Hydro conseil (Paris), a consulting firm that will provide methodological support and contribute on substantive issues; UNDP-World Bank Regional Water and Sanitation Groups (RWSG) in both East and West Africa to ensure a working link between the studies in each of the cities and ongoing or future World Bank projects; a team of local consultants who will conduct investigations and write up a case study for each of the cities concerned by this project.

Training Workshop on Information Focal Points for Community Management

From 30 November to 11 December, 1998 seven people from partner organizations in community water management took part in the Training Workshop on the Development of Information Focal Points at IRC. The Workshop aimed to help the partner organizations set up and maintain an Information Focal Point on Community Management of Rural Water Supplies. This forms part of the dissemination strategy for the participatory research project on "The role of communities in the management of improved rural water supplies in developing countries". This participatory research project with Dutch funding ended in December 1998 after four years research in 22 communities in Cameroon, Colombia, Guatemala, Kenya, Nepal and Pakistan. The dissemination project runs until 2001.

The four-year research project has enabled IRC and partner organizations to develop an approach and a methodology to support rural communities in the development of a management system for their water supplies. Such a management system includes capacity to analyze problem situations, and test and monitor various solutions. It is also flexible and can be adapted by the communities when new problems arise, or circumstances differ. The research also resulted in a range of management tools that have been developed and tested by these communities.

Three of the partners - Aga Khan Housing Board/WASEP in Pakistan, CINARA in Colombia, and NETWAS in Kenya have drafted agreements with IRC to become involved in the development of Information Focal Points on community-managed water. Each of them had two participants in the workshop. The seventh participant was from Mvula Trust, South Africa, which is particularly interested in both community management in water and better information management and communication on this important topic.

The objectives of the proposed Information Focal Points have been defined as follows:

1. To promote and facilitate access to information on community management and water supplies;

2. To support the movement (flow) of information;
3. To collect, analyze and disseminate information on community management of water supplies;
4. To continuously update information.

The target audience for the Information Focal Points are sector professionals, researchers, students, consultants, policy-makers, field staff and community members.

During the workshop a number of results/outputs were suggested for follow-up. These include:

- getting users to actively consult the Information Focal Points for their information;
- promotional leaflet on the Information Focal Point(s);
- up-to-date information holding (on community management of rural water supplies);
- a collection consisting of web page links, e-mail (discussion lists), audio-visual material, journals, articles, publications;
- better marketing of information products and services geared to different user needs;
- establishment of a network with other relevant (information) institutes;
- development of mechanisms to generate information that has not been written down.

After a full week of sharing ideas on what an Information Focal Point could be and on possible mechanisms, participants wrote an inception report to further develop or start their Information Focal Point.

The Information Focal Point development is one of two structural components of the dissemination strategy on community management, the other being development of training capacity on community management. One-off activities which are to contribute to wider dissemination of the approach, methods and results of community management are: electronic communication; production of videos; case study reports; articles; leaflets; presenting papers at conferences.

News in Brief

Private sector / GWP

In private sector provision of water supply to the poor it is important to distinguish between urban and rural areas, of which the latter should be dealt with by NGOs. This was one of the main conclusions of a special seminar hosted by the Global Water Partnership (GWP) during the 1998 Stockholm Water Symposium. Other issues raised were the importance of flexible contracts, the differences between big and small companies, and the fact that different cities

have different problems, which makes the replication of the privatization process more complex. Providing micro-credits was mentioned as a way to give rise to local businesses.

Contact: <mailto:gwp@sida.se> (Global Water Partnership news, 2 November 1998, <http://www.gwp.sida.se/gwp/news/art43.html>)

No guarantee

A recent University of Birmingham research study examined how water supply is organized in some low-income countries. The study report identifies a range of supply strategies, each involving different degrees of private involvement. The researchers conclude that private intervention is not bound to guarantee instant solutions to water supply problems in poor urban environments. The British full privatization model is not being followed anywhere else. Where there is private interest, it mainly takes the form of franchise deals based on the French model. Service and lease contracts are the most common forms of private involvement in urban water supply. *mail to: R.A.Nickson@bham.ac.uk (1D21, 26 October, 1998, <http://www.id21.org/static/2bgl3.htm>)*

Privatization failed

To ward off an imminent environmental disaster, residents of Abidjan want the government to call in the army to clear the ever growing heaps of garbage. In 1992, responsibility for garbage disposal was handed over to a private company, ASH International. Although the Abidjan City Council was paying the company an estimated CFAF 10 billion (US\$ 17.8 million) a year, ASH International only managed to collect a quarter of the 10,000 tonnes of waste generated daily in the city. The city council and the company are now at loggerheads over who is at fault. (*Panafrican News Agency, 2 November 1998, http://www.africanews.org/west/ivorycoast/stories/19981102_feat1.html*)

Privatization cancelled

The newly installed government in the Indian state of Goa has cancelled a contract with Anglian Water International to privatize water supply. The UK-based company claimed it could provide 24-hour continuous water supply all over Goa within seven years. The new Goan government, however, said that Anglian's plan to replace 5 km of damaged pipeline would inflate costs. The government's alternative solution involving the use of an irrigation canal was rejected by Anglian Water as being unreliable. Though its water costs are higher than at present, Anglian Water International insists that it can keep tariffs low by reducing wastage (currently 40% of water is unaccounted for). (*Indian express, 31 October 1998, <http://www.indian-express.com/ie/daily/19981031/30450584.html>*)

Officials suspended

The State Chief Minister of Punjab, India ordered the suspension of the local Senior Medical Officer for her alleged negligence and indifferent attitude. This action followed the death of at least a dozen persons of diarrhoea and water-borne diseases due to contaminated water supply in Kotkapura town, of Faridkot district. The Chief Minister also suspended the Executive Engineer, Rural Water Supply for dereliction of duty. At the same time money was released for repair work on the sewerage system and the water supply system of the town. (*Indian Express, 29 October 1998, <http://www.indian-express.com/ie/daily/19981029/30251654.html>*)

Resources and Events

New Publications

Gunston, H. (1998). **Field hydrology in tropical countries : a practical introduction**. London, UK, Intermediate Technology Publications. - 108 p. : fig., photogr. ISBN 1853394270. Bibliography: p. 99-101 Price: GBP 12.95 + postage

Making hydrological measurements in the field is an essential part of water resources planning and management. This book provides an introduction to the practical skills and knowledge required to take measurements and to manage data collection programmes. It includes diagrams of hydrological equipment and how to use it, together with photographs of field installations in such countries as Kenya, Ecuador and Sri Lanka.

Available from: IT Publications, 103-105 Southampton Row, London WC1B 4HH, UK, tel.: +44-171-436 9761, fax +44-171-436 2013, <mailto:orders@itpubs.org.uk>, <http://www.oneworld.org/itdg/publications.html>

Esrey, S.A. (et al.). (1998). **Ecological sanitation**. Stockholm, Sweden, SIDA, Swedish International Development Cooperation Agency, 1998. - iv, 92 p. : ill. Includes references, glossary and subject index. ISBN 9158676120 Price: Not quoted

The book relates sanitation devices to sanitation as a system and examines the strengths and weaknesses of various sanitation technologies under different physical and cultural conditions. It discusses an alternative to conventional sanitation called ecological sanitation, which is based on an ecosystem approach and treats human urine and faeces as a valuable resource to be recycled. The book provides a new conceptual framework for a diversity of sanitation initiatives. It provides advice on the selection, design and management of devices as well as on the promotion and support aspects. Attention is given to the development of large-scale applications of the ecological sanitation concept in urban areas both in developed and developing countries.

Available from: Dept. for Natural Resources and the Environment, SIDA, S-105 25, Stockholm, Sweden, fax: +46-8-6985102, <http://www.sida.se/eng/bistand/water/ecosanit.html>

Events

April 1999 - **European Union/Asia Cooperation in the Matter of Preservation of Water Resources**, Nanjing, China

Organized by: Prometheus-Europe, University of Nanjing and Chinese Academia of Sciences. Topics: Asian perspectives on water resources; EU/Asian bilateral/multilateral cooperation water conservation: assessment, importance and obstacles to cooperation; Water quality/quality of life; Policies & legislation; Industrial water conservation; Water conservation in development

Contact: Mr. Ngo Quoc Hang, NICAS/Prometheus-Europe, <mailto:centre@prom.org>, <http://www.prom.org>

15-17 June 1999 - **HYDROTOP 99**: 5th International Scientific and Technical Conference, Marseille, France

Exhibition on Water Management Services and Technologies and Business Convention.

Contact: <mailto:hydrotop@hydrotop.com>, <http://www.hydrotop.com/>

9-12 August 1999 - **9th Stockholm Water Symposium**, Stockholm, Sweden

Organized by: Stockholm International Water Institute (SIWI). Theme: Urban stability through integrated water-related management. Workshop topics include: Water reuse; Flood prevention; Interaction urban/peri-urban water-related activities; Water and social stability; Integrating water-waste-energy management; Urban water management in developing countries; Urban areas & river basins; and Long-term water supply and sanitation solutions. Other activities: Meetings of the World Commission on Water for the 21st Century (10 August), 4th Annual Meeting of the Global Water Partnership (GWP) Consultative Group (12-13 August), and Stockholm Water Prize Award Ceremony.

Contact: siwi@siwi.org, <http://www.siw.org/sws1999/sws1999.html>

May 1999 be a SOURCE
of health and happiness
to all our readers

Staff of the WSSCC and IRC

Training Courses

Monitoring for Effectiveness: Community-Based Water Supply and Sanitation

1 - 19 February 1999, NETWAS, Nairobi, Kenya
12-30 April, IRC, The Hague, The Netherlands

This course focuses on enabling participants to develop selected indicators and monitoring systems relevant to their project, with an emphasis on consultative processes. The course also introduces approaches to participatory monitoring within communities and agencies. Thirdly, the course emphasizes the utilization and flow of monitoring information with a view to stimulating the use of data, particularly at the lowest levels where action can be taken.

For NETWAS course contact: Training Programme Manager, NETWAS International, PO Box 15614, Nairobi, Kenya, fax: +254-2-890554160, e-mail: netwas@nbnet.co.ke or netwas@ken.Healthnet.org

For IRC course Contact: IRC training section, P.O. Box 93190, 2509 AD The Hague, The Netherlands, tel: +31 70 3068930, fax: +31 70 3589964, e-mail: zepeda@irc.nl

Planning Health Promotion in Schools, 2-17 September 1999, Child-to-Child Trust, Institute of Education, London, UK.

Designed for senior personnel in the planning and management of national and local health education programmes, especially those which are implemented through schools.

Fees: GBP 1300 (US\$ 2220). URL: <http://www.ioe.ac.uk/CTCT/CHILD4.HTM#promotion>

Contact: David Wheeler, fax: +44-171-6126645, <mailto:d.wheeler@ioe.ac.uk>, <http://www.ioe.ac.uk:80/CTCT/CTCHOME.HTM>

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SOURCE Bulletin

water and sanitation news review



No. 3

February 1999

The decentralization challenge in rural water supply, page 1

Largely driven by government fiscal shortages and a common inability to raise sufficient revenues from collection of water charges, an increasing number of governments around the world have adopted programmes to devolve responsibility for water management to water users associations.

South Africa water diary helps rural municipalities, page 2

In South Africa, democratic local government structures have recently been constituted and allocated a number of demanding tasks, including electricity, and water and sanitation provision.

WSSCC News

VISION 21: Making your voice count, page 3

The WSSCC's VISION 21 exercise is progressing fast, and the Council wants inputs into the process of developing a shared framework for achieving universal access to water supply and sanitation services.

Ending the debt of the poorest countries – A moral imperative, page 4

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International workshop on resource centres, page 5

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Involving citizens in Kathmandu Valley in reducing waste water problems, page 5

Kathmandu Valley has some major problems in the field of water supply and sanitation, one of them being an ever-increasing pollution of its rivers, ponds and groundwater.

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The decentralization challenge in rural water supply

Largely driven by government fiscal constraints and low revenues from collection of water charges, an increasing number of governments around the world are decentralizing water supply operations. The level of decentralization varies in scope, from a reorganization of government operations, to complete hand-over of systems (Box).

Objectives in Types of Decentralization Programmes

Devolution: transfer of authority and responsibility for decisions, management and resource mobilization to regional, district and community institutions. In a fully devolved system higher levels of government have no direct, operational role in service delivery or resource mobilization, although they may retain a regulatory role.

Deconcentration: reorganization of resources and staff at lower levels within the same administrative structure with authority delegated or retained at the centre. An example is a national water authority that sets up a regional structure and transfers staff.

Delegation: assigning operational duties or responsibilities to an autonomous institution. An example is the shift of responsibility from a water resources ministry to a series of regulated public water companies. A variation on this is for the public sector to delegate responsibility to a non-public entity such as a private contractor.

Source: Rondinelli in Edwards et al., 1993

The decentralization challenge for rural water supply agencies is to ensure there is sufficient authority and responsibility transferred to the regional level, and that partnerships are established with local levels in planning and management. Several components of decentralization common to national programmes in Zambia, Ghana and South Africa include:

- A statutory body at the national level providing a regulatory and policy framework;
- Devolution of operational functions of water supply and sanitation to autonomous regional / local authorities or utilities;
- User-based programmes through formation of water committees and integration of primary healthcare and water conservation awareness into development of rural water supply.

This has received particular emphasis in Zambia through the WASHE approach: Water, Sanitation and Health Committees (WASHE) are established at national, district and local levels to promote water projects related to health, through a demand-led approach. A similar institutional model is operating in Ghana: a district coordinating unit links up to community Water and Sanitation Committees (WATSAN) with environmental health assistants stationed in local health. Traditional laws are being enforced by WATSANs in Volta region, Ghana, forbidding waste disposal to protect water quality in sacred catchments.

In South Africa, the water sector is working under new legislation, including the Water Services Act. The new democratic governments have a crucial role to play in service delivery through integrated development planning.

Analysis of these and other programmes shows that decentralization requires a supportive policy environment, one that provides the legal conditions to implement change. From research on management devolution and sustainability of irrigation five characteristics emerge that are essential, if the objective is to produce sustainable improvements in the performance of irrigation (Vermillion, 1997). These may be fruitfully applied in the rural water and sanitation sectors:

1. a sustainable water right vested in a legally recognized water user association;
2. an agreed irrigation water supply service: volume, timing, reliability;
3. balance between responsibility and authority devolved;
4. devolution of integrated management responsibility, for example between irrigation and rural water supply associations, and
5. adequate incentives and sanctions to ensure accountability, including group or social sanctions under community management.

Another issue to be considered is how environmental concerns will be addressed. The main environmental concern in decentralizing water and sanitation is water pollution control. A consequence of decentralization may be a lack of attention to water pollution control and local

government capacity to formulate and enforce local regulations. A decentralization programme needs to determine who takes responsibility for water pollution control. In Ghana the Water Resources Research Institute carries out project monitoring at the regional level. At lower levels a District Planning and Coordinating Unit plans and evaluates water supply projects for possible adverse effects on water quality and quantity, jointly with District Water and Sanitation Teams. Moreover, at the local or micro level new institutions such as village WATSANS need to be sensitive to traditional practices and institutions.

Sources:

DECNET is an information network on the decentralization of water and wastewater organizations in Central America and the Caribbean, focusing on lessons learned, current or proposed projects and research, and providing a periodic bulletin on news from network members. Managed by the USAID-sponsored Environmental Health Project (EHP). To join: send to decnet@erols.com the message DEC-SUBSCRIBE. Send messages to: decnet@erols.com

Management Devolution and the Sustainability of Irrigation: Results of Comprehensive versus Partial Strategies, by Douglas L. Vermillion, 1997
<http://www.fao.org/WAICENT/FAOINFO/SUSTDEV/ROdirect/ROfo0016.htm>

Water Resources Management in Rural Areas: The Role of Institutional Development, unpublished document by Elizabeth S. Lucas 1998, IRC

South Africa water diary helps rural municipalities

In South Africa, democratic local government structures have recently been developed and allocated a number of demanding tasks, including the provision of electricity, water and sanitation services. These services are to be delivered at the local level largely by rural municipalities. To assist municipalities local councilors need quick, accessible and basic information regarding new legislation and best practices in water and sanitation.

Mvula Trust is a non-profit organization that has been assisting the government in implementing water and sanitation programmes in rural areas. Recently, it produced and disseminated to all the municipalities copies of a "Water and Sanitation Diary 1999", which aims to help local councilors and project officers. This innovative way of disseminating information contains sections on the new water law, integrated development planning, sustainability and public-private partnerships. "Two copies were sent to every municipality in the country with larger quantities sent to rural municipalities. We have received overwhelmingly positive feedback", says Kate Skinner, the communications manager at Mvula Trust.



Since 1993 the trust has been assisting the government in implementation of water and sanitation projects in rural areas. Nearly one quarter of the 12 million people who did not have access in 1994 are now provided with a safe water supply.

Regarding the question of how local government can support a demand-responsive approach, the diary gives the following advice:

- Ensure that cost considerations – for both households and local government – have been thoroughly discussed and finalized, as well as measures to uphold financial accountability of all stakeholders in the sector.
- Ensure that the option for local-level management of operation and maintenance has been considered thoroughly.
- Ensure that all possible technology choices have been considered and “workshopped” at the local level, consulting extensively with community members.

- Ensure that water projects include plans for income generation and employment, livestock farming and land management so that the potential spin-offs from improved water supply are realized.
- Include women at all stages of the project cycle. Women and children are the primary managers of water at the household level, and therefore have the most to gain from a successful water project. Women are also primarily responsible for health and hygiene, so their meaningful involvement in sanitation projects is vital.
- Where the capacity exists, provide opportunities to community-based committees to manage water supply and sanitation services.

Together with the South African Local Government Association Mvula Trust is already organizing input by the local government councilors for the diary in 2000.

For more information: The Mvula Trust, Kate Skinner, P.O. Box 32351, Braamfontein, 2017 Johannesburg. E-mail: kates@mvula.co.za



News from the Water Supply and Sanitation Collaborative Council

VISION 21: Making your voice count

The WSSCC's *VISION 21* exercise is progressing fast, and the Council wants your inputs into the process of developing a shared framework for achieving universal access to water supply and sanitation services. Co-ordinated by the Council's *VISION 21* Programme Director, Hans van Damme, a series of sub-national, national and regional *VISION 21* meetings is now under way. The meetings seek to draw all stakeholders into a participatory process to develop a vision for water supply and sanitation, analyze trends which can support them, and determine what short- and medium-term changes need to be made to bring the vision to reality.

Results from the meetings are being fed to a Vision Drafting Team who have the challenging task of developing a first draft of *VISION 21* in June 1999. A further series of meetings will then seek to develop a global consensus around the Vision, as one of three components in an overall vision for the management of the world's water resources in the 21st century. This broad *Vision for Water, Life and the Environment* will have elements addressing the issues of *Water for Food* and *Water for Nature*, in addition to the *VISION 21* element labelled *Water for People*. It is being compiled by the World Water Council in readiness for the *Second World Water Forum* to be held in The Hague on 16-22 March, 2000.

The *VISION 21* meetings are a major participatory exercise, ensuring that grassroots opinions and experiences form a substantive part of the vision

development. The Vision Drafting Team will also draw on inputs from the WSSCC's Working Groups and Networks addressing ten key topic areas (see box on page 4). The groups have been asked to identify the critical issues in their own area of expertise and to convert current thinking on the best way forward into a view of the sector in 25 years time, and a framework for action necessary to convert the vision to reality. Their contributions will feed into a *Knowledge Synthesis* exercise, managed by former IWSD Director Paul Taylor.

How then, can you best contribute to *VISION 21*? The WSSCC Vision Team wants as many people as possible to participate in the process of developing the vision. Insights and opinions backed by specialist knowledge and expertise are being sought in five key areas:

- *Political commitment and societal support*
For example, what can people do themselves in the development of water supply and sanitation? How can the many different sectors of future society be mobilized in support of the water and sanitation cause? What kinds of indicators, goals and targets are needed to foster greater support for water supply and sanitation and to accelerate the achievement of sustainable services for the unserved poor?
- *Integrated water, health and environment policy*
How can the multiple benefits of improved water and sanitation best be promoted and converted into local and national planning policies?

- **Institutional basis**
What institutional frameworks are appropriate in your society, or in the region in which you have special experience? How can all the different stakeholders in water and sanitation best work together? In particular, are their suitable models of public/private partnerships emerging which can benefit the poorer sections of society?
- **Economic, financial and technological framework**
Where are current trends in technology leading us and how can they best be directed towards the goal of achieving universal water and sanitation coverage? Will the economics of desalination technology, for example, change our interpretation of water scarcity? Could the widespread adoption of ecological sanitation approaches have a major impact on the economics of household sanitation?
- **International cooperation**
Communications technology is advancing very rapidly. Will the enhanced capacity for electronic exchange of information and experiences have a significant impact on technological and institutional approaches to water and sanitation investments? How should the sector adapt itself to take optimum advantage of anticipated developments in communication. What other forms of international cooperation can contribute to our vision of a world in which all people have access to water and sanitation services?

The Collaborative Council wants your informed views on these or any other issues related to a vision for water supply and sanitation in the 21st century. Views will be aired in *SOURCE Weekly* and *SOURCE Bulletin*, and there will soon be the opportunity to develop issues through E-mail contributions to discussion forums on the WSSCC Web Page (www.wsscc.org).

In the meantime, please send your contribution to *VISION 21* to: Hans van Damme, *VISION 21* Programme Director, Eerste Poellaan 59, 2161 LA Lisse, The Netherlands e-mail: hansvandamme.wsscc@wxs.nl; fax: 31-252422570 or to the WSSCC Secretariat: wsscc@who.org; fax: +41-22-791 4847

Council members can also contribute to the discussions in the Working Groups and Networks, through the E-mail listservers being set up for each individual group. Contact the Council Secretariat for more information and a registration form, or visit the Web Site and register there.

Council Working Groups and Networks include:
 Environmental Sanitation
 Community Management and Partnerships with Civil Society
 Water Demand Management and Conservation
 Institutional Issues
 Human Resources Development
 Services for the Urban Poor
 Operation & Maintenance
 Gender Issues
 The Global Applied Research Network (GARNET)
 Communication and the Internet

Ending the debt of the poorest countries – A moral imperative

WSSCC Chairman Richard Jolly has been awarded the Rome Prize for Peace and Humanitarian Action for his debt relief work in UNDP. The Municipality of Rome has decided to adopt ending the burden of debt of the poorest countries as one of the themes as major priorities with which to mark the 2000 millennium.

While accepting the award in Rome, in December 1998 he explained why the world can afford debt forgiveness. The initial costs for reducing debt in the poorest and most indebted countries have been estimated by the World Bank and IMF at about \$7 billion - less than the world spends on the military in three days and well under what Europe spends annually on ice cream. The IMF and the World Bank have already mobilized some \$110 billion - almost 15 times as much - to cope with the Asian crisis.

Four priorities for action

Jolly also identified the following priorities for action:

1. The Jubilee Call to end the Stranglehold of Debt on Impoverished Peoples needs to be supported. Debt of the highly indebted poor countries must be drastically

and rapidly reduced. The HIPIC initiative is a start - but it is too slow, too little and too late.

2. Debt relief needs to be linked to actions for human development, in ways which directly benefit poor people - strengthening food security, improving nutrition, protecting the environment and increasing access to education, health, water and sanitation for the poorest rural populations. FAO, WFP, IFAD and UNDP all have a part to play in this.
3. People's awareness needs to be mobilized - through the churches, the NGOs, TV, the press and the media. Only with popular support and understanding, will there be accountability and real progress.
4. The World Bank and the IMF need to make public commitments to fuller and more rapid action. There needs to be oversight from National and International Partnership Groups incorporating the UN, NGOs and the private sector to encourage rapid implementation and ensure public support.

"Jim Grant of UNICEF used to say. 'Look around you. We are all rather ordinary people - but united, we can achieve miracles.' All of us - and groups like us in every country - need to unite in support of the call for rapid debt reduction for the poorest countries. Such action could open the way

for miracles of human development in the 21st century", Jolly said at the end of his speech.

"Water supply and sanitation would gain if some of the benefits of debt relief were channeled to WATSAN as part of support for basic human needs", he said later.



News from IRC International Water and Sanitation Centre

International workshop on resource centres

In the context of its revised project "Study into Resources and Management of Drinking Water Supply and Sanitation Centres" (STREAM) IRC will organize an international workshop on resource centre development and capacity building, planned to be held in the Netherlands from June 14 to 18, 1999. The programme for this workshop is being developed jointly with the members of a Sounding Board Group (SBG) composed of resource centre leaders and external resource persons. The group met for the first time in November 1998.

STREAM aims to strengthen resource centres as institutions for capacity building in water supply and environmental sanitation. It will gain insight into the development and functioning of resource centres in Africa, Asia, Europe and Latin America, and form conclusions, lessons learned and subsequent recommendations for future support to such centres. The project is funded by the Netherlands Development Assistance (NEDA), extending to mid 2001.

The project will provide an environment in which centres can learn from each other. In doing so, they will identify ways to initiate viable activities and strengthen their

networks. A pragmatic project approach is envisaged, able to respond to new developments and lessons learnt, as the project unfolds.

Resource centres in the water and sanitation sector focus on the collection and dissemination of relevant knowledge and experiences to strengthen capacities in the sector. They may provide various kinds of support services, including documentation and referral services, training programmes, advice from sector specialists, research on and collection of local field practices and experiences, as well as institutional support.

The 11 participating resource centres have prepared their own institutional assessments for discussion in the June workshop. Several other organizations, including the majority of the ITN centres will be invited, together with stakeholders and clients. After the international workshop, regional meetings will be organized to present the findings, share knowledge and experiences and lessons learned with other organizations, and develop recommendations and future activities. Among the planned outputs are a series of development and management tools for resource centres.

Involving citizens in Kathmandu Valley in reducing waste water problems

- Close again the nutrient cycle: soil, harvest, man, waste, soil, harvest etc.
- Earn money from waste instead of throwing it away.
- Collect dry, black waste, through toilets in the homes or toilet blocks with private or public latrines and mix it with cowdung, straw and ash for use as fertilizer.
- Collect and carry out simple treatment of grey water (water used for washing and bathing), for example through wetlands where products can be grown.
- Collect urine for mixing with ash as manure or for simple treatment with grey water.
- Use white (rain) water for recharge of groundwater.
- When selecting a technical option, take into account maintenance and management.
- Work on public awareness and education.

These were the main principles around which proposed solutions to waste water problems in four communities in Kathmandu Valley centered.

Kathmandu Valley has some major problems in the field of water supply and sanitation, one of them being an ever-increasing pollution of its rivers, ponds and groundwater. The population of the valley grows fast. Although the natural population growth in the main cities is lower than the national average, it is still 2.2 percent, and large numbers of people from Nepal's rural areas settle in the valley, hoping for a better future.

The Environment and Public Health Organization (ENPHO) is greatly concerned about the health risks of this improper waste water disposal. ENPHO has recently tested water of stone taps and dug wells. About 68 of 79 samples were found to be contaminated with E.coli. Mr. Roshan Shrestha of ENPHO was able to draw in support from two Dutch water organizations: the Waterschap Friesland (Water Board in a northern province) and the IRC International Water and Sanitation Centre. In particular

News in Brief

Ethiopia, Somali. Water Scarcity Displaces Villagers

A growing number of people in the drought-hit Ethiopian Somali region are reportedly leaving their villages in search of water. Although the regional Disaster Prevention and Preparedness Bureau is sending tanker trucks to the area, more people are likely to be displaced as the shortage of water is expected to prevail until the rainy season begins in March 1999.

[The Monitor - Addis Ababa, 21 January 1999]

India, Tamil Nadu: More Autonomy for Local Urban Bodies

Urban managers in the Indian state of Tamil Nadu will get more autonomy through the recently passed TN Urban Local Bodies Bill. The local bodies will have the power to cut off water supply to buildings, which have violated rules, or impose heavy penalty for such violations. In addition, the Municipal Commissioner is made accountable for the following: subsidies given for water supply, sewerage and transport of wastes and street lighting; sources of the subsidy; and the categories of beneficiaries.

[The Hindu, 9 December 1998]

Looming Water Crisis for Arab States

Arab countries will grapple with serious water shortages in the coming two decades, according to Omar Touqan, officer in charge of energy and natural resources of the UN Economic and Social Commission for Western Asia (ESCWA). The ESCWA region, which comprises 13 countries from Egypt to the Gulf excluding Israel, is heading for a period of increased water demand during the next 20 to 25 years.

[Yahoo News/Reuters, 29 December 1998]

Pakistan: Local Councils to Take Control of Sanitation

The Technical Sub-Committee on Devolution has proposed to empower local councils in Pakistan to independently provide health,

IRC has been supporting water and sanitation programmes in Nepal for a longer time. ENPHO also sounded out which of the communities it works with would be interested to participate in an applied research programme for prevention of waste water pollution.

Through a knowledge exchange programme the Dutch Ministry of Housing, Spatial Planning and the Environment allocated a small amount of money for the organization of a workshop to map out the magnitude of the problems and the potentials as a preparation to the development of a research proposal. The workshop brought together representatives of four semi-urban communities, facilitators of two Nepali NGOs, IRC and two experts from Dutch water boards.

The communities that showed an interest are Panga in Kirtipur Municipality, Maddhipur in Thimi Municipality, Siddhipur VDC and Kusunti in Lalitpur Municipality. They selected participants to the starting-up workshop. It concerned a mix of school teachers, social workers, peasants, elected leaders and students.

For a period of two weeks they gathered and exchanged information about waste water related problems and low-cost options to deal with these problems.

Community mapping and field visits assisted joint identification of information needs and information sources. The field visits immensely increased understanding, not only about prevailing problems, but also about people's attitude towards these problems and the resources available.

The workshop resulted in a proposal for experimentation with community management of low-cost options in the four communities.

Resources and Events

New Publications

Black, Maggie (1998). **Learning what works : a 20 year retrospective view on international water and sanitation cooperation.** Washington, DC, USA, UNDP-World Bank Water and Sanitation Program, World Bank.

This publication reviews 20 years of the UNDP-World Bank Water and Sanitation Program (1978-1998). It is divided into three sections: Part I -The Appropriate Technology Phase, 1978-1988; Part II - From 'Hardware' to 'Software', 1988-1994; and Part III -Promoting the New Agenda, 1994-1998. The last part looks at capacity building, the growing urban sanitary crisis, and the shift towards a more demand-responsive approach.

Available from: UNDP-World Bank Water and Sanitation Program, World Bank, 1818 H Street, N.W., Room F4K-188, Washington, D.C. 20433, tel.: +1-202-4730693, fax: +1-202-5223313 or 5223228, E-mail: info@wsp.org, <http://www.wsp.org/>

EHP (1998). **A rationale for including water supply and sanitation-related interventions in maternal and child health programs.** Arlington, VA, USA, Environmental Health Program. (Prevention notes ; no. 5).

This note, aimed at the health sector within the US Agency for International Development (USAID), shows that hygiene behavior change is a cost-effective use of health program resources. It is most cost-effective when integrated with improvements in water supply and sanitation hardware. The note is based on the cost-effectiveness model developed by Robert C.G. Varley in his publication

News in Brief continued on page 7

"Child Survival and Environmental Health Interventions: A Cost-Effectiveness Analysis" (<http://www.access.digex.net/~chp/as4.pdf>).

Electronic version: <http://www.access.digex.net/~chp/pnotes5.html> (10 K)

Paper version: EHP, 1611 North Kent St., #300, Arlington, VA 22209, tel.: +1-703-2478730, fax: +1-703-2478610, E-mail: campbelldb@cdm.com

Galvis, G.; Latorre, J. and Visscher, J.T. (1998). **Multi-stage filtration: an innovative water treatment technology.** (Technical paper no. 34). The Hague, The Netherlands, IRC International Water and Sanitation Centre. xiii, 165 p. : 68 fig., 60 tab. - Bibliography: p. 131-140. ISBN 90-6687-028-1

Price: US\$ 24.00 / NLG 45.00 + plus shipping and handling

This book introduces multi-stage filtration (MSF) as an affordable and sustainable technology which can be operated and maintained by communities themselves. It is a combination of coarse gravel pre-filtration and slow sand filtration (SSF) and can treat water with levels of contamination well above the levels that can be treated by SSF alone. The authors discuss the necessity for a good link between agencies and communities to ensure sustainable water treatment, and the efficiency of the MSF technology in water quality improvement in relation to key public health parameters. They present information on costs and considerations for technology selection; different gravel filtration systems; and examples of different MSF systems selected to treat water sources with different levels of sanitary risk.

Available from: IRC Publication Department (See Colophon for address)

Events

Everyone lives downstream

22 March 1999 is World Water Day. This year's theme: "Everyone lives downstream", with an emphasis on water resources management at the river basin level.

Among other issues, it will highlight the fact that when it comes to using freshwater, human beings, whether they live in a village or a megacity, cannot isolate themselves from their neighbours. Rather, there are fundamental linkages and dependencies between water users and uses in a given drainage basin that affect everyone in that basin. Noting increasing human population growth, urbanization, industrialization and food production as we move into the 21st century, the need to consider these linkages and interactions within the context of a comprehensive river basin or groundwater aquifer-scale integrated management programme is more critical than ever.

To this end, this year's WWD materials will include not only written documents, but also a range of video and audio programmes that can be used world-wide. It is further intended that these materials will be timeless in their content, to allow their copyright-free use not only for this year's WWD theme, but also for the other 364 days of the year and beyond. A major international programme on the WWD theme will take place in Cairo, Egypt, on 22 March 1999. A number of UN agencies will participate in this programme. Additional activities on the WWD theme are anticipated on the part of governments and other stakeholders throughout the world on this day.

For more information contact: UNEP, Walter Rast, PO Box 30552, Nairobi, Kenya; fax: 2542 621234, e-mail: Walter.Rast@unep.org

News in brief continued

education, sanitation and veterinary services. The Sub-Committee is one of five bodies formed by a Federal Steering Committee that will discuss a World Bank report on the reforming of the administrative structure in the country. The Sub-Committee's proposals will be submitted to the Steering Committee for approval.

[Dawn, 20 November 1998]

India: Candidates Need Toilet to Contest Local Elections in Karnataka

Candidates in the Indian state of Karnataka must prove they have a toilet if they are to contest the coming 1999 gram panchayat (local council) elections. A new rule requires that a certificate stating that candidates have a toilet in their house must accompany every nomination paper.

[Rediff on the Net, 15 December 1998]

Singapore and Malaysia Strike Water Deal

Singapore has agreed to provide or raise funds for Malaysia on "very favourable terms" in exchange for a long-term water supply deal. In return Malaysia will provide water to Singapore beyond 2061, when a 1962 water agreement expires. The two countries have continued to have problematic relations since their separation in 1965.

[Hong Kong Standard, 24 November 1998]

Improving Urban Sanitation Capacities in West Africa

The UNDP-World Bank Water and Sanitation Program - West and Central Africa office has launched a regional initiative for the improvement of urban sanitation in five West African countries: Burkina Faso, Côte d'Ivoire, Ghana, Guinea and Senegal. The initiative supports the national capacities of the countries and the development and implementation of country-specific strategic sanitation plans.

[UNDP-World Bank Regional Water and Sanitation Group for West and Central Africa]

Bakary Sanogo, Communications Officer, World Bank, B.P. 1850, Abidjan 01, Côte d'Ivoire, fax: (225) 441687, E-mail: bsanogo@worldbank.org

June or July 1999 - **Creating Water for a Sustainable Future: A Regional Water Forum**, Amman, Jordan

Organized by: Center for Middle East Peace & Economic Cooperation, International Arid Lands Consortium, Peres Center for Peace, Green Cross International. Topics include: fresh water demand projections for the next 20 years, demand management, desalination, private sector participation, regional cooperation and education. Confirmed key note speakers include Yasser Arafat, Mikhail Gorbachev, Prince El-Hassan bin-Tal, and Shimon Peres. This meeting has been postponed from 10-11 March 1999 in respect of the death of King Hussein of Jordan. URL: <http://www.centerpeace.org/water-forum2.htm>

Contact: Sahana Dharmapuri, The Center for Middle East Peace & Economic Cooperation, 633 Pennsylvania Avenue, NW, Washington, DC 20004, USA, tel. +1-202-6240850, fax: +1-202-6240855, E-mail: sahana@centerpeace.org, <http://www.centerpeace.org>

2-4 June 1999 - **International Symposium: The Learning Society and the Water Environment**, Paris, France

Organized by: International Office for Water, UNESCO/ International Hydrological Programme (IHP), and the European Thematic Network of Education and Training (ETNET) for Environment-Water/TECHWARE.

Focus on trends/developments in all levels of education and training in the water sector, including: training needs analyses (TNA); quality assessment; continuing professional development (CPD) and tailor-made training; open and distance learning (ODL); and interdisciplinary education and training. URL: <http://www.cig.ensmp.fr/~hubert/symposium.htm>

Contact: Pierre Hubert, Laboratoire de Géologie Appliquée, Université Pierre et Marie Curie, Case 123, 4 place Jussieu, 75252 Paris cedex 05, France, fax +33-1-44275125, E-mail: hubert@cig.ensmp.fr

Training Courses

IRC International Water and Sanitation Centre, The Hague, The Netherlands

Short Training Courses

- Monitoring for Effectiveness, 12-30 April 1999 (3 weeks), US\$ 3000
- Hygiene Education and Promotion, 11-29 October 1999 (3 weeks), US\$ 3000
- Tailor-Made Short Course, 1999 (2 weeks), US\$ 3300

Briefing Programmes

- Gender Briefing Programme, 4 days, US\$ 1925

- Tailor Made Briefing Programme, 4-10 days, US\$ 390/day
- Intensive Briefing Programme, 1-3 days, US\$ 450/day

Contact: IRC's Training Section (see Colophon for address)
Full details <http://www.irc.nl/training/train99.html>

PAID/WA - Pan African Institute for Development/ West Africa and IRC, Buea, Cameroon

- Gender in Water Supply and Sanitation, July 1999 (3 weeks)

Contact: IRC's Training Section (see Colophon for address)
Full details <http://www.irc.nl/training/train99.html>

IRC and Partner, Kandy, Sri Lanka

- Hygiene Education and Promotion, 31 May-18 June 1999 (3 weeks), US\$ 3035
- Management for Sustainability, 6 - 26 September 1999 (3 weeks), US\$ 3035
- Monitoring for Effectiveness Sri Lanka, 22 November - 10 December 1999 (3 weeks), US\$ 3035

Contact: IRC's Training Section (see Colophon for address)
Full details <http://www.irc.nl/training/train99.html>

NETWAS and IRC, Nairobi, Kenya

- Hygiene Education and Promotion, 12-30 April 1999 (3 weeks), US\$ 2975
- Management for Sustainability, 13 September - 1 October 1999 (3 weeks), US\$ 2975

Contact: NETWAS, Attn.: Mr. James Thuku, fax: +254-2-890553/4, E-mail: net-trs@nbnet.co.ke, <http://www.nbnet.co.ke/netwas/>

Colophon

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SOURCE Bulletin

water and sanitation news review



No. 4

April 1999

Bangladesh: One pond in every village reserved for safe water, page 1

To combat the arsenic contamination across the country Bangladesh authorities are studying the feasibility of keeping one pond in each of the country's 68,000 villages reserved as a source of drinking water, with purification facilities.

Wanted: The next generation of water leaders, page 2

CIC-IWRA and SIWA are launching a major effort to identify and then mentor the next generation of water leaders from different parts of the world.

First multinational signs water code, page 3

Welsh-based water services and construction multinational Hyder marked World Water Day by signing the Public Services International (PSI) Water Code.

Solar water disinfection through plastic bottles, page 3

Solar water disinfection (SODIS) is a simple technology using solar radiation to inactivate and destroy pathogenic micro-organisms present in the water. The treatment basically consists of filling plastic bottles with water and exposing them to full sunlight for about five hours.

IRC News

IRC has a new home and a new look, page 4

On 31 March IRC moved its offices to Delft, sharing the premises with the International Institute for Infrastructural, Hydraulic and Environmental Engineering (IHE).

Framework for the participation, gender and demand responsiveness assessment, page 5

Assessment identifies link between poverty approach on impact and sustainability of water projects.

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Bangladesh: One pond in every village reserved for safe water

To combat the arsenic contamination across the country Bangladesh authorities are studying the feasibility of keeping one pond in each of the country's 68,000 villages reserved as a source of drinking water, with purification facilities. This was announced at the end of February by Minister Zillur Rahman, Minister of Local Government and Rural Development at a national conference on coordinated action for arsenic mitigation in Dhaka.

Until now, 4600 patients have been detected with arsenicosis, which leads to various cancers, as a result of contaminated groundwater. Experts predict that tens of millions of people might be affected within the next decade. The Department of Public Health Engineering with UNICEF and UNDP assistance has expanded the in-depth analysis of the arsenic contamination problem to cover 500 villages.

This environmental health disaster is also unfolding in West Bengal. Tens of millions of people in many districts are drinking groundwater with arsenic concentrations far above acceptable levels. Thousands of people have already been diagnosed with poisoning symptoms, even though much of the at-risk population has not yet been assessed for arsenic-related health problems.

Over the last two decades in Bengal, untreated tubewell water was heavily promoted and developed as a safe and environmentally acceptable alternative to microbiologically unsafe untreated surface water. In the 1980s, scientists began finding evidence of arsenic contamination, but only very recently (mid-1990s) has the crisis emerged into broad public awareness. In this case the origin of the arsenic pollution is geological. Recent investigations indicate that the arsenic is released into groundwater under naturally occurring reducing conditions in aquifers associated with specific sedimentary materials.

Tests on 50,000 wells in Bangladesh have shown that around 40 percent are too contaminated with arsenic to provide drinking water. Further tests on another 30,000 wells carried out by the UNDP-World Bank Water and Sanitation Program also showed arsenic in nearly 40 percent of the wells. The World Bank is supporting the Bangladesh Arsenic Mitigation/Water Supply Project with the help of a US\$ 32.4 million (EUR 28 million) credit. The Bank estimates that Bangladesh will require US\$ 275 million (EUR 238 million) in the next 10 to 12 years to fight the arsenic problem.

In a recent study of 10 villages in 8 districts in Bangladesh, carried out by the School of Environmental Studies of the Jadavpur University, Calcutta, and Dhaka Community Hospital researchers found new patients in districts where they had not been expected before. So far, this research team has found more than 0.05 mg/l arsenic in groundwater in 41 of the 64 districts surveyed. The researchers found arsenic patients in 22 of the 23 districts where they did preliminary hair, nail, urine and skin-scale analysis. One-third of the 7588 people investigated were found with skin lesions.

At the national coordination meeting, Health Minister Salahuddin Yusuf underscored the need for finding a common strategy for mitigation of this newly emerged public health problem. Various ministries should work together in coordinating mitigating activities in the country. To help address the emerging crisis the UN agencies in the country have taken the unusual step of forming a special theme group comprising the World Bank, UNICEF, WHO, UNDP and UNESCO. The World Bank had agreed to be the lead agency in view of the magnitude of its future involvement, as well as its role in executing the UNDP-funded regional water and sanitation programme.

UNICEF Representative Shahida Azfar said that each of the estimated four million handpump tubewells must be tested quickly and that this task ahead of Bangladesh is really an immense one. Health Secretary MM Reza said his ministry was soliciting support from all stakeholder organizations for mitigating this grave problem of national magnitude.

There are no easy solutions. Early in the year scientists at the Bangladesh Council of Scientific and Industrial Research claimed that they have developed a low-cost chemical compound to purify water contaminated with arsenic, but it will take a while before the chemical is

marketed commercially. Other solutions such as rainwater harvesting are also being promoted. People living in villages where arsenic has been found in water from the pumps will change to drinking water from the ponds, even without treatment. Treatment of water from the ponds with sand filtration or chlorine requires local operation and management. Earlier, chlorine tablets were distributed to affected villages to disinfect water. It was later discovered that the concentrations of chlorine used were too high, which can be more dangerous than the arsenic. Other villagers were advised to boil the water, but few in rural Bangladesh can afford the required amount of fuel.

Sources: various news agencies

School of Environmental Studies, Jadavpur University, Dipankar Chakraborti, Calcutta-700032, India, tel: 91 33 4735233, fax: 91 33 4734266, E-mail: dcsoesju@vsnl.com

West Bengal and Bangladesh Arsenic Crisis Information Centre, the online focal point for the environmental health disaster in Bangladesh and West Bengal, India, Web page: <http://bicn.com/acic/> E-mail: acic@bicn.com

Babar Kabir, UNDP-World Bank Regional Water and Sanitation Group for South Asia-Bangladesh, GPO 97, Dhaka 1000, Bangladesh, fax: +880-2-863220, E-mail: info@worldbank-bangladesh.org

Wanted: The next generation of water leaders

Potential water leaders of the next generation are now conspicuous by their absence in most international decision-making fora dealing with water. The situation probably is not dissimilar in non-water areas, but the fact still remains that if the future water problems of the world are to be reliably diagnosed, participation of the next generation of water leaders in these processes is absolutely essential. Equally critical is their active involvement in the analyses of the problems and identification of cost-effective solutions and their subsequent implementation.

In order to rectify this situation the Committee on International Collaboration of the International Water Resources Association (CIC-IWRA) and the Stockholm International Water Institute (SIWI) are launching a major effort to identify and then mentor the next generation of water leaders from different parts of the world.

Readers who are aware of any individual or individuals who have the potential to become future leaders, are requested to inform the organizers of their names, addresses, telephone and fax numbers and e-mails. Leadership requirements are not easy to define, and these are often somewhat amorphous and subjective. The candidates must be not older than 40 years of age as of January 1, 1999, and should have at least 5 years of work experience which would enable informed judgements to be made as to their

future leadership potentials. They must also be fluent in English since it would be the language of communication and interactions.

The selected candidates will be mentored over a 3-year period. One of the tasks that would be entrusted to these potential leaders would be the preparation of a global vision for water from their perspectives and viewpoints. This vision could then be presented at two major world water events, both scheduled for March 2000. These are the World Water Congress of IWRA in Melbourne, Australia, and the World Water Forum in the Hague, the Netherlands.

The nominations should be sent to: Prof. Asit K. Biswas, President of Third World Centre for Water Management in Mexico City, a member of the World Water Commission: fax 52-5-754.86.04 and e-mail akbiswas@ri.redint.com or akb@pumas.iingen.unam.mx, or to Dr. Ulf Ehlin, fax 46-8-736.20.20, and e-mail ulf.ehlin@siwi.org.

Mailing address:

Viveros de Tlalnepantla No. 11
Viveros de la Loma
Tlalnepantla, Estado de México
54080, MEXICO

First multinational signs water code

Welsh-based water services and construction multinational Hydr marked World Water Day by signing the Public Services International (PSI) Water Code. By launching an international standard-setting water code on 22 March World Water Day 1999, PSI will be targeting all the world's major transnational water companies to seek agreement on basic standards. This is a very small group and includes Lyonnaise des Eaux-Suez (France), Vivendi (France), Bouygues-Saur (France), Enron (USA), Severn Trent (UK) and United Utilities (UK).

Public Services International is an international trade union federation representing over 20 million workers in public services. PSI General Secretary Hans Engelberts said, "The Code is a set of standards aimed at public and private utilities currently delivering water services. It is particularly directed towards private sector companies either operating or planning to operate public water services.

"The signing of the code reflects a common effort to address issues related to public service obligations,

democratic regulation, environmental standards and fair labour practices. PSI will develop a monitoring mechanism and campaign to ensure that all companies operating water services sign and respect the code."

PSI affiliates in a number of countries are urging other companies and public authorities to sign up to the code. For example, French unions requested that Vivendi, one of the world's largest water multinationals sign.

Many countries are handing over their water services to multinational corporations. Water is becoming a market commodity, an item to be bought and sold, and from which profits will be taken. PSI and its members disagree. Safe, clean drinking water is a right, a public obligation. "Safe and clean drinking water is essential to our world, as are fair labour practices," says PSI General Secretary Hans Engelberts.

<http://www.world-psi.org/water/waterday.html>

For press contacts: David Boys (+ 33 4 5040 1165) or Jan Willem Goudriaan (+ 32 2 2501080)

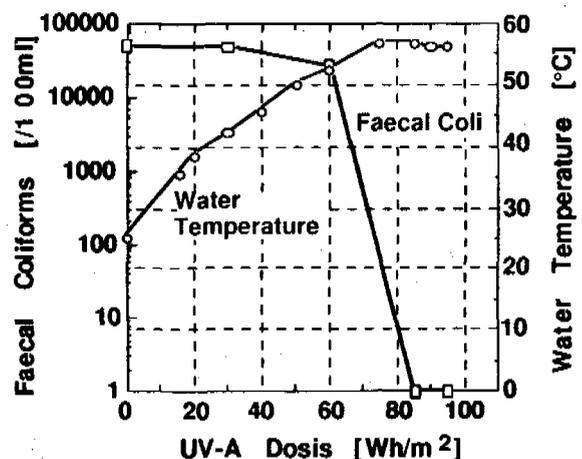
Solar water disinfection through plastic bottles

Solar water disinfection (SODIS) is a simple technology using solar radiation to inactivate and destroy pathogenic micro-organisms present in the water. The treatment basically consists of filling plastic bottles with water and exposing them to full sunlight for about five hours. This alternative water treatment option is for use mainly at household level, but can only produce 1 - 3 liters per person per day. The Department of Water and Sanitation in Developing Countries (SANDEC) at the Swiss Federal Institute for Environmental Science and Technology (EAWAG) in cooperation with numerous partners in developing countries has developed and field tested this water treatment option. The Swiss Agency for Development and Cooperation (SDC) has substantially cofinanced the SODIS project.

The drinking water situation is precarious in numerous developing countries as more than one-third of the rural population has no access to sufficient and clean water. Diarrhoeal diseases may be transmitted through contaminated drinking water, and cause the death of over three million people annually. Solar water disinfection (SODIS) can contribute to improve this precarious situation.

So far, two different processes using solar energy for water treatment have been developed independently. The first focuses on solar water disinfection by radiation, and the second applies solar thermal water treatment. However,

extensive laboratory and field tests conducted by EAWAG and its partners revealed that synergies, induced by the combined application of radiation and thermal treatment, have a significant effect on the die-off rate of the micro-organisms. Hence, the best use of solar energy is the combined application of the two treatment processes. Field tests also revealed that *Vibrio cholerae* are effectively inactivated by solar water disinfection.



Drop in faecal coliforms with increase in water temperature and UV-A exposure

In February 1999, 18 participants from donor and partner organizations in an international e-mail conference organized by SANDEC reviewed and discussed SODIS as a potential water treatment process.

The participants agreed that SODIS:

- is a simple water treatment process to improve the microbiological water quality for use as drinking water
- inactivates or destroys most pathogenic microorganisms present in the water through solar radiation and thermal treatment
- requires plastic bottles which are easy to handle and also convenient for storage
- application is simple, and therefore ideal for use at household level
- reduces the risk of recontamination since the water is treated and stored in the same closed container until consumption
- does not require the addition of chemicals, and hence does not affect the taste or smell of water
- is a sustainable water treatment method as it makes use of locally available resources only
- is a low-cost technology since its investment costs are low and its running costs negligible
- is a reproducible water treatment approach requiring low capital investment costs and short construction periods
- demonstration projects have been well-accepted by the target population in seven developing countries
- is an environmentally sound technology, as it reduces the demand of firewood and charcoal, thereby decreasing the rate of deforestation
- uses empty plastic bottles, and thus enhances the recycling of solid waste.

Limitations

The participants admitted that SODIS:

- does not improve the chemical water quality
- requires favorable climatic conditions; i.e., sunlight radiation and ambient temperatures preferably not under 500 W/m² and 20 °C
- should be applied to raw water of low turbidity, preferably with less than 30 NTU

- offers limited production capacity and, therefore, is used to treat only water for consumption; i.e., 1-3 liters of water per person per day
- is based on the use of adequate plastic bottles not always readily available to the target population
- could cause environmental problems if the plastic bottles have to be replaced too frequently
- has been tested for inactivation of bacteria and viruses, but its efficiency in destroying parasites is still unknown
- improves the microbiological water quality, but its impact on the health situation of the users has not been evaluated so far
- shifts the burden of treatment away from centralized systems to individual households where day-to-day behavior is often hardest to change
- though a simple technology, requires adequate training of the users
- requires the acceptance of the users, which is also influenced by their socio-cultural background
- as an alternative process to water boiling, may not be readily accepted by public health authorities.

Cooperation Partners

EAWAG/SANDEC submitted a call for cooperation and invited local institutions to field test the SODIS batch process in demonstration projects. From more than sixty submitted applications, seven institutions and organizations in Africa, Asia and Latin America were selected for cooperation.

For further information about the project or organizations cooperating in the field testing contact:

Martin Wegelin, Programme Officer Water Treatment,
EAWAG / SANDEC, Ueberlandstrasse 133, CH-8600
Duebendorf / Switzerland

Tel: +41-1-823 50 19, fax +41-1-823 53 99,

e-mail: wegelin@eawag.ch, <http://www.sodis.ch>



News from IRC International Water and Sanitation Centre

IRC has a new home and a new look

On 31 March IRC moved its offices to Delft, sharing the premises with the International Institute for Infrastructural, Hydraulic and Environmental Engineering (IHE). The move will serve to strengthen the existing IRC/IHE partnership, particularly in the area of training. Parallel to the move, IRC's house style has been freshened up. You may have noticed in the masthead on the front page that while still recognizable, the IRC logo has undergone a major change.

The letters "IRC" are now an integral part of the logo, and the colours have been changed to give a more modern impression.

From now on you can reach IRC via
PO Box 2869, 2601 CW Delft, The Netherlands
Telephone: +31 (0)15 2192939;
Fax: +31 (0)15 2190955;
E-mail: general@irc.nl (unchanged);
website: <http://www.irc.nl> (unchanged).

Framework for a participation, gender and demand-responsiveness assessment

Leonie Postma

The use of the "wealth ranking tool", a participatory tool to categorize communities according to wealth, is culturally unacceptable for the West African context. This comment was made by several participants of the West African regional workshop held in Cameroon, in July 1998. The workshop participants helped regionalize a methodology for assessing participation, gender and demand-responsiveness in water and sanitation programmes. Since one of the main aims of the assessment is to identify the link between the use of a poverty approach on the impact and sustainability of water projects, alternatives need to be looked for. Suggested alternatives were to categorize the users either according to grades of payment or according to the type of housing.

This is the first of a series of six articles in *Source Bulletin* on participation, gender and demand-responsiveness. The articles are written by IRC and made possible with funding from UNESCO. Other articles will follow in the October 1999 and February 2000 issues. The funding from UNESCO for the dissemination of the experiences related to gender, falls within the framework of the International Hydrological Programme (IHP-V) and its special project "Women and Water Resources Supply and Use". UNESCO co-hosted a regional gender workshop in Pretoria in 1997, which set the stage for launching a global assessment on the added value and impact of gender sensitive, participatory and demand-responsive approaches in water supply and sanitation programmes. The articles will focus on the results of this assessment obtained in West- and East Africa. In *Source Bulletin* No 1, Christine van Wijk-Sijbesma described the project in the global context.

In this article the framework used for the assessment on communities will be outlined. In the next issue attention will be paid to the assessment at national and institutional level as well as the assessment of the sustainability and the impact of the project.

The main aim of the assessment is to examine the links between the use of demand-responsive, gender and poverty approaches in design and implementation of water and sanitation services in rural and peri-urban communities, and overall impact and sustainability. The tools and techniques at the community level come from principles of two approaches, SARAR and PRA, and the experiences of the Participatory Health and Sanitation Transformation (PHAST) project of the WSP and WHO.

For the selection of the project the following criteria were used:

- projects should be large-scale and service not less than 50 households;
- a demand-driven approach as well as participatory development principles were used;
- a well-defined policy and implementation strategy was existent;
- project was completed at least three years ago.

The rationale for large-scale projects is that this initiative attempts to influence large investments designed to be demand-responsive.

The assessment process within the community scheduled for about 4-5 days and carried out by project staff and the communities used a mix of data collection methods. The information gathering in the community took place by means of interviews with key respondents, review of written records, observations of the physical conditions with a representative group from the community and focus group discussions with the identified key groups in the community. During the focus group discussions open interviews as well as participatory tools and games were used to gain insight in the behaviors and underlying reasons.

Description of tools

Wealth ranking: identifies the socio-economic classes in the community.

Social mapping: map drawn by the community members to show the location in the community of all water points and/or sanitation facilities constructed during the project and other pertinent features such as schools and hospitals.

Transect walk: undertaken by researchers and community members to cross-check information on the map, and determine to what extent a well-sustained water supply and/or sanitation facility is present in the community. The transect walk is accompanied by interview questionnaires.

Pocket voting: identifies changes in people's behavior according to the use of services before/during/after project initiation.

Ladders:

- assess the extent to which the service meets the demand/needs of users and the benefits they derive from the service;
- assess the impact of the service on women's time and workload in relation to that of men.

Card sorting: determines the nature of contributions made to the project by men and women, rich and poor.

Hundred seeds: determine the approximate percentage distribution of any concept, e.g. intra-household sharing of earning and financial responsibilities.

News in Brief

Zambia: Norway Supports Controversial Sector Reforms

Norway has given Zambia NWK 10 million (EUR 1.16 million) for continued support to the water sector reform programme. Norway has supported Zambia's water supply and sanitation sector since the 1970s. Norway was also considering a new rural water supply programme in Luapula Province and replacing the successfully completed programme in Western Province. A critical editorial in the Post of Zambia voiced the fear that a water reform programme will lead to unaffordable water tariffs for many Zambians who will therefore resort back to unsafe water sources.

[Times of Zambia, 10 February 1999, http://www.africanews.org/central/zambia/stories/19990210_feat15.html; The Post of Zambia, 10 February 1999, <http://www.zamnet.zm/zamnet/post.arch.9670/editor/story1.html>]

Indonesia: Despite Crisis, Water Remains Environmental Priority

Because of Indonesia's present financial crisis, environmental management will have to shift from monitoring and enforcement to meeting basic needs, according to a Ministry for Environment official. Effective water quality remains the government's highest priority for pollution control. About 49% of Indonesia's urban population (37.2 million people) have access to safe drinking water through piped water supply systems. System losses constitute about 40% of total water production. Public facilities for solid waste management operate in 188 cities (12.2 million people). Less than 5% of the urban population is served by centralized sewer systems.

[Eddie weekly summaries/]

Indian Prime Minister: Ground Water Critical to National Economy

Prime Minister Vajpayee of India has said that ground water is critical to the national economy and lamented that its over-exploitation had caused a shortfall in drinking water. He was speaking at a Seminar on Artificial Recharge of Ground Water, held in New Delhi on 15-16 December 1998.

[Government of India Press Information Bureau, 15 December 1998]

News in Brief continued on page 7

One key feature of the assessment methodology is to ensure that information is collected from different groups existing in the community. For forming focus groups that are an appropriate representation of poor and rich, male and female, users and non-users of the community it is necessary to identify the socio-economic classes in the community and the number of people representing these classes.

In the West African context the use of the **hundred seeds tool** was felt inappropriate as it invades the privacy of communities. One participant felt that asking for the breakdown on household contributions was almost like entering the people's bedrooms. Although during the workshop it was decided to go ahead with the exercise, in the field the tool was rejected by the community for reasons given above.

"Sustainability in Ghana higher than in Cameroon"

The perceived level of sustainability of projects in Ghana is much higher than in Cameroon. The existence in Ghana of a sound national policy on community water supply has been identified as one of the main reasons causing this difference. This includes provision for the enhancement of gender equity, participation and demand responsiveness. Cameroon has no such policy.

This was one of the main findings of the assessment studies undertaken in Cameroon and Ghana in 1998. Local teams assessed how the use of gender, poverty, participation and demand-responsiveness approaches in the design and implementation of projects affected the sustainability and impact. For the assessment, two projects per country and four communities per project were selected.

The sustainability level of the projects in Ghana was perceived to be well above average, while in Cameroon it was perceived to be below average. Contributing factors to the sustainability identified for projects in both countries were the demand-responsive approach and the culture of subsequent community ownership and management, particularly during operation and maintenance.

Factors that contributed to the higher sustainability in Ghana included: a sound national policy, effective community financing, private sector involvement, the availability of rules on water management and water use and the effective training of water committee members.

However, in both Cameroon and Ghana the following limitations to sustainability were identified:

- Insufficient involvement of communities in decisions;
- Late participation and ownership of the schemes by the community;
- Inadequately trained institutional staff in terms of gender and poverty analysis.
- Inadequate gender sensitive strategies;
- Lack of poverty strategies.

Thus it can be concluded that a clear policy does not necessarily lead to high sustainability of a project. The prerequisite is that the government and project staff are adequately trained and able to put the policy into practice.

Impact

The assessed projects in both countries have a substantial perceived impact, as anticipated benefits of community members have been realized. Community members clearly expressed that they did experience benefits from the improved water supply. There was no significant difference in the level of satisfaction

between men and women. Dissatisfaction mostly concerned access to services, regularity and predictability of services.

The actual impact of the assessed projects is hard to define due to the nature of the collected data. The assumption was that the behavior change in relation to the project is average to weak. The limited access to water as a result of poor availability, unreliability of water flow, great distance and insufficient awareness are probably reasons for the limited actual impact.

Across and within the countries, sanitation is only implemented alongside the projects in the Volta region in Ghana. Efforts to reduce water-related diseases would be boosted if water schemes were accompanied by appropriate hygiene and sanitation schemes. In the same vane, regular scientific testing of the water quality needs to be instituted.

More work has to be done than to make the water supplies more reliable and more hygienic. And although a structured community water policy does not give all the answers, it is clearly a step in the right direction.

For more information: Contact Jennifer Francis, francis@irc.nl

Resources and Events

New Publications

Borba, M.L. (1998). **Woman, water, sanitation : annual abstract journal : Vol. 8.** The Hague, The Netherlands, IRC International Water and Sanitation Centre.

This issue of the annual review of gender issues in the water and sanitation sector includes 29 abstracts. From now the Journal will only be accessible through the Internet at: <http://www.irc.nl/products/publications/ajw/index.html>. New entries will be added as new material is published.

Gleick, P.H. (1998). **The world's water 1998-1999 : the biennial report on freshwater resources.** Washington, DC, USA, Island Press. xii, 308 p. : boxes, fig., tab. ISBN 1-55963-592-4 (pbk). Price: US\$ 29.95 (EUR 26.00) + postage

This book provides a comprehensive reference on world-wide freshwater resources and the political, economic, scientific, and technological issues associated with them. It reviews several new institutional developments in the world of water; describes progress made in defeating endemic, and sometimes epidemic, water-related diseases; reviews concerns about regional conflicts over water and the implications of global climatic change; offers an update on the ongoing debate over large dams; and offers insights into the changing water-development paradigm. The Water Briefs section contains updates to scientific discoveries related to freshwater, information on new technologies or trends, the text of important water agreements or laws, and a list of Internet resources on freshwater. The edition ends with an essay offering a positive vision of future sustainable water use. A selection of the data tables and maps included are also available, together with corrections and updates at: <http://www.worldwater.org/>

Available through booksellers or direct from Island Press, 1718 Connecticut Avenue, N.W., Suite 300, Washington, D.C. 20009, USA, tel.: +1-202-2327933, fax: +1-202-2341328, <http://www.islandpress.org/books/bookdata/worldsw.html>

News in Brief continued

China: Polluter Gets 5 Years

Yang Yunwu, the former head of the Tianma paper mill in Shanxi province, northern China, has been jailed for 5 years for discharging untreated wastewater into the municipal water supply. The authorities had to shut down the water supply system for 3 days. Yang was also fined CNY 50,000 (EUR 5,220). It is said to be the country's first criminal case involving the environment.

[Inside China, 4 January 1999]

Estonians Cut Water to Russian Town

The Estonian town of Narva has carried out its threat to cut off the water supply to its Russian neighbour, Ivangorod, for failing to pay its US\$ 1.5 million (EUR 1.29 million) water bill. The Russian city received drinking water and sewage treatment from Narva for decades during the Soviet era. Now Ivangorod is discharging its untreated sewage (7900 m³/day) via a river into the Baltic Sea. Ivangorod's new partially completed water pumping station, financed with US\$ 1 million (EUR 862,000 million) from the Russian government, can supply about two-thirds of the town's water needs. However, the pressure is not sufficient to lift water beyond the first floor in some areas.

[see also Source, no. 39, 16 November 1999]

[Yahoo News/AP, 6 January 1999]

Russia: Environment Improves as Economy Dips

Preliminary data for 1998 shows that air, water and other pollution levels in Russia have fallen by several percent, according to State Committee for the Environment. This has been attributed to the fall in industrial production following the August 1998 financial crisis. Since the Soviet collapse in 1991, overall levels of industrial water pollution have dropped by 15-18%.

[St-Louis Post-Despatch/Reuters, 19 January 1999]

Pakistan: Powers subsidy for Tubewells Stopped

The Government of Pakistan has decided with immediate effect to stop the subsidy for electricity supplied to run tubewells in Balochistan, the federally administered tribal area (FATA) of North-West Frontier Province (NWFP) and Azad Kashmir. From now on the Water and Power Development Authority (WAPDA) will charge the uniform rate for the supply of power to tubewells all over the country.

[Dawn, 11 February 1999, <http://www.dawn.com/daily/19990211/ebr13.htm>]

Haan, H.C., Coad, A. and Lardinois, I. (1998). **Municipal solid waste management : involving micro- and small enterprises : guidelines for municipal managers.** - International Training Centre of the ILO, Turin, Italy. - ix, 154 p. : drawings, tab. - Bibliography: p. 149-153. - Includes subject index. ISBN 92-9049-365-8. Price US\$ 20 (EUR 17.30)

The book is for managers, engineers and administrators who have some responsibility for municipal solid waste management, and who are looking for ways to improve the service or economize. It covers the 'Why?' and 'How?' of involving new entrepreneurs and small community-based groups in the collection of solid wastes (garbage) from streets, homes and businesses. The book is primarily concerned with situations found in middle- and lower-income countries, and draws extensively on experiences in Latin America, South-east Asia and Africa.

Available from: Publications, International Training Centre of the ILO, fax: +39 011 6936 352, E-mail: MDP@itcilo.it or WASTE, attn. Anne-Lies Risseuw, E-mail: alrissccuw@waste.nl, fax + 31-182-550313, <http://www.waste.nl>

Events

8-10 June 1999 - **Symposium on Efficient Water Use in Urban Areas - Innovative Ways of Finding Water for Cities**, Kobe, Japan

Organized by: UNEP International Environmental Technology Centre (IETC). Topics: Harvesting and utilization of rainwater; Water reuse for non-potable applications; Augmentation of groundwater resources through aquifer recharge; leakage control and the reduction of unaccounted-for water; Water demand management; Integrated approaches for efficient water use. URL: <http://www.unep.or.jp/ietc/News-Events/Issue-28.html>

Contact: UNEP/IETC, 2-110 Ryokuchi Koen, Tsurumi-ku, Osaka 538-0036, Japan, tel.: +81-6-69154587; fax +81-6-6915-0304, E-mail: ietc@unep.or.jp, <http://www.unep.or.jp/>

28 June - 2 July 1999 - **15th AGUASAN Workshop**, Gersau, Switzerland

Theme: **Private Sector - just a (new) hope? Chances and limits of involving the private sector in Water Supply and Sanitation.** URL: http://www.skat.ch/news/skatnews/news_35/frameset_n35.htm

Contact: SKAT, Vadianstrasse 42, CH-9000 St.Gallen, Switzerland, tel.: +41-71-2285454, fax: +41-71-2285455, E-mail: info@skat.ch, <http://www.skat.ch>

6-9 July 1999 - **9th International Rainwater Catchment Systems Conference and 2nd Brazilian Rainwater Catchment Symposium**, Petrolina, Pernambuco State, Brazil. Organized by: International Rainwater Catchment Systems Association and others.

Topics include: Strategy for rainwater utilization in the 3rd millennium; National and regional experiences; Rainwater catchment and droughts; Rainwater catchment technology; Political and socio-economic aspects; Gender and community related aspects; Water quality and water re-use; Rainwater catchment systems in rural areas and urban areas; Integrated watershed management. URL: <http://www.ircsa.com.br/>

Contact: Johann Gnadlinger c/o IRPAA, C. P. 21, 48900-000 Juazeiro - BA, Brazil, tel.: +55-74-8116481, fax: +55-74-8115385, E-mail: ircsa@netcap.com.br

Courses

Linköping University, Department of Water and Environmental Studies, Linköping, Sweden - **Ecological Alternatives in Sanitation**, 26 July - 19 August 1999, Stockholm, Uppsala and Linköping

International Training Programme sponsored by Sida, Swedish International Development Cooperation Agency. Contents: Water and nutrient cycles, contamination routes; Management options for improved urban environmental sanitation, especially dry systems and waste reuse in urban agriculture; Risk assessment and attitudes related to waste reuse; Environmental costs and benefits of dry sanitation systems; Household efforts to improve safe excreta disposal and groundwater protection; Skills training in social enquiry. Application deadline: 30 April 1999. Course fee: SEK 45.000 (EUR 5,045) including accommodation & meals. URL: <http://www.tema.liu.se/tema-v/Course/course.html>

Contact: Dr. Jan-Olof Drangert, fax +46-13-133630, E-mail: jandr@tema.liu.se

Colophon

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SOURCE Bulletin

water and sanitation news review



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Colombia's water pollution charge initiative

By getting stakeholders to negotiate pollution reduction targets, Colombia has achieved significant results after the traditional 'command and control' approach had failed, according to a study* by the World Bank's New Ideas in Pollution Regulation (NIPR) programme. The industrialized country system of enforcing national emission standards by active monitoring and criminal penalties for non-compliance proved too burdensome and expensive to implement.

Instead the Environment Ministry introduced initial charges on biological oxygen demand (BOD) and total suspended solids (TSS) by getting key stakeholders (industries, municipalities, and communities) to negotiate water pollution reduction targets over a five-year period. The base rate for the charge would increase incrementally until the polluter met the required targets during this period. A pilot programme implemented in the Rio Negro watershed area near Medellin recorded a dramatic 28% drop in BOD pollution within the first semester.

This is one of the promising examples of innovative and flexible incentives being implemented by the World Bank and its client countries in the developing world, which can be used to get polluters to clean up their act. While there is no substitute for meaningful regulatory frameworks and information about the environment, these new tools, which rely on persuasion, social pressure and market forces to help push for improved environmental performance, can often succeed where regulations can't.

In Colombia during the early 1990s, only 2% of wastewater nationwide received any treatment before disposal, and the Ministry of Health recorded enteritis and diarrhoea as the leading cause of death for children under five years of age. In 1948, Colombia had less than 6,900 reported cases of enteritis for children under two.

By 1990 there were more than 20,000 reported cases. Water degradation had increased to the point where no fish or migratory birds survived along the Bogota River downstream of the city.

Significant drop in pollution

The charges would be implemented by the 33 regional environmental agencies in Colombia. The Ministry decided to launch the program in the ecologically-sensitive Rio Negro watershed area near Medellin because the regional agency, Corporación Autónoma Regional del Rionegro-Nare (CONARE), was both effective in managing environmental policy and had good working relationships with key stakeholders. In the first semester after implementation of the charges, CONARE recorded a 28% drop in BOD pollution from industrial sources in the Rio Negro basin. This was more than halfway to the 50% targeted reduction level agreed to in the negotiation phase.

The early success of pollution charges on industrial sources has raised a number of issues important to all stakeholders. The most notable one is that approximately 30% of water contamination come from industries. The rest is generated by domestic sources from the hundreds of small municipalities in the Rio Negro region. One of the industries main worries with the program was that the agency will act quickly with the industries, but municipalities, which are

influenced by political decisions and budget limitations, mostly cause pollution. According to CONARE this is a great opportunity for municipalities because the law makes it compulsory that they provide basic sanitation services. In two semesters it will be more expensive for the municipalities to pay the charge than invest in wastewater treatment plants. CONARE is doing 100% of the financing for plants for municipalities, and they will have to provide land for the plants.

The pollution charge program is designed to generate revenues for the regional agencies to use for environmental management problems. How revenues will be used has become a key focal point for all the stakeholders. Each has lobbied aggressively to have funds invested into their particular needs. The national Ministry

of Environment has pushed for creation of environmental funds to serve as a non-partisan mechanism for revenue appropriation. Half of the revenues will be used to finance municipal treatment plants, 30% for helping industries install clean technology equipment, 10% for research of new technologies, and 5% each for raising environmental awareness in the communities and schools and administration of the programme.

Contact: David Shaman, The World Bank, 1818 H Street, N.W. Washington, DC 20433, USA, E-mail: dshaman@worldbank.org, <http://www.worldbank.org/nipr/>

* Using Market-based Instruments in the Developing World: The Case of Pollution Charges in Colombia, <http://www.worldbank.org/nipr/lacsem/columpres/>

Junior Chambers prepare Water Book

"To increase the world-wide awareness of the scarcity of fresh water" is the creed of the World-Wide Water Awareness Foundation (WWWA), a project originated by Junior Chamber Rotterdam. The organizers aim to raise awareness of the fact that fresh water is a scarce commodity, and that this scarcity is a world-wide problem. By creating and increasing awareness the project organizers expect to get the commitment of Junior Chamber members globally in adopting the water problem and to start organizing their own water projects.

Junior Chamber International is an organization of young and generally highly qualified people in the business community. The organization strongly stimulates its members to initiate projects. The Junior Chamber's creed is "learning by doing".

The WWWA project was set up in 1997 to raise awareness of the fresh water issue among Junior Chamber members. Because the Junior Chamber is an organization with a large and strong international network, increased awareness could have a beneficial effect on the fresh water issue, which in turn could result in water projects. Patrons of the project include Mr. Ismail Serageldin, Vice President of the World Bank; Prof. Angel Alejandrino, University of Manila; and Mr. Wouter van Dieren, Dutch member of the Club of Rome.

Currently, the main activity of the WWWA Foundation is the publication of a "Water Book" containing articles contributed by Junior Chamber members from all over the world. These articles reflect the importance of fresh water in the daily lives of the authors, thus painting a picture

from a very personal perspective. Topics range from water and religion, to water as a basic necessity. The presentation of the book is scheduled for March 2000 at the 2nd World Water Forum in The Hague, the Netherlands. The Water Book will not only be distributed within the Junior Chamber network, but will also be made available to non-members.

After the publication of the book, the Foundation will look for other ways to increase awareness. Within the Junior Chamber the increased awareness has already resulted in "water projects" in Iceland, Italy and Ecuador.

At the latest Junior Chamber World Conference in Manila WWWA linked the Junior Chamber International and the organizers of the 2nd World Water Forum. At the Forum the World Water Council will present the Long-Term Vision for Water, Life and the Environment in the 21st Century. To develop the Vision, so-called consultation rounds amongst "stakeholders" are being organized. Junior Chamber agreed to use its international network to organize one of these consultation rounds.

For more information:
Stichting World-Wide Water Awareness
c/o Chabotlaan 159
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VISION 21 shaping up with inputs from more than 20 countries

The Collaborative Council's Vision Drafting Team has begun the process of preparing a first draft of VISION 21 – "a practical picture of the future we seek to create". The drafting follows an extensive series of local stakeholder meetings in some 23 countries and a "knowledge synthesis" exercise involving hundreds of specialists on key sector issues.

The intention is that the first draft should be widely circulated for comment, published on the new VISION 21 Web page (<http://www.wsscc.org/vision21/>) and further developed during regional and global consultations later this year. The up-to-date version of the draft will also be presented at the Stockholm Water Symposium in August, as part of a discussion of the World Water Council (WWC) Vision for Water, Life and the Environment. VISION 21 is a component of that WWC Vision, with the title "Water for People". Other components cover "Water for Food" and "Water for Nature".

The Drafting Team's Vision pictures the world in the year 2050. By then, it anticipates that rapid progress will have been made year after year towards the goal of every person having safe and adequate water, sanitation and hygiene. Equipped and empowered communities have been collaborating effectively with governments and NGOs. Hygiene awareness is universal and people demand, pay for and help to sustain the services needed for clean and healthy living environments. Governments have recognized the prime role of water and sanitation improvements in poverty alleviation and are reaping the benefits as holistic programmes satisfy basic needs and reduce the poverty burden.

The Vision is an attractive one in other ways too. Water-related diseases are being conquered; rivers and groundwater resources are clean and getting better; more efficient water use and demand management have avoided the need for expensive and environmentally damaging

megaprojects; waterborne sewerage has largely given way to on-site solutions with community-managed composting services; and experience has shown that the cost of meeting basic water, sanitation and hygiene needs is significantly less than the savings in health spending and the gains from greater productivity. Social/educational benefits for women and children, and the visible improvements in people's health, well-being and living environments add to the economic gains from poverty reduction.

Once it has been finalized by the Drafting Team, the VISION 21 Draft will be posted on the Web page. Many of the background papers developed as part of the Vision process will also be accessible via the Web page. It is hoped that as many people as possible will access the site and contribute reactions to the developing Vision. WSSCC emphasizes that this is more than an academic exercise to assemble dreams. The final Vision will include national and regional targets for short- and medium-term action to work towards a practical and achievable goal. Unlike past initiatives, these targets will be backed by all those involved in the delivery and use of basic services, with governments responding to user-generated demands rather than dictating solutions from the top down. It is therefore vitally important for all those concerned with the development process to subscribe to the Vision and to commit to making it a reality. The extensive consultative processes used to develop VISION 21 will remain as catalysts for follow-up activities.

Source readers are encouraged to keep checking the Web page for developments on the Vision, to send their own comments to the Council's VISION 21 Programme Director, Hans van Damme (e-mail: hansvandamme.wsscc@wxs.nl fax: + 31 252 422 570), and to join the e-mail listserver for updates on the Vision process by contacting the Council Secretariat on e-mail wsscc@who.ch.

Local VISION 21 consultation in Nepal

The VISION 21 - Water for the People dialogue at country level is progressing well. Nepal has recently held a local-level consultation in Lele, organized by the local NGO Network for Water and Health (NEWAH). Men and women discussed their "Discovery, Dream, Design and Delivery" on water and sanitation in 2015. Dick de Jong interviewed NEWAH's Laxmi Paudyal, while she was at a workshop at IRC. Shortly after that she was present during the consultation in Lele. Questions and answers follow below.

- *Why was Lele selected for this?*

NEWAH director Mr. Umesh Pandey, the national Vision coordinator came back from a regional VISION 21 meeting in Bangkok with the news that we had to select two types of communities: with and without access to water and sanitation. When we discussed the idea with communities without water supply they responded that they were not interested in the exercise, unless they were

guaranteed of the construction of a water supply system soon. We chose communities close to Katmandu, known to NEWAH and who are familiar with the use of participatory tools: Mahadevsthan and Lele. Lele was one of the 22 communities in which NEWAH and IRC have worked since 1994, in a participatory action research project on community management in water supply which is being carried out in six countries.

- *I understand that the consultation lasted for three days? How was it organized?*

Overall, the process lasted four days, but did not cost villagers more than six hours. The first day we visited the water committee to introduce the Vision process and discuss if the villagers would be willing to give their time to contributing to it. They were ready. Some said we have no access to latrines, so talk about sanitation. The second day we introduced the Vision exercise at a mass meeting, in which some 45 people participated. Two professional facilitators and two NEWAH staff introduced the Appreciative Participatory Planning and Action methodology, which combines the Discovery, Dream, Design, Delivery (4 D) model with resource mapping and trend line tools. After that the communities were helped to "discover" the positive and negative aspects of the village water supply.

On the third day they were asked to draw their dreams of how their water and sanitation situation would be 10 to 15 years from now. In Mahadevsthan this was done in three groups: school girls, a group of men and a group of women. In Lele a female group and a male group discussed their visions about the future separately. I found that the men dream of everything: improved water supply, electricity, better roads and a bridge, transport. Women's dreams focus more around the household: water supply and latrines, vegetable and fruit gardens, improved handicraft skills.

On the last day the same groups discussed the "delivery", or how to get to their visions. They were also asked what could be done locally, what in combination with outside help and for what action only outside assistance would be needed.

Later, the national coordinator wrote in his report that some people were a bit suspicious when they were asked to identify what they could contribute themselves. "People suspected that this may lead to stopping any sort of assistance to the community in the future".

In Mahadevsthan 16 high school girls and 23 men listed their personal commitment to get action going in the near future. Semi-structured interviews were used for district level VISION 21 consultations with the mayor of Lalitpur, the District Development Engineer, the District

Chairperson and District Development Officers from Lalitpur district. Most of the authorities were concerned about laws and rules in relation to local counterparts. They agreed to form a steering committee. One quite remarkable opinion of these three authorities was that community-based organizations are capable of organizing water and sanitation programmes, so the donors and district level organizations should act only as consultants and monitors.

- *How many people could afford to participate?*

In all, 65 – 70 people participated.

- *How were their views registered?*

Village resource maps, future vision dreams are all appearing in the report. The whole exercise was video recorded.

- *What will happen with their views in the Vision process?*

The report goes to the regional VISION 21 coordinator, and the Nepal water supply and sanitation visions will in the end feature in the Water for People Vision.

- *Will they get feedback?*

Communities will hear about what happened with their dreams in NEWAH's follow-up work in these villages.

- *Can they present their views (by electronic means?) in the 2nd World Water Forum in the Hague in March 2000?*

Yes, provided funding for participation can be organized.

Umesh Pandey made an important general observation about the Nepal VISION 21 experience. "It was observed that for the people to vision their community and themselves for the next 10 to 15 years was not an easy task. Firstly, because they have never thought of such things before, nor have they done this sort of exercise. And secondly, based on their past experience they were not quite sure if their dreams would be fulfilled. Some thought that this was simply another exercise being carried out by outsiders for their own interest".

The Nepal team went around during election time and had to spend quite a bit of time explaining the VISION 21 process in order to avoid any sort of political confusion. Despite all of these observations, the visioning exercise is a very effective tool to carry out in communities for allowing them to think about their better future. However, this exercise requires more of an informal interaction over a longer period with the communities, rather than having to be conducted under time pressure, the coordinator concluded.



First IRC course in Brazil

From 22-25 March IRC offered its first course in Portuguese in Brasilia, Brazil. Gender in Water Supply and Sanitation Programmes was developed under an agreement signed between IICA (International Institute for Agriculture Cooperation) in Brazil and IRC, in October 1998.

The course was a joint activity of the Secretariat of Water Resources of the Brazilian Ministry of Environment, IICA and IRC, and had the support of the Brazilian National Institute of Meteorology. The course, which is now included in the National Programme for Capacity Building of the Secretariat of Water Resources, was financed by the Netherlands Embassy in Brasilia.

To suit local needs the course, which is normally three weeks, was held in four days. Twenty-nine participants from many parts of the country and one participant from Angola attended. Among them were social workers with much experience in community water supply and sanitation; sociologists and engineers working in the field of water supply, sanitation and water resources management; professionals working directly with communities; extension workers; environmentalists; consultants; and sociologists.

Maria-Lúcia Borba from IRC facilitated the course, using participatory approaches. In the first day participants got acquainted with each other and prepared posters to present their own projects. The concept of gender was then worked out with the group and discussions raised many questions: Who receives information and training in the various water supply and sanitation fields? Who decides? Who manages? Who has access to water resources and who controls them? Who benefits from projects results? Who benefits from paid work and who does voluntary work?

On the second day, two case studies were presented. The first one was "Rural Water and Sanitation in Veredinha", a

community located in the Vale do Jequitinhonha, by a representative of COPASA, the Water Company of the state of Minas Gerais. The second case study was presented by the coordinator of the Condominium Sewer System, representing CAESB, the water company of Brasilia. Both mentioned the importance of taking gender into consideration in the planning, implementing, monitoring and evaluation of water supply and sanitation programmes and projects.

Working in small groups participants were guided by the facilitator to apply gender analysis tools to these cases. The results were discussed and suggestions were made for the adaptation of the tools.

The third day raised much interest from all participants when the use of participatory tools for project assessment was introduced. The session was based on the PLA (Participatory Learning Assessment) methodology, initiated by the UNDP-World Bank Water and Sanitation Program, its regional offices and IRC. Various gender- and poverty-sensitive tools were then explained and exercised by participants in smaller groups.

On the fourth day participants discussed how to work with gender-sensitive objectives and indicators. The purpose of this session was to work out the introduction of gender considerations into participants' own work and working environment. Reference was made to the introduction of gender considerations in their own projects, which were presented through posters on the first day. Participants still had some time left to prepare a work plan for their own working situation where gender considerations are taken into account.

This first course in Portuguese can also assist programmes in other Lusophone countries. IICA expressed interest in follow-up training with IRC, which is currently being explored.

PLA Notes special issue on community water management

IRC and six partners are disseminating experiences from their four years of experience in a community management research project funded by the Government of the Netherlands (see Source Bulletin 2, December 1998). The June 1999 issue of *PLA Notes* (Participatory Learning and Action), published by the International Institute of Environment and Development, contains 12 articles about experiences from this Participatory Action Development project in 22 communities in 6 countries.

The first section contains articles written by IRC staff, including a project overview and articles on the various project phases and the methodology used. In the second part team members from Cameroon, Colombia, Guatemala, Kenya, Nepal and Pakistan highlight key experiences from the joint learning process in the participating communities.

News in Brief

Nile Basin countries agree on vision for water sharing

Water ministers from ten Nile Basin states have agreed to cooperate on equitable use of the Nile water resources and to strengthen the Nile secretariat head office in Entebbe, Uganda. They remained, however, "divided over who should finance and lead the effort." The ministers concluded a two-day meeting on 13 May 1999 in Addis Ababa without issuing a statement. The countries want to renegotiate a 1959 pact that divided the bulk of the Nile's waters between Egypt and Sudan. Burundi, the Democratic Republic of the Congo, Eritrea, Ethiopia, Kenya, Rwanda, Tanzania and Uganda hope their water rights will be formalized through the International Consortium for Cooperation on the Nile (ICCOM) in a new agreement to be drawn up by 2002.

Contact: Mrisho M. Kivugo, Director, TECCONILE, PO Box 192, Entebbe, Uganda, fax: +256-42-20971, <mailto:teconile@starcom.co.ug>, <http://www.teconile.org/>

(Panafrikan News Agency, 14 May 1999, http://www.africanews.org/environ/stories/19990514_feat2.html)

Malaysia, Kelantan: state government buys back privatized water supply

Thames Water has agreed to sell its entire 70% equity in Kelantan Water for MYR 50 million (EUR 12.4 million) to the Kelantan State Government. Kelantan Water was set up as a joint venture between state agency Yayasan Kelantan Darulnaim (30% equity) and Thames Water (UK) in 1995. Burdened with debts of over MYR 100 million, the company was unable to implement any pipe infrastructure works, bringing housing and commercial projects in the state to a standstill. The people in the state also had to endure low pressure, disruptions and unhygienic water supply. The Prime Minister has offered a MYR 600 million (EUR 149 million) soft loan to the Kelantan government to solve the current water crisis.

(*The Star*, 6 April 1999, and 3 April 1999)

India, Uttar Pradesh: rapid decentralization to win votes

With the coming elections in view, Chief Minister Kalyan Singh of Uttar Pradesh (population 139 million), has launched a drive to produce visible results of the

News in Brief continued on page 7

The key message coming out of the articles is that communities will increase their capacity to implement effective improvement in the management of their water supply system, if they are treated as full partners in:

- diagnosing and prioritizing problems,
- experimenting with the solutions identified, and
- sustaining, sharing the results and building local capacities throughout this process.

In some of the participating countries the communities have already shown that they can apply this participatory learning and action approach to solve other problems in their community.

People interested in receiving a copy of this special issue of *PLA Notes* are invited to contact Dick de Jong at IRC (jong@irc.nl).

Positive feedback on Source Bulletin

Readers in the North have received our request to subscribe to Source Bulletin by e-mail or access it through the web site. This to cut back on our ever-increasing mailing costs. The developing country readers have received a letter informing them that they will continue to receive the Source Bulletin on paper with a request to update their details in our relations database. So far 811 readers have reacted, 53.4 percent from the developing world and 46.6 from the developed world.

We were very happy to read in the feedback that the content and presentation changes in the transition from the IRC Water Newsletter to the WSSCC/IRC Source Bulletin are much welcomed by nearly all people who reacted. In the meantime we have reduced the number of paper copies of the Bulletin disseminated in the North by 1500. At the same time the number of e-mail subscribers increased to 873, compared to 1183 for Source Weekly. Both are also available on the Source Web page (<http://www.wsscc.org/source>) which attracts over 500 hits a week.

Here are some interesting quotes:

"Source Bulletin is a remarkable improvement on the Water newsletter, extra enriched with new and more information. Keep it up!",

Dr. U.A. Adirijeje, Executive Coordinator, Afrohealth Information Projects, Oshodi, Lagos, Nigeria.

"Useful for updating project managers and field staff",

Dr. Erik Nordberg, Medical Director, AMREF, Nairobi, Kenya

"Source Bulletin is a very useful bulletin for library users",

Ms A.C.P. Dabarae, Senior Librarian, Central Environmental Authority, Colombo, Sri Lanka

"I recommend your decision to combine distributing hard copies of Source Bulletin to the South readers, as technologies down there are not much developed",

Victor Kamagenge, Project Coordinator World Vision, Shinyanga, Tanzania

"Excellent and very informative",

Mr H.D. Mabada, Pollution Control, Department of Water and Forestry, Thohoyandou, South Africa

Reaction WHO Indonesia: boil piped water

To avoid confusion and a false sense of security, your News in Brief item on page 6 of the April Issue of Source Bulletin : 'Indonesia: Despite Crisis, Water Remains Environmental Priority' needs to be put into context. Indonesia defines 'Clean Water' at 5 graded levels depending on the level of microbiological contamination. The lower grades are suitable for certain manufacturing industries (e.g. chemical plants but not food production).

It is most certainly not true that "49% of Indonesia's urban population have access to safe drinking water through piped water supply systems". Clean water of varying quality yes. Potable water most certainly not! At the present time it is prudent public health policy to boil all urban water intended for human consumption. There is not a single urban water supply authority in Indonesia that would recommend direct consumption from piped water supply systems.

Dr Keith Bentley, WHO, Jakarta, Whopl@dprin.go.id

Resources and Events

New Publications

Blokland, M.W. ; Braadbaart, O. and Schwartz, K. (1999). **Private business, public owners : government shareholdings in water companies.** Nieuwegein, The Netherlands, Ministry of Housing, Spatial Planning and the Environment. - xx, 213 p. : 10 boxes, 31 fig., 66 tab. - Bibliography: p. 197-200, ISBN 9080207055, Price: NLG 50 (EUR 22.60).

Public Water PLCs are utilities incorporated as a public limited company (or joint stock company in the USA) under Company Law, but where the stocks are owned by local, provincial or national government. This book examines Public Water PLCs in four countries: the Netherlands, Chile, Poland, and the Philippines. For each case the governance mechanism, relative performance (technical, managerial and financial) and lessons learned are reviewed. The study was undertaken by IHE-Delft on behalf of the Water Supply and Sanitation Collaborative Council with funding from the Netherlands Ministry of Housing, Spatial Planning and the Environment

Available from: Distributiecentrum Ministerie van VROM, PO Box 2700, 3430 GC Nieuwegein, The Netherlands, fax: +31-70-3391568 ; or Klaas Schwartz, IHE-Delft, fax : +31-15-2122921, mailto:kls@ihe.nl

O'Toole, L.J. and Sencer, D.J. (1999). **Institutional lessons learned in environmental health programs.** Arlington, VA, USA, Environmental Health Project. (Applied study / EHP ; no. 8). xii, 35 p. : 1 tab. 20 ref. Full text: <http://www.crosslink.net/~ehp/appstu8.htm>

This report draws institutional lessons from six case studies of Environmental Health Project (EHP) activities and from a sample of environmental health efforts undertaken by other donor agencies in developing countries. It includes a framework for reviewing the case studies and extracting institutional lessons. The institutional lessons focus on sectoral and cross-sectoral collaboration and the roles and responsibilities in data gathering.

Available from: EHP, 1611 North Kent St., #300, Arlington, VA 22209, USA, fax: +1-703-2439004, e-mail: ehp@crosslink.net, <http://www.crosslink.net/~ehp/contact.htm>

News in Brief continued

state's development. Kalyan Singh has ordered that the management of 10 government departments, including government tubewells and drinking water, be handed over to local authorities or panchayats within two months. He assured that employee's working conditions would remain the same and no one would be sacked. As elections would be held after the rainy season, he ordered officials to take all steps to prevent the floods and drought conditions.

(*Indian Express*, 30 May 1999, <http://www.expressindia.com/ie/daily/19990530/ipo30024.html>)

Zambia, Lusaka: Japanese water project cannot prevent cholera outbreak

Despite the drilling of 8 boreholes and the construction of a water distribution system with Japanese aid, George Township (population than 100,000) in Lusaka, is once again hit by a cholera outbreak. Inhabitants continue to dig shallow wells in an area scattered with communal pit latrines. When asked why she dug a well outside her home, an inhabitant said she could not afford to buy the Japanese water at ZMK 2,500 (EUR 0.96) a month. A recent survey found that 65% of the shallow wells in George Township were contaminated with cholera bacteria. Only 50% of the people were using chlorinated tap water from the Japanese-sponsored scheme, while the rest use shallow wells.

[*Times of Zambia*, 25 March 1999]

Pakistan, Karachi: water shortage angers industry, sewage contaminates water

Frequent power failures are affecting the water pumping stations in Karachi, causing acute water shortages. The SITE Association of Industry has criticized the Karachi Water and Sewerage Board (KWSB) for continuously denying water to the industrial area. It accused the KWSB of "following the dictates of the World Bank" and rattling "off every policy decision [on price increases] as a World Bank covenant". Meanwhile experts fear a major outbreak of diseases in the city because of leaking sewerage pipes. In the old city areas, 95% of the boreholes and wells are said to be contaminated.

(*Dawn*, 2 May 1999, <http://dawn.com/daily/19990502/local4.htm> and 11 May 1999, <http://dawn.com/daily/19990511/local3.htm>)

Events

29 August – 2 September 1999 - **IDA World Conference on Desalination and Water Reuse: "The Value of Water in the 21st Century"**, San Diego, California, USA

Organized by: International Desalination Association (IDA). Topics: Capital and operating economics of thermal and membrane process for seawater desalting, membrane and thermal processes for water reuse; Environmental impact of desalination and water reuse; Economic impact of pretreatment to thermal and membrane processes; Water resources management; Automation and computer control and monitoring; Hybrid systems combining technologies to enhance efficiency and value; Renewable and alternative processes. http://www.ida.bm/html/SD_Page.htm

Contact: IDA, PO Box 387, Topsfield, MA 01983, USA, fax: +1-978-8870411, e-mail: ida1pab@ix.nctcom.com, <http://www.ida.bm>

30 August - 3 September 1999 – **25th WEDC Conference: Integrated Development for Water Supply and Sanitation + WaterSan '99: Water and Sanitation Exhibition**, Addis Ababa, Ethiopia

Contacts for conference: John Pickford, WEDC, Loughborough University, LE11 3TU, UK, fax: +44-1509-22390, e-mail: j.a.pickford@lboro.ac.uk and Getachew Alem, Catholic Relief Services, PO Box 30361, Addis Ababa, Ethiopia, fax: +251-1-514944, e-mail crs@telecom.net.et

Contact for Exhibition: Tambek International, fax: +251-1-615227, <mailto:TAMBEK@telecom.net.et>

12-17 December, 1999 - **2nd International Conference on Contaminants and the Soil Environment**, New Delhi, India Organized by: Soil Contamination Research in Asia & the Pacific (SCRAP) International Committee

Themes: Urban wastes; Mining and environment; Environmental protection and risk assessment; Remediation; Managing environment for sustained preservation of water; Geogenic contaminants; and Environmental education. Deadline for voluntary extended abstracts: 30 June 1999. <http://www-crcslm.waite.adelaide.edu.au/scrpconf.html>

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Training Courses

Public-Private Partnerships in Solid Waste Collection, Transfer, and Disposal: Project Appraisal, Analysis, and Financing Techniques, 6-17 December 1999, US\$ 4450 (EUR 4260)

Target group: government officials, service managers, lawyers, environmental management and protection officials.

Topics: Policy and Regulatory Framework, Analyzing and Structuring Effective Public-Private Partnerships; Project Life Cycle: Project Identification, Procurement, Negotiation, and Monitoring; Study Tour (WASTECON 1999, 36th Annual International Solid Waste Exposition). <http://www.ip3.org/solid99.htm>

Contact: Institute for Public-Private Partnerships, 1111 19th Street, NW Suite 680 Washington, DC 20036, USA, fax: +1-202-4668934, e-mail: training@ip3.org, <http://www.ip3.org>

NETWAS and IRC, Nairobi, Kenya

Management for Sustainability, 13 September - 1 October 1999 (3 weeks), US\$ 2975 (EUR 2789)

Target group: Project managers with either a technical or a social background. Block I: Planning for sustainability - developing a programme performance improvement plan based on an objective oriented project planning analysis. Block II: Sustainability issues in the sector including: operation and maintenance, community management, hygiene promotion, water resources management and applying a gender approach. Block III: Individual strategy development. Three day excursion. Full details at: <http://www.irc.nl/products/training/manage.html>

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Colophon

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Nicaragua after Mitch: three times more investment challenges sustainability

The destruction caused in Nicaragua by Hurricane Mitch has resulted in nearly US\$40 million of approved or planned investment in mostly new water schemes in the rural sector for the next four years. This level of funding is three times higher than the annual investment of the past decade. As funds are invested and coverage levels increase, so the challenges facing the sector will be increasingly focused on the proper maintenance of systems to ensure that they continue to provide appropriate and sustained levels of service well into the future.

In the last days of October 1998 Central America suffered the terrible and unprecedented impact of Hurricane Mitch, which left thousands dead and billions of dollars in damage to transport and social infrastructure. In Nicaragua alone some 738 rural water supply schemes were damaged or destroyed completely, along with nearly 10,000 household latrines. The community Water Committees have played a central role in the reconstruction process, drawing on their previous technical and organizational experience gained in the implementation of their original systems.

The hurricane also delayed work on a pilot project undertaken in the country's VI Region, which has the objective of strengthening the managerial, administrative and technical capacities of community Water Committees. Prior to October 1998 the formation of legal associations of groups of communities with water systems was in progress. This concerned some 10 to 20 communities at municipal level. This type of legal representation has many advantages including an increased autonomy, the legal transfer of ownership of land and rights to the physical infrastructure, as well as the ability to be granted a concession by the state water authority to administer the community systems.

Nicaragua is also in the middle of a process of institutional reform as part of a longer-term effort to modernize the WSS sector in Nicaragua. This has resulted in fundamental changes to the legal and organizational structure of the National Water and Sewage Authority (INAA) which, prior to 1998, was the only institution responsible for all aspects of the sector. Since then, however, this has been transformed into three organizations each with differing mandates and responsibilities:

- The National Commission for Water Supply and Sanitation (CNAA): responsible for sector policy and strategic planning;
- The Nicaraguan Institute for Water Supply and Sanitation (INAA): responsible for norms and standards, regulation, setting of tariffs and consumer protection;
- The Nicaraguan Water Supply and Sanitation Company (ENACAL): responsible for all execution of projects, operation, administration and commercialization of systems.

These changes to the WSS sector in Nicaragua, supported by corresponding legal reforms, have largely been directed to the potentially profitable urban sector. In terms of rural provision, where there is no real prospect for privatization of services within the foreseeable future, the standard model is based upon

community management of WSS services. The Rural Water Supply Management (GAR) is incorporated within ENACAL at national level and is responsible for setting sub-sector policy, strategic planning and the establishment of norms and procedures to be followed in the implementation of projects.

No implementation capacity

Currently the majority of new projects in the RWSS sub-sector are being implemented through regional-level Rural Water Directorate offices (DARs) with government staff and funding from multilateral or bilateral donors. As such ENACAL-DAR is still performing both the operational and regulatory functions, which have been the focus of the restructuring of INAA since 1998. One major reason for this is that the NGO community in Nicaragua simply does not have the implementation capacity to replace ENACAL-DAR in the near future. Private companies do not see the rural sector as economically viable given the nature of the dispersed population, relatively high investment costs and difficulties with tariff collection.

In order to explore the legal aspects of community management and administration, the GAR office convened a

national-level conference in June, involving ENACAL, INAA, the regional DARs, legal and constitutional specialists, members of the newly formed Municipal Water Association from the VI region, and international sector donors. The meeting reviewed the experiences of forming legal community organizations for the management of water systems, and made recommendations on the legal and institutional frameworks for cooperatives and/or an associations for management of the rural water sector.

The main recommendations from the two-day event included the need to implement strong hygiene education and awareness components, and the need for international funding to cover the extra institutional costs for motivation, training and promotion of involvement of users in the cooperatives/associations.

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Netherlands Water Partnership bundles Dutch water expertise

Over the past several centuries the Dutch have accumulated a wealth of knowledge about water in attempts to keep their feet dry, and their water experience goes far beyond their border. Over its many years of involvement in the field the Dutch have acquired a good reputation in integrated water management, water conflicts and water projects internationally. This knowledge is scattered, however, and accessibility for outsiders merits improvement. The Dutch public and private sectors have now joined hands to bundle this knowledge and share it worldwide, and have established the Netherlands Water Partnership to do so. The NWP will become a focal point for the exchange of information related to activities and services of government bodies, knowledge and research institutes and businesses involved in the water sector, and will offer interested foreign parties and individuals ready access to Dutch water knowledge and expertise. It also aims to harmonize the activities and initiatives of the Dutch water sector overseas, and to promote Dutch water expertise worldwide.

The NWP can create the synergy between multiple partners which is so necessary to optimize results in water projects. Good communication and cooperation between government and private sector, financial institutions and consulting firms, both nationally and internationally, can help ensure sustainability of water resources by bringing together

demand and supply. Besides being the marketplace for Dutch water expertise, the NWP will establish, among others, current events and new developments information, an overview of Dutch organizations active in the sector and their areas of expertise, a project database, and information on sector-relevant educational opportunities in the Netherlands.

The NWP is also the national discussion partner for bodies like the World Water Council and the Global Water Partnership. The NWP is coordinating the Dutch participation in the World Water Fair, to be held concurrently with the World Water Council's Second World Water Forum and Ministerial Conference, in The Hague from 16-22 March 2000.

The NWP can be found on the internet at www.nwp.nl. Aside from general information the site includes the first phase of the newly established Information Transfer Point (ITP), which has as primary objective, to improve the accessibility and dissemination of the water experience available in the Netherlands. The ITP contains information on nearly 300 forthcoming events (congresses, symposia, etc.), and shortly a water search engine will be available with which the site visitor can search for information on NWP members' web sites.

The NWP is an independent, non-profit organization whose members comprise representatives of various levels of government, the business and financial community, knowledge institutes, and NGOs.

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News from the Water Supply and Sanitation Collaborative Council

National Consultation VISION 21 in Bangladesh

On June 8, 1999, the Department of Public Health Engineering organized a workshop to draw up a Bangladesh Vision for drinking water supply and sanitation. The workshop was organized jointly with the Bangladesh chapter of the Water Supply and Sanitation Collaborative Council, ICDDR,B, UNICEF and the World Health Organization. Over 150 people representing all sectors of society, joined in the global effort to develop a World Vision on Water Supply and Sanitation for the 21st Century.

Led by the Minister for Local Government, Rural Development and Cooperatives, Zillur Rahman and State Minister for Planning, Mohiuddin Khan Alamgir, a perspective of a vision was drawn up on the basis of inspiring contributions by Mahfuz Anam, editor Daily Star; Dr. Bilqis Amin Hoque of ICDDR,B and Al-haj Quadiruzzaman, Chief Engineer of DPHE. Speakers stressed the need to conserve water resources; to increase use of rainwater and create more access for all, especially in the urban areas, to adequate sanitation for health; and to reduce the pollution burden to the environment. Ward Commissioner Mustafa Kamal of Mirpur, Dhaka highlighted the precarious water and sanitation situation in the slum of Dhaka while Ms. Monawara Begum, Union Parishad Member of Singair, Manikgonj District, recounted the situation prevailing in the rural areas: many plagued by arsenic contamination of wells and low access to proper sanitation. She reported that her constituency urged her to help them to get arsenic-safe water.

The National Consultation took place in four small groups following an inaugural session. The group on rural water supply and sanitation and on urban water supply and sanitation each created their Vision and then presented these in the plenary session. During this plenary session, the local Vision was presented as well. It was interesting to note that the views of the local and national Vision were the same. Therefore, the National Consultation decided to adopt the local vision as the Bangladesh Vision for Water Supply and Sanitation.

Vision Declaration:

A safe and adequate amount of water will be available for drinking and in all kitchens and bathrooms at convenient locations. All people will use sanitary latrines and drains and surface water bodies will be clean, thus preserving a healthy environment. Services will be assured through elected representatives and appropriate partnerships involving all stakeholders, using transparent mechanisms accountable to the people.

The participants suggested the following strategies to be adopted/emphasized in order to achieve the Vision:

- Political commitment at all levels
- Information, Education and Communication (IEC)
- Broad consultation and community involvement in all phases
- Monitoring and surveillance of water quality, and of the functioning of water and sanitation systems
- Protection and conservation of surface and ground water
- Priority setting at national, district and local level for water allocation and use for drinking, agriculture, industry, and other uses
- Improved coordination, at the lowest appropriate level
- Strengthening of institutions
- Mobilization of resources
- Development of human resources
- Increased budget allocations
- Development/updating of sectoral priority
- Situation analysis
- Strengthening of R & D
- Holistic approach
- Regional (transboundary) water management

The participants also identified certain areas that need special and immediate consideration on issues such as: awareness and understanding, appropriate technology (mixes), sanitation for children and women, sanitation during disasters, use of surface water, and rehabilitation of water sources. Action and Steering Committees have been formed for further development and realization of VISION21.

Naima Sakande's Vision for 2020

The VISION 21 discussion and writing process has produced a number of gems. Here is an inspirational Vision through the eyes of a West African woman in the year 2020, highlighting the benefits of a generation of hygiene improvements and awareness raising. It is part of the paper *Sanitation, Hygiene and Health (not Water)* <http://www.wsscc.org/vision21/docs/doc14.html>, produced by Valerie Curtis and one of the 39 thematic papers reviewed at an Expert Group Meeting in Wageningen, the Netherlands.

"My name is Naima Sakande and I live with my family in a compound in a West African town. I work in the new export manufacturing units. My husband got a part-time degree in sanitation engineering at our local college with distance support from the London School of Hygiene and now he works for the sanitary advisory group in the town council. He checks up that the private builders are doing a good job on latrine building. I voted for this town council, partly because they promised to do something about sanitation. They have just declared that no further permission will be granted for building houses without latrines. I support this fully and will vote for another party next time if this rule is not enforced. People get what they need for building latrines from the same building suppliers and masons who build the houses. The latrines are very simple and have a plain concrete slab with a cover. They don't need emptying very often, but a private enterprise empties the pit when I need them.

My children go to a primary school with spanking new latrines, which were provided by the Ministry of Education. They can afford to spend on such things again, now that the national debt has been cancelled. There the kids all learn about washing your hands after using the toilet, and I contribute a small sum monthly to the school for them to buy soap. My kids pester their Dad to buy more soap so they can do the same at home. I agree with them, especially since I've heard all about how nice soap can make your hands from Unilever's social marketing campaign on the radio and the TV. My compound is nice and clean and there are certainly no kids' stools on the ground anymore. Why? Well nobody around here does that anymore, what would my neighbours say? It happened after we all got together in this street and decided to make an effort to clean the place up. We got the idea from the TV and I got a local street theatre group to come and give a presentation about hygiene. It was really funny, but nobody wanted to see stools around again on the ground after that!

I've been using our computer to keep up with what's going on in this country. For example the other day I tapped into AFROMED and read about the cholera epidemic that has reached the next town. The government doesn't try and hush these things up any more as they know we can all read about them on the net. I'm working with my women's group to buy in potties to sell. We use the profits to give potties to mums in the poorer part of town. That way they can get

rid of kids stools more easily, so they maybe won't get cholera. I've signed an e-petition for the Ministry of Health to check up on our water supply. Generally they do act if we have a health problem and we make enough noise.

Life's much better for me here than it was in my Mum's time. Now we can afford concrete floors and taps in the house, which makes the place much easier to clean. The DNA vaccines which all kids get from the government clinics must have made a difference, but I think that my kids are healthier and happier than we were when we were young because they live in such a nice clean place."

Action required

Valerie Curtis summarized the following action required so that Naima Sakande's Vision can become a reality in 2020:

- Stability, democracy, investment, debt cancellation;
- Citizen's access to communications, political accountability;
- Ministries and industry working together to promote health;
- Citizen-centred hygiene and sanitation programmes built around what people know, do and want;
- Training of many more professional communications specialists;
- Support to rebuild developing country Universities, more links between Northern and Southern Institutions, cross-fertilization of approaches.

VISION 21 draft available

The first public draft of VISION 21 is now available. It is a 53-page document and can be forwarded on request by e-mail as a 368kb Word'97 file. The document is also accessible on the WSSCC Vision page <http://www.wsscc.org/vision21/index.html>

It is regarded as an interim draft on which there will be considerably more work done. However, it is important that if you do have comments, these are sent to the WSSCC Secretariat as soon as possible. Wider discussion is positively encouraged, and the VISION 21 drafters will welcome supportive case studies, examples, or other materials that may strengthen the final document, due to be completed in November this year. Remember too that material from the Wageningen technical papers will also be used to supplement the Vision. Comments on those papers, also available on the Web page, will also help development of the Vision.

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Analytical framework for the assessment study on participation, gender and demand responsiveness

In 1998, a one-year participatory assessment study on linkages between participation, gender and demand responsiveness took place in Africa, Asia and Latin America as part of a five-year gender initiative of the UNDP-World Bank Water and Sanitation Program (WSP). In Africa the study was carried out in West Africa, Ghana and South Africa.

The assessment in West Africa was carried out by teams consisting of social and technical specialists of two project agencies with facilitation and coordination by IRC and the Pan African Institute for Development – West Africa (PAID-WA). In Cameroon Helvetas and Deutscher Entwicklungsdienst (DED) projects were assessed, and in Ghana the DANIDA-supported programme, the Volta Region Community Water and Sanitation Project (VRCWSP) and the Community Water Project (COWAP) were assessed. In East- and South Africa the assessment is still being carried out.

The selected projects are all being implemented by the government and consultants carry out the assessments. In East and South Africa the UNDP/WB Regional Water and Sanitation Group and the Institute of Water and Sanitation Development, ISWD (with periodic assistance from IRC) are responsible for the co-ordination of the activities.

These two articles are the second in a series of three periodical contributions produced by IRC and funded by UNESCO Nairobi, as a follow-up of the study in Africa. The first appeared in Source Bulletin no. 4, April 1999.

The main assumption of the assessment is that communities will better sustain and use the services and share the benefits and burdens if:

- sector institutions and policies enable both rich and poor women and men in the communities to initiate the service and take informed decisions about the type of service, management, and financing system they want and can sustain;
- institutions help the communities to build capacities to maintain and manage the service in such a way that burdens and benefits are equitably shared.

The study assesses the relation between the outcomes of the implemented projects at the community level and the institutional and national strategies. Beginning at the community level, the assessment results will be fed back to the service delivery agencies, and finally to the policy level. An important feature of the analytical framework is the examination of project input and output indicators as well as process indicators, as determinants of sustainability. The

study analyzes the history of the service establishment and the nature of the enabling institutional and policy environment.

The main indicators designed for the assessment include:

Community level:

- Effectively sustained; with a focus on the functionality of systems, effective financing and effective management.
- Effective use; with a focus on the hygiene use by all.
- Demand-responsive service; with focus on meeting user demands.
- Division of burdens and benefits; with a focus on economic and management participation.
- Participation in service establishment; with a focus on user voice and choice in planning and design, user contribution to service establishment and management capacity created.

Institutional and policy level:

- Institutional support for gender and demand responsive participation; with a focus on enabling organizational system and supportive organizational climate.
- Policy support for gender and demand responsive participation; with a focus on supportive sector policy and strategy

Where possible the assessment has made a distinction in the indicators between male, female, rich and poor.

Participatory Tools as Assessment Methodology at Institutional and Policy Level

This study makes use of participatory tools not only at community level but also at institutional and policy level. While there is considerable experience in using these at the community level, this assessment will attempt to demonstrate that these can also be effectively used with project staff, including policy makers. Unlike the tools used at community level, the tools for the institutional and policy level were developed for the first time by the PLA team in 1998. It is hoped that the use of these participatory tools will result in ownership of the findings and thereby create a greater willingness to find answers to the identified problems.

In each region, at institutional level a one-day workshop is held for all the male and female technical and social staff of the implementing agency, the management and the village leaders involved in project implementation in the selected communities.

News in brief

Use debt relief to invest in water and sanitation, says leading economist

Although campaigners welcomed the agreement reached by the G8 leaders in Cologne to cancel US\$ 70 billion (EUR 67 billion) of foreign debt, they claimed that many poor countries would still not benefit. Prominent development economist Jeffrey D. Sachs argues that the outright elimination of the debt burden of many of the world's poorest countries is feasible. He suggests that around 80% of the debts should be canceled outright, while the remaining 20% should be repaid in local currency and used for new social programmes on health, nutrition, water and sanitation. An editorial in a Dutch newspaper warned, however, that countries offered debt relief would lose any creditworthiness and be forced for many years to come to rely solely on development aid.

Contact: Prof. Jeffrey D. Sachs, Center for International Development, Harvard University, fax: +1-617-4950527, URL: <http://www.hiid.harvard.edu/about/people/sachs/jsachs.html> (Jubilee 2000 Coalition Press Release, 18 June 1999, <http://www.jubilee2000uk.org/news/debt18jun.html>; New York Times, 11 June 1999, <http://www.jubilee2000uk.org/news/sachs14jun.html>; NRC Handelsblad, 21 June 1999, <http://www.nrc.nl/W2/Nieuws/1999/06/21/Opi/01.html> [in Dutch])

Global water supply and sanitation assessment 2000

The World Health Organization (WHO) and UNICEF are conducting a global assessment of the water supply and sanitation sector. Global assessments are carried out every five years. The current global sector evaluation will also address the quality of services and indicators relating to water-related diseases. The findings will be presented in a report to the United Nations Secretary-General: "Progress in providing safe water supply and sanitation for all during the 1990s".

Contact: José Augusto Hueb, fax: +41-22-7914159, <mailto:huebja@who.ch> (<http://www.who.int/peh/Watsanhealth/wss/eva2000.html>)

Nestlé markets bottled water in developing countries

The world's largest food company, Nestlé, will spend US\$ 100 million

News in Brief continued on page 7

During the meeting the facilitators use two different participatory techniques:

1. To investigate which factors the participants find important in establishing a sustained service, the facilitators use a set of blank cards. The participants write down their answers on these cards, which after collection, are categorized according to emerging key issues. The group then discusses the outcomes of the exercise.
2. To investigate the opinions of the participants with regards to issues pertaining to their organizational system and culture (refer to indicators and sub-indicators), the facilitators make use of the pocket voting method. For each issue, the indicators are displayed with voting envelopes below and the participants are asked to choose the one best describing their organization. The advantage of pocket voting is that participants can freely give their opinions as the voting is done in secret. The use of different coloured voting slips assists in distinguishing the gender and level (technical or social staff), of the participant.

At national level a structured interview guide was used to interview planners and technical staff of the participating ministries of water. When it comes to questions pertaining to the national sector policy for WSS and the degree to which national sector strategies are present, cards with indicators of each issue are presented. The participants are asked to choose a card best describing the existing sector policy at the time the project was implemented and where they would put the project with regard to its sector policy. In a similar way, the sector strategies of the government as well as the projects pertaining to cost sharing, management and participation in decisions by the communities, financing strategies for the poor and the presence and definition of gender are described.

Quotation from participants at the DED workshop in Cameroon:

"The tools used for this workshop were fantastic as they gave all of us the opportunity to voice our opinions. Usually at meetings like this when all levels are present, some may feel intimidated to voice. This time we all had the opportunity including men and women.

It was also an efficient and structured way to hold a meeting. Although it took a whole day the results proved their worth in time. We did not feel like we talked all day and came up with nothing."

Announcing the launch of a new Think Tank on rural water and sanitation

In spite of decades of investment in rural water supply and sanitation infrastructure, it is estimated that in the developing world some 40 percent of the rural population still lack an adequate water supply and 60 percent are without access to sanitation. Around the world, policy makers and practitioners seek to deal with this situation, in part by building on knowledge and experience that is already available.

However, despite the wide array of global and regional water initiatives and associated information exchange facilities, it is difficult for practitioners to find and share information on the lessons and experiences encountered in the field.

Focused on rural areas, the OneWorld Think Tank on water and sanitation is designed to address such issues. Together with the World Bank, OneWorld and some of its partners (GARNET, IRC, and WaterAid) are launching this Think Tank on rural water and sanitation. The joint initiative is directed to building practical

knowledge-sharing mechanisms that bring practice closer to policy. The Think Tank has two main components - an electronic dialogue mechanism for practitioners, especially in the South, and a web site for which IRC acts as coordinating editor (see:<http://www.oneworld.org/thinktank/water/index.html>). In May 1999 a series of four electronic conferences started, coordinated by GARNET. The first one focused on the "demand - responsive approach" to rural water and sanitation and was just completed. The archived messages can be found at: <http://www.mailbase.ac.uk/lists/dra/archive.html>

The initiative is the first in a series of Operational Knowledge (OK) Partnerships being launched by the World Bank to share practitioner knowledge among key development stakeholders and bring practice closer to policy. For our readers who do not have access to electronic mail and Internet we will occasionally summarize interesting discussions in SOURCE Bulletin.

The subjects of the three other conferences have already been identified. These are:

1. Sanitation (facilitator: WEDC/GARNET)
2. Small towns (facilitator: World Bank)
3. Knowledge-sharing in the water and sanitation sector (likely facilitator: IRC).

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Resources and Events

New Publications

Favin, M., Yacoob, M. and Bendahmane, D. (1999). **Behavior first: a minimum package of environmental health behaviors to improve child health.** (Applied study; no. 10). Arlington, VA, USA, Environmental Health Project. x, 58 p : 9 boxes, 2 fig., 6 tab. 111 ref. <http://www.crosslink.net/~ehp/as10.htm>

This study examines the health impact and feasibility of four key behaviors to improve child health: (1) safely dispose of human feces, (2) consume safe water, (3) consume safe food, and (4) protect self and family from mosquitoes. The first three behaviors prevent diarrhoea and the fourth, malaria.

Paper copy available from: EHP, 1611 North Kent St., #300, Arlington, VA 22209, USA, fax: +1-703-2439004, E-mail: ehp@crosslink.net

Saywell, D. and Cotton, A. (1999). **Spreading the word : practical guidelines for research dissemination strategies.** Loughborough, UK, Water, Engineering and Development Centre (WEDC), Loughborough University. xiii, 61 p. : 2 boxes, 2 fig., 5 tab. 36 ref. http://www.lboro.ac.uk/departments/cv/wedc/spreading_the_word/contents.htm. ISBN 0 906055 63 6

This document presents findings of a review of literature, case study analysis and interviews on research dissemination strategies in the water and sanitation sector. Among the case studies are the Urban Waste Expertise Programme (UWEP), Hygiene Evaluation Procedures (HEP) handbook, and IRC's MANAGE Project (<http://www.irc.nl/projects/manage/index.html>).

News in Brief continued

(EUR 96 million) to introduce its new low-cost bottled water brand - Nestlé Pure Life - in 20 developing countries over the next three years. Nestlé's product group, Perrier Vittel, launched the brand in Pakistan at the end of 1998, where it has taken 50% of the market for bottled water in just six months. Critics warn that the success of bottled water could ease pressure on governments to upgrade water infrastructure.

(UN Wire, 18 June 1999, <http://www.unfoundation.org/unwire/archives/UNWIRE990618.cfm#20>; Nestlé Financial Guide/Shareholder Presentation, <http://www.nestle.com/html/p2.html>)

Lesotho: dams bring economic growth, but doubts remain

The Highlands Water Project has been a major contributor to economic growth in Lesotho, according to the Lesotho Highlands Development Authority (LHDA). Benefits include self-sufficiency in electricity, increased earnings for the building and construction industry and the generation of thousands of new jobs. Royalties from the sale of water to South Africa have contributed to a surplus for the Lesotho government. With plans to start phase II of the project underway, NGOs from South Africa have drawn attention to the fact that the project is favouring "white and rich communities, while the black areas still do not get the full benefits" of improved water supply. They also stressed that water leakages should be repaired first, before purchasing water from elsewhere. For further information on the negative environmental and social impacts of the projects, see: <http://www.irn.org/programs/lesotho/index.html> (Mopheme/The Survivor, 8 June 1999, http://www.africanews.org/south/lesotho/stories/19990608_feat8.html)

Mauritius: drought cuts sugar production by half

A severe drought since October 1998 will cut sugar production in Mauritius by 46% compared to last year. Sugar production accounts for 20% of the Indian Ocean island state's gross domestic product.

(Panafri News Agency, 10 June 1999, <http://www.africanews.org/PANA/news/19990610/feat11.html>)

NEW EHP REPORTS

Activity Report 64 - **Decentralization of water supply and sanitation services in El Salvador, May 1999.** (Also available in Spanish) (Available in full-text as an Adobe Acrobat PDF file-83KB), <http://www.crosslink.net/~ehp/arpt64.pdf>

Applied Study 8 - **Institutional Lessons Learned in Environmental Health Programs** by L. O'Toole and D. Sencar. March 1999.

The report is available as a PDF file in 3 parts: Cover page (14KB) Table of Contents (72KB) Full-text of the report (158KB), <http://www.crosslink.net/~ehp/appstu8.htm>

Events

13-17 September 1999 - **11th Asia Pacific and 2nd Commonwealth Congress of Environmental Journalists**, Dhaka, Bangladesh

Organized by: Asia Pacific Forum of Environmental Journalists (AFEJ). Theme: Water and Environment - The Role of the Media. Topics include: World Water Vision; water crisis; privatization; water resources management; women and water.
<http://www.oneworld.org/slej/dhaka.htm>

Contact: Dharman Wickremaratne, Chairman, AFEJ, fax: +94-1-826607, <mailto:afej@sri.lanka.net>

8-10 October 1999 - **Development of Innovative Water and Wastewater Treatment Technologies for the 21st Century**, Hong Kong, China

Organized by: Hong Kong University of Science & Technology. Topics: physical and chemical treatment; biological treatment; chemical or physical/biological hybrid treatment; treatment process development; cost-effective tertiary treatment technologies; environmental biotechnology; and future research and international cooperation.
<http://cesu2.ce.ust.hk/~csego/symp99.htm>

Contact: Dr. G.H. Chen, Department of Civil Engineering, Hong Kong University of Science and Technology, fax: +85-2-23581534, <mailto:ceghchen@ust.hk>

11-15 October 1999 - **11th ITN Africa Conference**, Kadoma, Zimbabwe

The theme of the 11th International Training Network for Low-Cost Water Supply and Sanitation (ITN) Africa conference is: "Challenges in Water and Waste Management in the New Millennium". Conference topics include: water quality; private sector participation and financial mobilization; behaviour change; integrated water

resources management; environmental issues; and gender issues.

Contact: ITN Conference Organizing Committee, c/o IWSD, fax: +263-4-738120, <mailto:admin@iwsd.icon.co.zw>

17-22 March 2000 - **2nd World Water Forum & Ministerial Conference**, The Hague, the Netherlands

To prevent a potential fresh water crisis in the next millennium, leading experts and top officials from around the world have been invited to attend this Forum. The theme is "From Vision to Action". It will offer representatives from the business community, government, NGOs and international organizations an original and eventful platform with a global outreach to discuss new and innovative ideas.

World Water Fair

From Vision to Action is also the theme of the World Water Fair, to be held alongside the 2nd World Water Forum and Ministerial Conference. The Fair aims to raise public awareness of the world's water crisis. With some 70 pavilions, the Fair is open to exhibitors from all over the world. Also featured will be cultural events, worldwide video conferences, a documentary film festival and more.
<http://www.worldwaterforum.org>

Contact: Conference Secretariat, fax: +31-70-3486792, <mailto:secretariat@worldwaterforum.org>

23-26 May 2000 - **Managing Water and Wastewater in the New Millennium**, Johannesburg, South Africa

Organized by: IAWQ Specialist Group on Water and Waste Technology and Management Strategies for Developing Countries.
<http://www.iawq.org.uk/conferen/wwtmsdc.htm>

Contact: Roelein Bakkar, WISA, fax: +27-11-3151258, <mailto:conference@wisa.co.za>

Colophon

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Former Ofwat boss attacks "excess profits" in South

Private sector companies working in water have made excessive profits in some of the poorest countries in the world by exploiting the twin evils of corruption and lack of knowledge. Alan Booker, former deputy director of Ofwat (the regulator in the privatized water industry in the United Kingdom), draws this conclusion based on his review of the working of water utility contracts in different parts of the world. Through the lack of knowledge of host governments in the developing world the contracts are often biased towards the contractor, Booker wrote in a column "Talk Back" in the May 1999 issue of Water and Environment International. "The examples are drawn from Latin America in particular," he adds in a short reply by e-mail to a few questions.

In general such contracts have been negotiated with institutions incapable of supervising the performance and behaviour of the contractors. European companies in particular have developed robust marketing techniques, often playing on the endemic corruption in the host country and the influence greed can have. Even where the contractor is known to be generating levels of profit of around 50 percent greater than comparable contracts in Europe, it is impossible for the host country to share in outperformance, because of the terms of the concession contracts which last 25 years or longer.

Booker has found a number of examples of clients becoming so dissatisfied that they started court proceedings. This legal action rarely solves the problems of unsatisfactory contracts. Booker sees some signs that the situation is changing, however. There are moves to ensure changes in the nature of concessions contracts to enable the creation of incentives for improved efficiency and the sharing of efficiencies with customers through price reduction. "The multilateral banks are promoting the establishment of regulatory institutions and incentive regulation." This can help create appropriate institutional structures, including regulatory bodies and regimes, as well as helping with carrying out transactions.

Advice is being provided by new independent advisory and consulting firms. "Companies such as Stone & Webster, the Anglo-American international management consultants are being appointed to give independent advice," Mr. Booker added.

This better informed approach to creating public-private partnerships is now capable of producing fairer deals for host countries. "Regrettably many long term concession contracts which are already in place in the water and wastewater sector will continue to be an economic drag on some of the poorest and most vulnerable economies in the world."

For more information:

E-mail: a.booker@btinternet.com

Major problems with sanitation subsidy in South Africa

Nomfundo Mqadi and Richard Holden of the Mvula Trust in South Africa report major problems with the R600 subsidy for sanitation, which are yet another confirmation of lessons from other countries.

In 1994 the Standing Committee on Water and Sanitation laid the basis for the implementation of the National Sanitation Programme in South Africa. One of the important decisions taken was to provide a significant household cash subsidy, R700 at first under the Mvula Trust programme and R600 (US\$100) under the National Sanitation Programme.

The sector has now had five years of experience and many lessons have been learnt. The lessons include:

- Continuous access to funding is required to maintain momentum on projects;
- The cash subsidy is difficult to administer - it is hard to spend exactly R600 per household;
- The subsidy is project based rather than area based, i.e. single villages were covered. Significant frustration arises in neighbouring villages where demand for toilets is demonstrated, but no money is available;
- Communities' attitudes to the R600 subsidy sometimes created problems. They focused on money and job creation rather than on how to improve their sanitation;
- The subsidy stifles self-initiative - communities waited for the money rather than getting on with improvements;
- Subsidies encourage the programme to focus on toilet building rather than on the broader health issues central to sanitation improvement;
- Richer community members benefit. The R600 subsidy is not sufficient to cover all the costs of building a toilet. Poor community members found it difficult to raise the additional finances;
- Due to affordability constraints technical options were limited to ventilated improved pit (VIP) toilets;
- The programme did not deal with the problem of cost-effective ways of emptying pits. This meant that when pits were full, new ones would need to be built at the householder's cost.

The team in the Northwest Province organized a workshop to bring councillors and communities together and to get the councillors to understand the programme. A fear raised at the beginning of the workshop was how to sustain the programme in the light of the budget cuts in South Africa. From this a discussion occurred around subsidies. The conclusion reached was to eliminate the cash subsidy and either have no subsidy or a material subsidy that is affordable to the government. The material subsidy (i.e. toilet seat, bags of cement) would be offered as an incentive for the improvement of a toilet, not necessarily for the construction of a new facility. This would give an incentive to the poorer members of the community who could not achieve this in one step, to construct a toilet of an acceptable standard.

The workshop also concluded that the reduction of the subsidy would ensure that social facilitators were more effective in promoting good sanitation. Instead of spending time administering subsidies they could disseminate knowledge and demonstrate cost effective, sustainable methods for improving sanitation. Further the programme could be spread to the entire area. It could therefore better live up to the slogan "some, for all, forever".

The communities in the Northwest Province are still experimenting with this new approach. "In some cases they still require cash to pay the builders and the households provide all the materials," Richard Holden writes in his e-mail explaining the programme.

Nomfundo Mqadi is Mvula's Sanitation Manager. Richard Holden is Mvula's Technical Manager. They can be contacted at E-mail: nomfundo@mvula.co.za or E-mail: richard@mvula.co.za.

The Mvula Trust, P.O. Box 32351, Braamfontein 2017, South Africa

Bangladesh launches national arsenic screening programme

Bangladesh has launched a national drive to test tubewells across the country for arsenic contamination, identify patients suffering from arsenic poisoning, and educate communities about how to deal with the problem.

Bangladesh is facing what has been described as the largest mass poisoning in history. Groundwater, the main source of drinking water, is suspected to be contaminated by naturally-occurring arsenic in 59 out of Bangladesh's 64 districts and an estimated 20 million out of Bangladesh's 127 million people are at risk.

Demonstrating the government's commitment to tackle the arsenic crisis, Prime Minister Sheikh Hasina, ministers, MPs, and other government officials traveled to the remote area of Gopalganj, one of the six thanas (districts) where the screening will start. Senior representatives of international and bilateral aid agencies, NGOs and media also attended the launch of the national drive on October 2.

Speaking at the launch, the prime minister said that the government is taking all possible steps to screen the arsenic-affected areas and protect people from arsenic

contamination. Urging cooperation both within government and among stakeholders, Hasina said that all relevant ministries have taken serious note of the problem and are mobilized to address it, and called on NGOs, students, teachers, clerics, and local government to come forward to support the effort.

She thanked the World Bank and the Swiss Development Cooperation for funding the nationwide screening program under the Bangladesh Arsenic Mitigation Water Supply Project and expressed her appreciation to other donors for their support. Under the screening programme, tubewells will be tested for arsenic, arsenicosis patients will be identified and referred to health centres, and communities will be educated about short-term options to ensure safe drinking water, including rainwater harvesting, boiling water from ponds, and other simple arsenic-removal techniques, while longer-term sustainable options are developed.

With the cooperation of local government entities a total of 34 support organizations and NGOs working in the six thanas have been assigned to implement this screening operation. Meanwhile, necessary training facilities have been provided to more than 600 field workers of the respective NGOs. The database to be prepared on the basis

of emergency screening will help all concerned in contributing to resolving the arsenic problem in the country.

UNICEF Bangladesh as one of the support agencies is supporting arsenic mitigation in various ways. With many partners, including DPHE, BRAC, Dhaka Community Hospital, and the Grameen Bank work is going on in six thanas to implement programmes that will protect families from arsenic poisoning. With others UNICEF has developed a well-researched, multi-media information, education and communication strategy and a set of communication materials to inform families and communities about the arsenic problem and provide them with useful information on ways to protect their health. Television and radio commercials are being developed for use at the national level combined with brochures and posters, jattras (village music and dance performance), and low literacy manuals on use and maintenance of alternative sources of safe water, such as rainwater harvesting and pond sand filters in the effected thanas.

For more information about arsenic contamination in Bangladesh and initiatives supported by the World Bank and other donors, visit <http://www.worldbank.org/html/extdr/offrep/sas/focus.htm>.



News from the Water Supply and Sanitation Collaborative Council

Regional VISION 21 consultations in full swing

The Regional Chapter of the Collaborative Council for Latin America had its second Regional Forum back-to-back with the Regional Forum on Vision 21 – Water for People for Latin America. The meetings took place in Quito, Ecuador from 25-27 August 1999 hosted by ANDESAPA, CAPRE and GTZ, and managed by Mr. Alejandro Castro, the Executive Director of ANDESAPA and the Regional Coordinator of the Collaborative Council. The coordinator of the five working groups of the Latin American Chapter, national coordinators for Vision 21 in Latin America and other country representatives and NGOs participated. In addition, organizations such as AIDIS, CAPRE, CINARA, PAHO, UNICEF, the UNDP/World Bank Water Supply and Sanitation Programme and the World Bank, the Regional Coordinator for the Small Island Developing States in the Caribbean, and the Collaborative Council also participated.

The coordinators of the working groups in Latin America presented work carried out to date. Brazil, Argentina and Colombia made country presentations, and CAPRE, PAHO and AIDIS made regional presentations. After review and discussion, it was agreed that the working group coordinators would complete their tasks in time for presentations at the Fifth Global Forum of the Collaborative Council at the end of year 2000.

After discussion of presentations on national consultations on Vision 21 — Water for People by Chile, Ecuador and Colombia, the current draft of the Global Vision on Water for People was presented by the Regional Coordinator and reviewed for incorporation of regional perspectives and the development of a regional vision.

After discussion on the VISION 21 document during the Vision events at the Stockholm Water Forum in early August, the document is being considered at five regional consultations:

- 30 – 31 August for the Newly Independent States in Central and Eastern Europe (Group 29) in Moscow
- 13- 15 September for West and Eastern Africa in Nairobi (and not Dakar)
- 24 – 25 September for South Asia and South East Asia in Bangkok
- 29 – 30 September for the Small Island States in Trinidad.

The regional consultations, in which representatives from beyond the water sector have been invited to contribute, have four objectives:

- to introduce VISION 21;
- to develop a Regional Vision as a regional component of VISION 21;
- to develop a Regional Framework for Action in support of the Regional Vision;
- to put the Regional Vision into action.

The essence of VISION 21

VISION 21 argues for the following changes:

- **Holistic approach** - acknowledging hygiene, water and sanitation as a human right, and relating it to human development, the elimination of poverty and the integrated management of water resources
- **Building on people's energies and creativity at all levels** - empowering and building the capacity of people in households and communities to take action, and applying technologies that respond to actual needs
- **Committed and compassionate leadership and good governance** - changing long-accustomed roles, leading to new responsibilities of authorities to support households and communities in the management of their hygiene, water and sanitation and being accountable to users as clients
- **Sustained dialogue and collaboration among all partners** - encouraging shared commitment among users, politicians and professionals; requiring professionals within the water and sanitation sector to combine technical expertise with an ability to work with users and politicians and with health, education, environment, community development and food sectors.

Summary future vision of girls (class 8 & 9) from Mahadevsthan school in Nepal

In Nepal school girls were asked to discuss their future water for people vision. Here is a summary of their views.

- There will be a water facility in each and every house.
- People are aware, so they will use drinking water properly.
- Every house will have a toilet facility.
- Forest users' groups will be formed and they will preserve forests and be aware of water tap facilities.
- People will be cooperative and smart and aware of their health and education.
- With a water facility in their own house, women and girls will take good advantage of the drinking water facility, e.g. girls can study more in their house; women can keep their house and child clean.
- There will be a toilet and water tap facility in our school compound.
- Present health post will increase facilities, then it can also provide advanced treatment.
- Villagers will get irrigation, then they can produce more vegetables and commodities.
- Villagers will have electricity facility.
- Women will get equal chance to decide on village development and people will use improved resources and income generating activities to get more income.

Source: National VISION 21 Coordinator Nepal

Human rights statements about water

Water as a human right features in various international declarations and conventions. Here are a few:

Article 25 of the Universal Declaration of Human Rights (1948) states:

"Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing..."

Article 12 of the International Covenant on Economic, Social and Cultural Rights (1956) states:

"The states' parties to the present Covenant recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health. The steps to be taken . . . to achieve the full realization of this right shall include those necessary for... the prevention, treatment and control of epidemic, endemic, occupational and other diseases."

Article 24 of the Convention of the Rights of the Child (1989) provides that a child has the right to enjoy the highest attainable standard of health. Among the measures states are to take to secure this right are measures to:

"combat disease and malnutrition . . . through, *inter alia*, . . . the provision of adequate nutritious foods and clean drinking water."

Source: Dr. P. Gleick

Water and Sanitation Africa Initiative (WASAI)

The African professionals (governmental and non-governmental) working for the advancement of water supply and sanitation services in the African continent have come to understand that there is a great benefit in collaboration amongst one another and with the external support community. They do this as equals, and in a neutral environment, to deal with the developmental issues and barriers to progress. The activities cover exchange of information on innovative approaches, best practices, and events of interest. Pan African or sub-regional group activities on research and investigation are also being carried out to find ways and means to overcome common barriers to progress through the participation of all stakeholders, (local and external).

Such an initiative, now called the Water and Sanitation Africa Initiative (WASAI), was endorsed at the fourth Global Forum of the WSSCC in November 1997, and taken a step further at the African Consultative Forum in Abidjan 17 - 20 November 1998. There, African water professionals called on political and civic leaders of Africa to waste no time in promoting water and sanitation services (see Source Bulletin no. 2, December 1998). WASAI would be in the

African continent what the WSSCC is in the global context. WSSCC has a mandate through a United Nations Resolution to assist with collaboration in the water supply and sanitation sector and WASAI would be its chapter in Africa.

For the chapter to function, WASAI requires a secretariat as its executive arm. The intention is that the WASAI

secretariat would commence with a minimum unit making the most of existing organizations, in an approach similar to the WSSCC secretariat, which is housed in the World Health Organization (WHO) Headquarters in Geneva but with autonomous status from the host agency related to programme matters.



News from IRC International Water and Sanitation Centre

PROCOFAS Guinea Bissau restarts field work

Guinea-Bissau, one of the poorest countries in the world, has just emerged from a year of civil war. The war has been largely concentrated in the capital, Bissau, and has directly affected about one-fourth the population of the country. While the national infrastructure has been severely damaged, life in the communities outside Bissau has largely remained untouched by the war. However, some rural areas are now poorer as they have also been providing shelter and food to refugees from the city. The PROCOFAS project team that started the Guinea-Bissau Water and Sanitation Communication and Education project in 1997 is now resuming field work. It was scheduled to be a five-year programme led by the Ministry of Energy and Industry and supported by IRC and UNICEF. Its goal is to increase the efforts of the communities to optimize the use of safe drinking water, environmental sanitation and sustainability of hygienic and health practices.

Recently PROCOFAS team leader Mr. Barros Banjai and UNICEF water and sanitation officer Mr. Julio Baldé were in the Netherlands for consultations on this project, which received initial funding from the Netherlands UNICEF Committee. The following story is based on a presentation and discussion at IRC by the colleagues from Bissau.

In some project areas, where committees and village-based animators had been identified just before the war, some of these have continued to operate on their own. Others, as might be expected, have fallen dormant and require further support. In these communities the water and sanitation facilities tend not to be maintained or used in ways that sustain good health and hygiene.

During the war the project was forced to suspend its activities not only due to the fact that there was no

government in the country, but also as they were requested to do so by the agencies of the United Nations, which had suspended their work. Some of the PROCOFAS staff, however, worked within the national emergency programme. In collaboration with other groups and NGOs, they worked for five months to construct latrines and sanitary facilities and to renovate wells in areas crowded with refugees, where the danger of cholera and other related diseases was greatest. In the emergency programme the main partners of the project team were the field staff from the erstwhile Ministry of Health, who continued their work, and the Danish-supported NGO Assistance of People for the People (ADPP). About 200,000 people benefited in different ways from this emergency water and sanitation programme.

In addition, the project team produced station messages and programmes on health and hygiene behaviours for a private radio station. During the war many people throughout the country listened to this unique radio station as the only source of public communication.

This work during the emergency period was supported financially by various United Nations sources and non-governmental emergency agencies.

Now the war and emergency period are coming to an ending. The project is one of the few to begin its regular programme again, in part because of the strong demand from the people living in the communities.

For more information contact:

Mr. Julio Baldé, UNICEF, E-mail: jbalde@unicef.org, Bairro Militar s/n, Apartado 464, 1034 Bissau Codex, Guinea-Bissau, fax: +245 251191

The poor pay twelve times more for water

The poor in the developing world pay on average 12 times more for water than people connected to municipal systems, according to an ongoing study by the World Commission on Water for the 21st Century. While the rich benefit from subsidized treated piped water, water vendors charge the poor up to 100 times more for water of doubtful quality in some cities such as Port-au-Prince, Haiti and Nouakchot, Mauritania. The World Commission presented its preliminary findings, which are part of the World Water Vision process, during its second meeting on 9-11 August 1999 in Stockholm, Sweden. The US\$ 8 million (EUR 7.7 million) study is being funded mainly by Sweden and the Netherlands.

Contact: World Commission on Water for the 21st Century, wjcosgrove@compuserve.com, <http://worldwater.council.org/site/vision/wcw.cfm>
[World Bank Press Release, 11 August 1999; UN Wire, 9 August 1999]

China, Beijing: Water clean-up campaign producing results

A large-scale water-pollution clean-up campaign in the Beijing region has started to produce results, according to a Chinese media report. In the mid-1990s over 80% of the city's waterways were heavily polluted. Beijing started a US\$ 120 million (EUR 115 million) project to clean up and restore the city's water infrastructure in April 1998. To date, more than 60% of the work has been completed.

[Beijing China Daily, 2 August 1999]

Central America: water scarcity and pollution growing problems

The declining storage capacity of regional water basins and urban water pollution are becoming serious problems in Central America, according to a report by UNDP and the European Union. The study looked at the Lempa River, shared by Honduras, El Salvador, and Nicaragua; the Tarcoles River in Costa Rica; and the aquifers of Managua. El Salvador may face "water stress" in the new century. The Unidad Ecologica Salvadoreña (UES) is opposing plans to develop the El Espino natural reserve, which contains an aquifer that holds one-sixth

News in Brief continued on page 7

STREAM workshop: promoting a learning environment

Nearly 60 participants from Latin America, Asia, Africa and Europe discussed the future of resource centres in the water sector during the international workshop *Towards an enhanced role for resource centres in capacity building* from 14 – 18 June in Delft, the Netherlands. The workshop was organized by IRC as part of the "Study into Resources and Management of Drinking Water Supply and Sanitation Centres" (STREAM) project. An important result of the workshop is that STREAM has grown beyond being an 'IRC project' and is now seen as a concept and a process shared with partners and agencies supporting resource centres. This creates a favourable condition for a positive impact of the project.

The participants of the workshop considered that the STREAM project should be seen as a forum that promotes a learning environment. They indicated that there are local capacities and resources available that could be harnessed through STREAM. Further, it was clear that governments are becoming more interested in resource centres, indicating a need to orient the follow-up of the workshop towards actions in the regions.

Among the needs identified for resource centres were the following:

- More coordination and alliance building. Each organization can be a centre of excellence in a few fields, and needs others to meet sector capacity building needs.
- More recognition through awareness raising and joint lobbying. Recognition could also be expressed politically. This could result in concrete acceptance by major financial agencies and donors.
- Network support (database, regional meetings).
- Human resource development involving the development of tools for training, management improvement, marketing, assessment of organizations, staff exchange and internships, secondment, applied research.

Specific needs were identified for different regions in the world, and tentative lists of possible follow-up actions drafted. Typical recommendations concerning this follow-up include:

- An inventory of resource centres in the regions
- Regional meetings to start alliance building and refining the resource centre concept for capacity building on a regional level.
- More in-depth case studies.
- STREAM programme development addressing internal capacity building of resource centres, networking and partnership building, strengthening capacities for information management, diversification and increase of funding sources or client groups, promotion of resource centres and advocacy.

Concerning actions at the global level it was recommended that there would be a core group of resource centres to lead the alliance building process. It was further recommended that tools would be developed and implemented for:

- impact assessment
- monitoring and evaluation
- quality assurance
- participatory assessment
- norms for information exchange
- guide for fund-raising.

One of the outcomes of the panel discussion at the end of the workshop was that resource centres would continuously need funding for their information exchange and advocacy roles.

A third recommendation was that STREAM could play a role in awareness building on the resource centre concept by developing web sites and by promoting the network of resource centres during the 2nd World Water Forum in March 2000.

For more information contact: Teun Bastemeyer (bastemeyer@irc.nl).

Resources and Events

New Publications

New EHP Activity Reports

Perez, E. (1999). Innovative methods for environmental management of solid waste in informal urban settlements of Lima, Peru. (EHP activity report ; no. 73). iii, 8 p. <http://www.crosslink.net/~chp/ar73.pdf> (does not include appendices)

Rosensweig, F. and Perez, E. (1999). Decentralization of water supply and sanitation systems in Central America and the Dominican Republic (EHP activity report ; no. 76). xi, 24 p. 12 ref. Also available in Spanish. <http://www.crosslink.net/~chp/ar76.htm>

Paper copies available from: EHP, 1611 North Kent St., #300, Arlington, VA 22209, USA, fax: +1-703 243-9004, E-mail: ehp@crosslink.net

Publications from E & FN Spon

Jobin, W. (1999). Dams and disease : ecological design and health impacts of large dams, canals and irrigation systems. London, UK : E & FN Spon. xiv, 580 p. : fig., maps, photogr., tab. Includes references, index and glossary of chemical names. ISBN 0419223606

Price: GBP 60.00

This book describes ways to avoid the negative impacts of large dams, canals and irrigation systems that currently abound in developing countries. It includes 35 case studies from 25 countries. The author proposes that the World Health Organization (WHO) should join the World Bank in promoting healthy development of tropical water resources.

Kimstach, V., Meybeck, M. and Baroudy, E. (1998). A water quality assessment of the former Soviet Union. London, UK: E & FN Spon, 1998. - xvii, 611 p. : fig., tab. - Includes references and index. ISBN 0419239200

Price: GBP 75.00

This publication covers the natural water resources and composition of surface and ground waters in the former Soviet Union, and the influence of human activity on those resources and water quality systems. It includes case studies of the Lower Don Basin, the Amu Darya River, the Rybinsk reservoir, the Dnieper River, Lakes Baikal and Ladoga, and water resources in Moscow and the Moscow region.

Both books are available through booksellers or directly from: Taylor & Francis Customer Services, International Thomson Publishing Services Ltd., Cheriton House, North Way, Andover, Hampshire, SP10 5BE, UK, fax: +44-1264-343005, E-mail: book.orders@tandf.co.uk

New from IT Publications

Kolsky, P. (1998). Storm drainage : an engineering guide to the low-cost evaluation of system performance. London, UK: Intermediate Technology Publications, 1998. - x, 134 p. : fig., tab. - 42 ref. ISBN 1853394327

Price: GBP 12.95

This manual focuses on drainage performance, the evaluation and assessment of drainage systems, and the effects of solids in drains upon performance. It is the outcome of two-and-a-half years of fieldwork in the city of Indore, in Madhya Pradesh, India.

Available from: IT Publications, 103-105 Southampton Row, London WC1B 4HH, UK, fax: +44-171-4362013 or +44-20-74362013, E-mail: itpubs@itpubs.org.uk

News in Brief continued

of El Salvador's renewable water supply. UES has taken the matter to the Central American Water Tribunal, which was created in 1998 to defend the interests of communities and their right to access water.

Contact: *Unidad Ecológica Salvadoreña (UNES)*, unes@rds.org.sv
[UN Wire, 13 August 1999]

Middle East peace depends on water

A task force of Americans, Israelis, Jordanians and Palestinians is to come up with a plan by the end of this year to expand the arid region's freshwater supplies. One goal is to construct desalination plants. Whatever kind of Palestinian entity or state is negotiated, water may be the key to real cooperation. Israeli Prime Minister Barak has indicated he views water as a technical problem that can be solved by building regional desalination plants that would make seawater potable. However, a cubic yard of water costs US\$ 0.33 (EUR 0.31) to deliver to the consumer, versus US\$1.30 (EUR 1.20) for desalinated water, so desalination is not considered a viable option for agriculture, only for drinking water. Many people in Israel say serious conservation efforts should come first.

[Detroit Free Press, 22 July 1999]

Safe drinking water initiative - Latin America

A new partnership between the Pan American Health Organization and the Chlorine Chemistry Council aims to improve the safety of drinking water in 19 Latin American countries. The joint initiative will train local health officials in Latin America how to disinfect water, protect watersheds and handle water emergencies. Inadequate sanitation and poor quality of drinking water are major causes of infectious diseases in the region.

Contact: *Daniel Epstein*, epsteind@paho.org
[PAHO press release, 15 July 1999]

Events

9-11 November 1999 - **Asia Pacific Toilet Symposium**, Kitakyushu, Japan

Organized by: Japan Toilet Association. Topics: Universal designs and toilets; Resource conservation - the environment and toilets; Toilets and health; Economic growth and environmental maintenance; Environment - sanitation and toilets. Concurrent event: International Toilet Equipment Exhibition

Contact: Japan Toilet Association, GO Bldg, 3rd floor, 2-11-5 Nishi Shinbashi, Minato-ku, Tokyo, Japan, fax: +81-3-35931374

12-15 January 2000 - **Small Drinking Water and Wastewater Systems**, Phoenix, Arizona, USA

International Symposium and Technology Exhibition, organized by NSF International and the Rural Water Research and Education Foundation (RWREF). URL: <http://www.nsf.org/symposium>

Contact: Joe Cotruvo, NSF International, 1301 K Street NW, Suite 225, Washington, DC 20005, USA, E-mail: cotruvo@nsf.org

17-21 January 2000 - **2nd International Conference on Vetiver**, Phetchaburi, Thailand

Organized by: Chaipattana Foundation and the Office of the Royal Development Projects Board

On the use of vetiver, the "miracle grass" for environmental conservation and protection, including soil and water conservation and wastewater treatment. URL: <http://prvn.rdpb.go.th/data/sec.htm>

Contact: Office of the Royal Development Projects Board, 78 Rajdamnern Nok Avenue, Dusit, Bangkok 10300, Thailand, fax: +66-2-2806206, 6298915, E-mail: <mailto:pasiri@mail.rdpb.go.th>

14-19 February 2000 - **Bengal Basin Symposia**, Dhaka, Bangladesh and Calcutta, India

Organized by: Ghosh Research Associates (GRA) International. This is the second international symposium on the impact of toxic chemicals on the Bengal Basin.

Contact: Rash B. Ghosh, President GRA International, 2509 McGee Avenue, Berkeley, California 94703, USA, E-mail: Rghosh@dtsc.ca.gov

29 May - 2 June 2000 - **ECWATECH-2000: 4th International Congress and Exhibition "Water: Ecology and Technology"**, Moscow, Russia

Organized by: SIBICO International. Focus on Russia and CIS. URL: http://www.sibico.com/ecwatech/info_e.htm

Contact: SIBICO International, PO Box 173, 107078 Moscow, Russia, tel/fax: +7-095-9753423 / 9751364 / 9755104 / 2076310 / 2076376, E-mail: ecwatech@sibico.com

16-18 October 2000 - **IEP 2000: Issues in Environmental Pollution**, Lisbon, Portugal

Organized by: Elsevier Science. Theme: Issues in Global Change - 'conflicting demands' on water, air and land resources in a changing global environment. URL: <http://www.elsevier.nl/homepage/sag/icp2000/menu.htm>

Contact: Gill Heaton, IEP 2000 Conference Secretariat, Hillside Cottages, Wheatley Road, Islip, Oxford OX5 2TF, UK, fax: +44-1865-375855, E-mail: gill.heaton@virgin.net

Training Courses

For a full list of IRC courses for 2000 in the Netherlands and with partners in Kenya, Burkina Faso, Sri Lanka and India see the IRC training page at <http://www.irc.nl/products/training/overview.html> or contact the IRC Training Department for a training brochure (see colophon for IRC's address).

SEU Foundation and IRC, Trivandrum, India

Environmental Sanitation: Solutions and Management, 20 March - 7 April 2000 (new date) (3 weeks)

Course fees: US\$ 3,000 (incl. food & lodging)

The course focuses on the achievement of high coverage and effective use of sanitation facilities particularly among low-income families. There is a major concentration on latrine programmes with a focus also on small-bore sewer systems, and wastewater management.

Contact: SEU-Foundation, P.O. Box 507, Thycaud P.O., Trivandrum, Kerala 695 014, India

Tel: +91-47-325907, fax: +91-471-325914, E-mail: seuf@md2.vsnl.net.in

Colophon

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SOURCE Bulletin

water and sanitation news review



No. 8 **December 1999**

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Freshwater resources and changes in those resources is perhaps the single most important global change issue in sub-Saharan Africa.

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UNEP: Think in terms of African policy makers

Freshwater resources and changes in those resources is perhaps the single most important global change issue in sub-Saharan Africa. Water availability, vulnerability of natural and socio-economic systems, changes in land use, and the scientific basis for developing policies for sustainable use of water resources are the major issues. Behind these issues are the scientific questions of assessment of water resources and their vulnerability, and the driving forces behind land use change. This calls for integrated studies of the interactions between land use and climate which addresses not only natural, but also social systems.

To address these issues UNEP organized a Workshop on Sustainability of Freshwater from 26-30 October 1999 at UNEP headquarters in Nairobi, Kenya. UNEP Executive Director, Klaus Toepfer, noted that more than 300 million people in Africa still lack access to safe water and adequate sanitation and that currently 14 countries in Africa are subject to water scarcity. He also drew attention to "sub-optimal" water policies, calling for a participatory approach in integrated water resource management. Kenya's Water Resources Minister, Kip Ngeno Arap Ngeny, stressed the need to identify training and educational needs and the establishment of a collaborative research network of scientists from Africa and the North.

Workshop coordinator Dr. Mike Fosberg reports that a number of challenges were addressed during this workshop. "We needed to define issues and problems, not in the context of disciplinary science, but in the broader context of integrated and complex systems science. We needed to structure thinking around the environment that a policy maker works within. We needed to develop a vision of the future, a realistic and achievable future. Finally, we needed to develop a plan to actually achieve that future."

Policy makers basically ask four questions. Is there a problem? Is the problem serious? What are the options in addressing the problem? Are these options politically feasible? In addressing these questions, we must be reminded that policy makers are more likely to be concerned with demand than supply of water. Vulnerability and sensitivity play an important role in addressing these questions. Evaluation of options is also critical. In fact, the last question, "Are the options politically feasible?" contains three sub-parts. Does the strategy or option represent sound policy independent of the threat? A no regrets policy? How certain are we that action, if taken, will produce a net benefit? What are the costs, in economic terms and impacts, on other resources and on society? In order to define a policy maker perspective, we must first profile a policy maker. Policy makers are interested in water as a resource. They have no particular interest in the processes of the hydrological cycle. Policy makers are interested in impacts on society. They are not interested in the details of the science behind those impacts. Policy makers must weigh science, societal needs and wants, and public acceptance. Policy makers seek an integrated approach to solve problems. Policy makers are very comfortable with risk management. They can deal with uncertainty. Policy makers must perceive a threat before taking action. Finally, policy makers seek a broad base of involvement and support before taking action.

Participants identified six constraints or deficiencies that must, and can be addressed by the scientific community: in information and understanding,

governments, capacity, land management options, water management options and stakeholder participation. They formulated five responses for action and research. Each of these responses links the natural and social sciences to health sciences.

- 1 Education. There needs to be formal education addressing public health, science and policy, and environment and industrial management. These formal education needs must also be accompanied by informal education in which traditional knowledge of prevention and resource management are passed on, and in which new knowledge can be introduced.
- 2 Provision and access to safe water. Standards of safe water must be maintained. Water purification systems must be established and maintained. Adequate waste treatment systems must be established and maintained. Capacity is needed in analysis, monitoring of systems and standards.

- 3 Provision of safe, adequate, affordable water for all humans. This response must address rural populations and informal settlements as well as urban areas. The role of women in agriculture and food preparation must be addressed. Also, children must be included in this equation, in that they are the future of Africa. Poverty must be alleviated by recognizing the economic benefits of health care.
- 4 Provision of safe water in urban areas. A prevention program must balance rural maintenance and urban infrastructure. Reaction must include disease prevention and an infrastructure of water and health professionals.
- 5 Adoption of a "State of the Environment" approach to track progress. A standardized, routine system must be developed. There must be access to information. Financial support and human capacity must be put in place.

For more information contact: *UNEP Communications and Public Information Branch*, fax: +254-2-623692, E-mail: cpiinfo@unep.org

The Demand-Responsive Approach to Rural Water Supply & Sanitation: Summary of an electronic discussion

Between May 17th and July 1st, 1999 several agencies joined forces to host an international electronic conference on demand responsive approaches (DRA) to rural water supply and sanitation (RWSS). The conference was convened by OneWorld and was organized by WEDC, IRC, WaterAid and the World Bank (as conference facilitator). Background papers for the conference were made available to the participants on the OneWorld website. Held over a period of 71 days, the conference generated an exchange of 196 messages. Of the 468 members registered to the conference approximately 150 individuals provided contributions. Participants were distributed across north and south; 151 were registered in southern countries, 108 from the north and 85 had World Bank addresses. A further 124 addresses were 'unknown'. The vast majority of the contributors were men.

As announced in Source Bulletin no. 6 we are sharing the highlights from the three phases of the discussion with our readers who do not have access to e-mail and Internet. It is interesting that with help of WaterAid in Ghana views from discussions in communities have been fed into the e-mail discussion as well.

This synthesis has been provided by two people who did not participate in the actual conference. It is only one impartial 'reading' of the conference proceedings. The 'alternative summary' offered at the conclusion of phase one is a clear indication of how widely, sometimes energetically, interpretations of this material will diverge. With this proviso in mind, it appears that a general consensus merges around the core principles of DRA; after

all, who can say 'no' to the principles of equity and sustainability and who can argue against greater voice for the community? But what happens next, that is, how these goals and objectives are to be best achieved remains the subject of considerable and exhaustive debate. A fleeting consensus also merged around the issue of recognizing water as *both* a social and an economic good, but what this means in practical and applied terms seems less clear.

Terminology and the use of 'jargon' also provided participants with an ongoing source of frustration. A lack of clarity over such terms as 'demand', a crucial element of DRA, emphasized the fact that subtle and overt differences continue to exist in the assumptions of economists, engineers and social scientists. Confusion over the "illusory" facilitating role and "implementation", that is, between an arms-length approach to getting the enabling environment right and a more hands-on approach to the day-to-day management of what happens on the ground, also appears to be the cause of debate.

One area in which participants could agree, was that DRA is "inextricably tied to institutional reform". This consensus acknowledges that DRA requires more than just an active, empowered and organized community. If DRA is to work, institutional reform and organizational change at each of the micro, meso and macro levels must accompany it. Once the attitudes, policies, skills, and resources are in place, DRA can begin to gain momentum gradually, but not automatically. Like all 'new' approaches, scaling-up and scaling-out will take patience. No matter how many workshops are held DRA cannot be imposed. The speed

and scale at which this approach is adopted and applied will vary greatly from country to country and will depend greatly on the given policy environment, the relative capacity of the private sector, attitudes among professionals and practitioners and the dynamism and demands of local communities.

For a full copy of the DRA summary paper please contact:

Jennifer Sara, Rural Water and Sanitation, World Bank, 1818 H Street, N.W., Room F4K-172, Washington, D.C. 20433, USA; E-mail: jsara@worldbank.org



News from the Water Supply and Sanitation Collaborative Council

Vision 21 finalized in Gujarat

"A clean and healthy world, in which every person has safe and adequate water and sanitation and lives in a hygienic environment."

That is VISION 21, a vision of the world in the 21st century emerging from consultations with communities, governments and NGOs all over the world. And it is not just a dream. Practical ways to reach the Vision have been the subject of discussions in Ahmedabad, India, during the last two days. They involved some 60 experts from 25 countries, the culmination of a process that has included well over 3,000 people during the last 15 months.

"VISION 21 is much more than a dream. It is a way of meeting the aspirations of deprived people everywhere, using their own energy and initiative," says Dr Richard Jolly. Dr Jolly chairs the Water Supply and Sanitation Collaborative Council (WSSCC), which initiated the VISION 21 process. "By putting people first, and supporting their efforts with those of community leaders, NGOs, an enlightened private sector, and committed governments, we can rid the world of a scandal," he goes on. The scandal is the fact that more than half the population of the developing world lives in a squalid, health-threatening environment, with no hygienic means of personal sanitation. Bringing that situation to an end is the goal of VISION 21.

Building on people's energy and creativity at all levels is one of four principles described as the essence of VISION 21. It involves empowering and building the capacity of households and communities to take action, including using technologies that respond to their actual needs. Especially important is a gender perspective which mobilizes and empowers both men and women to influence decisions which affect their own development. The other principles are:

Acknowledging access to hygienic conditions, sanitation and affordable safe water as a human right and relating it to human development, the elimination of poverty and environmental sustainability; recognizing too that with the

human right comes personal responsibility to participate in and sustain the improved living conditions. The VISION 21 text points to successes in human rights lobbies on behalf of children, gender equality, and the environment, and urges coalitions and partnerships to plead the water and sanitation cause, with NGOs in particular mobilized to lobby for practical action.

Achieving committed and compassionate leadership and good governance, with authorities and governments supporting community-driven actions. The plight of the unserved is a cause for shame among the leaders who have allowed the situation to reach such a deplorable state. Putting that right calls for commitment and compassion from village leaders, teachers, local governments, civic associations, and at the highest levels of government. Advocacy, education and training are the mechanisms urged in VISION 21 to establish a dedicated core of leaders and the governance which will permit community-driven improvements. The Vision process has pointed the way. Leaders emerge from the local and district consultations, and the process creates a committed core of VISION 21 "ambassadors" determined to see their common goals achieved.

Sustained dialogue and synergy among all partners – encouraging shared commitment among users, politicians and professionals; requiring professionals working in water and sanitation to combine technical expertise with an ability to work with users and politicians and with health, education, environment, community development and food sectors.

"VISION 21 is now a movement", says Richard Jolly. Our minds are set on building the partnerships needed to achieve our inspiring vision. Gujarat has shown that people's initiatives can produce extraordinary results (Gujarat's own Vision 2010 was discussed in a half-day meeting on Sunday). Now we need to build on those in Gujarat and replicate them rapidly throughout the developing world."

GREAT approach to mainstreaming gender in Asian VISION 21

Parallel to the Gujarat VISION 21 global meeting the Vision Gender team organized a meeting to review the Asian conceptual framework for mainstreaming gender, which the Asian team decided to develop after the Vision 21 Asian consultation in Bangkok. IRC in collaboration with other partners is preparing the Water and Gender Major Group presentation on 17 March 2000 at the 2nd World Water Forum in The Hague. In Ahmedabad the Asian team wrote the outline of a draft concept paper featuring a GREAT approach to mainstreaming. This involves:

G ender

R esponsive

E quity and equality oriented

A ware of socio-economic and cultural issues of

T arget groups.

The reasoning behind this concept is to translate the "gender issue" into the Asian cultural context thus making it practical and applicable for Asians. The concept will feature the translation and understanding of gender within the Asian context, define the real gender issues and the present situation of water and sanitation in Asia (and its differences between countries) as well as an action plan for implementation. The conceptual framework will not be a new concept. It will build on concepts already developed and practiced and aims to improve their application in Asia.

The conceptual framework will therefore:

- develop the GREAT advocacy and social mobilization plan for the water and sanitation (WSS) sector;
- embed the GREAT concept into the Asian WSS policy to improve effectiveness and sustainability of WSS investments;
- explore and establish where appropriate, social, cultural and religious values to increase participation of women and men in the management of water supply and hygiene programmes;
- create an enabling environment for women to express their rights, innovative ideas and use of their knowledge and skills optimally.

The team worked on the outline of the concept defining the tables of contents and issues to be discussed. The team then decided to seek funding to complete the development of this concept. The conceptual framework is intended to be ready by 1 February 2000.

The team also discussed how gender would be portrayed at the Major Group session during the World Water Forum. One of the suggestions was that the VISION 21 / Water for People should have a workshop within the gender day on 17 March, which is being coordinated by IRC. Rosario Villaluna, national coordinator of VISION 21 in the Philippines is coordinating this activity for which funding is being explored.

For more information on the Gender Mainstreaming in the VISION 21 and the Water and Gender Major Group session during the 2nd World Water Forum Major Group session please contact Jennifer Francis at IRC.



News from IRC International Water and Sanitation Centre

Gender, participation and demand assessment in East Africa : Women contribute more than men

Women in Malawi and Kenya generally contribute more than men to water programmes. This was one of the outcomes of the one-year participatory assessment study on the linkages between participation, gender and demand responsiveness done in East Africa in 1998. The research showed that men did the tasks related to the traditional gender roles of men such as bush clearing and carrying stones. Women performed their traditional contributions such as cooking and fetching water, but contributed also to the traditional men's roles. The explanation for this is that more women than men appreciate the importance of having water facilities in the proximity.

The assessment in East Africa was carried out in Kenya and Malawi. In Kenya the study focused on the Kwale Water and Sanitation Project (KWASP). It was carried out in four communities in the Kwale district, which is located in the Southeastern corner of Kenya. In Malawi the assessment was conducted in three districts, in Thylo and Phalombe district which are located in the Southern region of Malawi and Karonga district which is located in the Northern region. In each of these three districts, three communities were assessed.

Community involvement

The researchers in Malawi and Kenya found a lack of community participation in the implementation of the water supply facilities. In both countries community members mainly provided labour and cash during the implementation phase.

In Malawi the communities were not involved in the choice of the technology or in the early planning stages and the government initiated the project. Due to the limited involvement of the community members, most of the assessed water supply systems were not functioning properly. The communities lack the spirit of owning and managing their water supply systems and have not properly been trained to use them. Therefore they lack the necessary skills and abilities to operate and maintain their systems effectively and responsibly.

This study is part of a five-year gender initiative of the UNDP-World Bank Water and Sanitation Program (WSP) in Africa, Asia and Latin America, in which IRC and some of its partners are involved. In Africa the study was carried out in West- East- and Southern Africa. The assessment team in Malawi was composed of staff from the Ministry of Women, Youth and Community Services and from the Bunda College of Agriculture of the University of Malawi. In Kenya the team included staff from headquarters and districts of the Ministry of Water Resources, independent consultants, project staff and lecturers of various universities. This article is the last in a series of three periodical contributions produced by IRC and funded by UNESCO Nairobi, as a follow-up of the study in Africa. The first appeared in Source Bulletin no. 4, April 1999 and the second in Source Bulletin no. 6, August 1999.

In Kenya most of the assessed water supply systems were found to be functioning and reliable. Although the communities were also not involved in the choice of technology, the project objectives were relevant to the needs of the people and the water requirements of both the rich and the poor, men and women were met. During the implementation phase the project team stressed the need for community members to participate fully and to take complete control of the system and trained the community members involved in the management. This contributed to a greater responsibility for the management, operation and maintenance. As a result water committees manage all the water systems and most of the people feel a sense of ownership. Although the communities are able to meet the operation and maintenance costs no provision is being made for replacement of the systems, which will be needed in the future.

The initial focus of the project was neither gender sensitive nor participatory, but focussed on the role of women in water and sanitation. The reason for this is that women were the ones that were burdened with the problems of fetching water. It was therefore clearly stated in the objectives that

the water systems were to give women the chances to take leadership. Both men and women were trained in the management and maintenance of their water systems. Most of the systems are managed by women, except in Mwangoni, where men dominate the management of the water system and only men were trained to undertake repairs. The women in Mwangoni village are not involved in most of the operations because of the male dominance. They are, however, very interested in the operations and are willing to be trained and share the responsibilities.

Kenya: greater impact

The impact of the water supply facilities in Kenya is greater than in Malawi. In Kenya the water coverage was over 90% and most of the people use the improved sources for domestic purposes. The hygiene practices of the community members have improved as well. As a result of the improved access to clean water both men and women have more time available for productive activities and children for their homework.

The impact of the installed water systems in Malawi has been limited, as most of the systems are not functioning properly. However, when they continue to function the systems have their advantages. The introduction of the facilities has reduced the burden of women who used to walk long distances and carry heavy loads on their heads.

In the future, programmes in Malawi are likely to be more responsive to the needs of the communities and therefore have a greater impact and be more sustainable. In 1998 a decentralization policy promoting participatory development and decentralized governance was formalized. This policy provides a framework for demand-responsive community development in which critical issues such as poverty, gender and participation are included.

An important conclusion of the research carried out in Malawi and Kenya is that to increase the impact and sustainability of the projects, the active participation of all the community members must be include in all stages of the project cycle. It must also help the communities to build capacities to operate, maintain and manage their services. The training of the community - based committees charged with the operation and maintenance of the facilities is crucial for the management and functioning of the facilities.

Sanitation progress slow

Although each of the assessed programmes in East and West Africa mentioned the improvement of sanitation as an important activity, little progress has been made in terms of the provision of good sanitation facilities. Across and within the programmes in the four countries where the assessment in Africa has been carried out, sanitation is only effectively implemented as a project component in the Volta region in Ghana. Although much effort was put in the promotion of the latrines, less than one quarter of the households and community members have access to latrines. Despite the provision of subsidies the cost for

News in brief

South Africa: Water Demand Unsustainable

South Africa's first 'State of the Environment' report* shows that water resources in the country are already almost fully utilized and that with the projected population growth and economic development rates, it is unlikely that the foreseen demand on water resources will be sustainable. "Water is increasingly becoming the limiting resource in South Africa, and supply will become a major restriction to the future socio-economic development of the country," the report said. "Maintaining sustainable water resources is a critical element in the battle against poverty and a 'cornerstone of prosperity'."

* National State of the Environment Report on the Internet (NSOEI)

Contact: National Department of Environment Affairs and Tourism, South Africa, fax: +27-12-3204746, <http://www.environment.gov.za/>

Israel: Turkey Promises Water

At a meeting with his Israeli counterpart Prime Minister Ehud Barak, Turkish Prime Minister Bulent Ecevit said his country would provide for Israel's water. Water is, or has been, an issue in all of Israel's peace negotiations (Syria, Palestine, Jordan) except those with Egypt. According to the Jerusalem Post "importing water from Turkey would not be difficult. Pipes can be laid under the Mediterranean, or water can be imported in barges. Were it not for Syria, pipes could be laid across land, but this is highly unlikely to occur". [Arabic News, 26 October 1999; Jerusalem Post, 27 October 1999]

Water Commissioner quits

Israeli Water Commissioner, Meir Ben-Meir, will quit his post, because of continuing delays in the construction of the country's first major desalination plant. He will not seek renewal of his contract as water commissioner that expires at the end of November 1999. Ben-Meir stressed that the creation of additional water sources is one of Israel's most vital strategic needs and that desalination is the only realistic way to achieve this. [Jerusalem Post, 29 October 1999]

News in Brief continued on page 7

villagers remains high. As a result mainly the rich own latrines. The use of cheaper alternative latrines was hindered by soil instability.

In Kenya, whenever a community was involved in the development of a new water supply, the programme would make sure that the community would also be involved in improving their sanitation facilities. In the KWASP project the programme staff promoted improved sanitary conditions in household as well as community meetings. The villagers who wanted to have latrines had to dig holes in anticipation of project assistance to construct these latrines. However, the villagers reportedly said that the agency did not deliver the slabs and rings. As a result the impact of the sanitation component was found to be substantially weaker than the water component.

The Malawi team identified the lack of a national sanitation policy as the main reason for the lack of emphasis on sanitation compared to the water component. Sanitation issues are covered in the water and the health policies. No single ministry is responsible for sanitation development in the country, which makes the situation and the integration of water and sanitation very complex.

The research team that carried out the research in Ghana reported that in the two projects included in the assessment no activities related to the promotion of sanitation were carried out.

Health research from all over the world has shown that four interventions are key to improved health as a result of water supply:

- safe water collection, storage and use;
- hygienic disposal of excreta;
- washing hands before touching food;
- safe disposal of household waste.

Efforts of projects to improve health and reduce water-related diseases therefore only succeed if appropriate hygiene and sanitation programmes accompany water schemes.

Resources and Events

Publications

A Sourcebook of Materials on Environmental Health - IIRR

People are not often aware of the hidden dangers in the environment they live in. These problems demonstrate the need for relevant materials confronting such issues in their day-to-day work. To assist development workers in finding relevant materials in these areas the International Institute of Rural Reconstruction (IIRR) in the Philippines has recently published *Environmental Health: A Sourcebook of Materials*.

This publication is a compilation of articles on environmental issues affecting health and quality of life in general. It is based on a wide range of previously published materials drawn from bilateral and multilateral agencies, individual writers, non-governmental organizations and the global press. The sourcebook contains 68 topics useful for trainers, program managers and rural development institutions. The sheets are grouped into seven major areas of which part 1, Environmental health concepts and part 4, Water, sanitation and water-related health problems are the most relevant for Source Bulletin readers.

Each sheet presents a single issue on environmental health. The sheets can be reproduced and distributed in a training session. Each topic is presented in easy to understand language and fully illustrated. Many of these materials were used as handouts in training courses at the IIRR.

The production of this sourcebook was funded by the German Institut für Internationale Zusammenarbeit des Deutschen Volkshochschul-Verbandes (IIZ/DVV).

Price: P250 or US\$13 (excluding postage)

International Institute of Rural Reconstruction, Y.C. James Yen Centre, Silang, Cavite 4118, Philippines, Fax: 63 46 414 2420, E-mail: iirr@cav.pworld.net.ph

Alaerts, G.J.; Hartvelt, F.J.A. and Patorni, F.M. (1999). **Water sector capacity building: concepts and instruments**. Rotterdam, The Netherlands, A. A. Balkema Publishers, 574 pp, ISBN 90 5410 421X, Price: EUR 84 / US\$ 90

This volume contains the papers and the outcome of workshops of the second UNDP Water Sector Capacity Building Symposium in Delft in 1998. The book reviews field experiences and discusses the tools and approaches used in capacity building in the water sector. The contributions make a specific attempt to discuss capacity building as a means and to guide sector and policy reform. Includes 27 papers of which IRC and CINARA produced the following: *Resource Centre Development for Water Sector Capacity Building and Capacity Building through Holistic Joint Learning Projects*.

Available from: A. A. Balkema Publishers, P.O. Box 1675, Rotterdam, The Netherlands, fax: +31-10-4135947, E-mail: sales@balkema.nl

Events

6-10 March 2000 - **HTN Workshop on Civil Society and Government Partnership in Rural Water Supply**, Hyderabad, Andhra Pradesh, India

Organized by SKAT in collaboration with UNICEF. Topics: community based DRA projects, standardization policies, private sector involvement, decentralization of implementation and maintenance; environmental issues of water resource management and water quality.

Contact: Erich Baumann or Karl Erpf, HTN Secretariat, SKAT, fax: +41-71-2285455, E-mail: erich.baumann@skat.ch or E-mail: karl.erpf@skat.ch, <http://www.skat.ch/htm/>

9-12 April 2000 - **International Symposium on Integrated Water Resources Management**, Davis, CA, USA

Organized by: University of California, Davis. Topics include: systems thinking and water resources (sustainability, policy); innovative water resources management; hydrologic extremes and related social issues; water science and its role in water management; integrated river basin planning; and integrated management of water quality & quantity with ecosystem protection. URL: http://www.cevs.ucdavis.edu/ces_pages/Conf.cfm?EventID=15

Contact: Prof. Miguel A. Marino, fax: +1 530 7525262; E-mail: mamarino@ucdavis.edu

5-9 June 2000 - **6th World Congress on Environmental Health: "Healthy Environments - The Local Challenge"**, Oslo, Norway

Organized by: International Federation of Environmental Health (IFEH). URL: <http://www.fmh.no/ifeh/index.htm>

Contact: Congress Secretariat, IFEH World Congress 2000 plus Convention Norway, fax: +47-67564480, E-mail: fmh@plus-convention.no

News in Brief continued

Asian Development Bank Approves Poverty Reduction Strategy

The Asian Development Bank (ADB) has approved a new poverty reduction strategy to help eradicate extreme poverty affecting 900 million people in Asia and the Pacific. The three pillars of the new strategy are: pro-poor, sustainable economic growth; social development; and good governance. At least 40% of all ADB's public sector lending will be for poverty interventions. In infrastructure, priority will be given to rural roads and electrification, small and medium enterprises, water supply and sanitation programs. The ADB intends to work more closely with local governments and NGOs.

Contact (press inquiries): Ian A. Gill, igill@mail.asiandevbank.
[ADB News Release, 9 November 1999]

Names in the News

Two new staff members have joined IRC recently. The first, **Ms. Marielle Snel**, has been recruited as a Programme Officer, starting on 1 December 1999. Ms. Snel is an urban and regional planner with a Ph.D. from the University of Sussex, specializing in solid waste management. Her last appointment was as a research associate at the Water, Engineering and Development Centre (WEDC) in the UK.

As of 1 February 2000 **Mr. Patrick Moriarty** will join IRC as a Project Officer. He has an MSc in Environmental Technology from Imperial College London. Since October 1995 Mr. Moriarty has been managing the UK Institute of Hydrology's "Romwe Catchment Project", investigating integrated water resource management and community water supply in Masvingo province Zimbabwe.

New Research Associates at IRC are: **Deirdre Casella** and **Catarina Fonseca**.

7-9 June 2000 - 4th Biennial Congress of the African Division of the International Association for Hydrologic Engineering and Research: "Conserving and Sharing Water Resources in a Water Scarce Environment", Windhoek, Namibia

Topics include: groundwater supplies, water demand management, desalination, wastewater treatment, rain harvesting, the sea as a source, international cooperation and environmental problems in arid countries.

Contact: Kai A.H. Lund, Congress Chairman, Lund Consulting, PO Box 3106, Windhoek, Namibia; fax: +264-612-3478, E-mail: lce@lce.com.na

Training Courses

FAO Regional Office for the Near East, Cairo, Egypt

2nd Training Course on Policy Issues in Water Demand Management and their Implementation, February 2000, Beirut, Lebanon

Organized in collaboration with ESCWA and an appropriate local institution. Topics: Water, food security and trade; Improving water use efficiency; Appropriate pricing / cost recovery; Environmental and legislation issues; and Decentralization. URL: http://www.idrc.ca/waterdemand/news_c.html#FAO

Contact: Dr. Mahmood Ahmad, Course Coordinator, fax: +20-2-3495981, 3378563, E-mail: Mahmood.Ahmed@field.fao.org

NETWAS and IRC, Nairobi, Kenya

Hygiene Education and Promotion, 27 March - 14 April 2000, Nairobi, Kenya (3 weeks)

Target Group: Hygiene promotion staff, planners & managers of integrated projects, trainers.

Course Topics: Relation between water, sanitation & health; Research methodologies for validation of health risks & understanding behaviour; Technical pre-conditions for hygiene promotion; Gender-sensitive approaches; Setting objectives & developing indicators; Programme/field level planning & implementation; Communication methods & techniques; and Monitoring & evaluation. Fees: US\$ 2,250 (EUR 2,160) + full board US\$ 800 (EUR 770). URL: http://www.irc.nl/products/training/hyg_ke.html

Contact: NETWAS, fax: +254-02-890553/4, mailto:net-trs@nbnet.co.ke or E-mail:netwas@nbnet.co.ke

Centro de Formação Profissional de Águas e Saneamento (CFPAS) and IRC

Gestão da Operação e Manutenção de Abastecimento de Água Potável e Saneamento Rurais (Management of Operation and Maintenance Systems for Rural Water Supplies), 14 February - 4 March 2000 (3 weeks), Maputo, Mozambique

This is a recurrent course established as the product of an agreement of the Water Supply and Sanitation Collaborative Council (WSSCC) Operation and Maintenance Network (OMN) and the Lusophone Initiative. It uses training material prepared in partnership by the World Health Organization (WHO) and IRC.

Target group: Engineers, planners, social workers and other professionals from Portuguese speaking African countries. Topics include: O&M issues in program planning and capacity building; O&M planning models & strategies; O&M tools and methods; management options for water supply systems; Monitoring; and; Training of trainers. Course fee: US\$ 3,200 (EUR 3,140). URL: http://www.irc.nl/igpt/training/om_mz.html

Contact: CFPAS, Av. do Trabalho, 1441 - Caixa Postal 2862, Maputo, Mozambique, tel.: +258-1-400193/404445, fax: +258-1-400168, E-mail: peccfp@sortmoz.com

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a new Vision:
May 2000 be a SOURCE
of health and happiness
to all our readers*

Staff of the WSSCC and IRC

Colophon

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