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MEETING ON INFORMATION MEDIA  
FOR THE  
INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE

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Ross Institute of Tropical Hygiene  
London School of Hygiene and Tropical Medicine  
London, United Kingdom

29th November, 1979

TENTATIVE AGENDA

1. Opening at 11.00 hours
2. Introduction of discussion paper
3. Discussion on information media and in particular:
  - newsletter
  - specific directories and guides
  - abstract journal
  - professional loose leaf journal
  - community water supply and sanitation journal
4. Miscellaneous
5. Working lunch
6. Discussion on division of tasks/agreements and follow-up
7. Close of meeting at approximately 16.00 hours

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## MEETING ON INFORMATION MEDIA FOR THE INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE

Ross Institute of Tropical Hygiene  
London School of Hygiene and Tropical Medicine  
London, United Kingdom

29th November, 1979

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INFORMATION MEDIA FOR THE DECADE

A DISCUSSION PAPER

26th November, 1979

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## ANNEXES

1. IRC Newsletter
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6. The POETRI abstract journal
7. Loose Leaf Journal (English)
8. Loose Leaf Journal (French)
9. Copy fiche GRET

## 1. INTRODUCTION

With the International Drinking Water Supply and Sanitation Decade on its verge, the need for appropriate information on community water supply and/or sanitation is increasing rapidly.

Recognizing this need, several organizations are considering either to adapt current publications to meet this relatively new demand or to start publishing new information dissemination media.

It would seem both useful and practical to join forces when developing these new initiatives as an integrated information dissemination package. Besides, in this way the various communication means used would reinforce each other.

In order to focus the discussion, the present paper concentrates on periodical information media. Monographic media such as technical papers, occasional publications, monographs, etc. may need a separate discussion.

Moreover, the paper mainly deals with technical information on drinking water supply and sanitation in developing countries. The topic of public information services is a different issue again and is only partly covered.

The paper subsequently discusses:

- newsletter services;
- special directories and guides;
- an abstract journal;
- a loose leaf journal;
- a journal in magazine format.

For each issue the relative importance in the "overall package" is indicated as well as the current or planned activities concerned by the various organizations. Where appropriate, some suggestions for new action have been given.

It is suggested that, following consultations during the meeting on "information media for the international drinking water supply and sanitation decade", these suggestions (adapted where appropriate) be elaborated and submitted as fundable proposals for consideration by the Steering Group of UN agencies collaborating in the Decade and the Consultative meeting of donors for the Decade.

## 2. NEWSLETTER

A newsletter presents a relatively large number of news items in a concise manner. When issued, monthly, the "news value" of the items presented is rather high.

Because of the limited space available, no in-depth information can be offered. In general, reference is made - at the end of each item - to the originator of the information, in order to enable the interested reader to request further details directly "at the source".

A newsletter has a number of advantages over other written media (such as a journal):

- its readers get much information in a short reading time;
- its readers can have direct contact with a source of information, if they need further specific details;
- its production and distribution costs are relatively low, or even very low when compared with a journal;
- its production period is very short; therefore topicality is ensured;
- it can reach relatively easily a large number of readers and has a high degree of "penetration" into developing countries, e.g. field workers of middle and lower level;
- it performs both a technical and a public (including promotion) information function.

Limitations may be:

- the limited amount of space available per item. Therefore, the completeness of the information presented risks being limited as well;
- it may take quite some time before more extensive information when asked for at the origin, is actually received.

A number of newsletters on rural and peri-urban water supply and sanitation in developing countries is being published by various organizations; at present, the most relevant are:

(a.) ENFO Newsletter, published by ENSIC (AIT), Bangkok.

This publication is primarily meant to update the ITDG publications/current bibliography "Low Cost Technology Options for Sanitation" and covers mainly a subject field



similar to that title.

At present approximately 500 copies are issued quarterly; the ENSIC Newsletter is published in English.

(b.) From the Waterfront, published by UNICEF.

This newsletter is primarily issued for UNICEF field staff. Published in English (in 3-400 copies; irregular, i.e. 5-6 times a year), it covers both the community water supply and sanitation field.

(c.) Various newsletters - such as Appropriate Technology for Health (WHO) - so carry items on community water supply and/or sanitation for developing countries from time to time.

(d.) IRCWD News, published by the WHO International Reference Centre for Wastes Disposal.

English only, circulation unknown.

(e.) IRC Newsletter<sup>1</sup>, - covering Community Water Supply and Sanitation, mainly in developing countries - published monthly in over 20.000 copies in English, French and Spanish<sup>2</sup> in more than 100 countries.

Preparations are being carried out to issue the IRC Newsletter - in a more comprehensive form - as "Decade Newsletter" from January 1980 onwards.

In the format shown in Annexes 2 and 3, it will be issued monthly in English, French and Spanish<sup>3</sup>. Its scope will continue to be community water supply and sanitation in developing countries, presenting short items on new developments in the sector, new relevant publications, programme and project experiences in developing countries as well as forthcoming events (e.g. conferences, workshops, courses).

The number of pages will - in principle - be tripple, as compared with the present newsletter (see annex 2).

Provided that sufficient editing staff will be available, ex-

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<sup>1</sup> See annex 1

<sup>2</sup> Spanish translation (and printing and distribution) by CEPIS, Peru.

<sup>3</sup> Translation into Arabic and Russian (not included in present budgets) is being considered

tensive news acquisition activities will be carried out. This will include, at least, very actively and regularly approaching UN agencies and other organizations (e.g. bilaterals) for items. The Newsletter will be actively promoted; it is expected, that its present circulation of 20.000 copies will grow to approximately 30.000 in 12 months. This figure is based on the present growth rate (occurring without active promotion).

The Newsletter will not only be distributed through IRC and CEPIS. Gradually, all POETRI<sup>1</sup>-focal points will start and play an active role in the distribution (and, of course, compilation) of the Newsletter.

Furthermore, possibilities will be investigated to establish "correspondent agreements" with relevant entities. For instance, WHO contributes news items regularly and UNICEF has offered "Waterfront" as a valuable source of information.

### 3. GUIDES AND DIRECTORIES .

The compilation of specific information/data holdings would be a further support to community water supply and sanitation programmes and projects in developing countries.

A predominant example would seem an inventory of past and current research and research in retrospective in the community water supply and sanitation field. The availability of data on such research would prevent double efforts, as well as loss of scarce time and money. It will also facilitate the identification of gaps in information on specific topics.

Other files could include systematically organized information on:

- information sources and/or centres;
- donor organizations;
- engineering firms;
- (local) manufacturers;
- schools and courses;
- fellowships and scholarships.

Effective handling, accessibility and preparation of various indexes of this information would necessitate computerization.

Data collection would seem viable through the IRC Newsletter, complemented by inventory carried by POETRI-centres. One example of a questionnaire - prepared for an inventory of research projects and prepared in POETRI-context - is shown in Annex 5.

A guide on "How to find information on community water supply and sanitation" for use by field staff in developing countries is in preparation in the context of POETRI.

#### 4. ABSTRACT JOURNAL

An abstract journal provides access to documentation through indexes (keywords, author, geographic indicators, etc.) and - of course - indicative or descriptive abstracts.

One limitation of such a journal is apparent: no direct access to documents is provided.

However, through well prepared abstracts each issue of an abstract journal allows for a selective choice from quite a large number of relatively relevant documents.

The assets of such an abstract journal, when cooperatively prepared by centres in developing countries, include:

- it attracts attention to documents in those countries, which otherwise would remain known only within a particular country or probably within a far smaller area;
- this attention is not limited to one language area only, when the journal's keyword indexes will be prepared by using the multilingual (English, French, Spanish) POETRI<sup>1</sup> -thesaurus of community water supply and sanitation terms;
- above-indicated attention may provide community water supply and sanitation centres with a possibility to sell documents produced within their respective countries (in hard copy or photocopy) to quite a broad audience;
- a large gap is being filled: no abstract journal in the community water supply and sanitation field exists, apart from some abstracts presented irregularly by the ENSIC and IRCWD Newsletters (in English only).

The IRC is preparing the first issue of a quarterly community water supply and sanitation abstract journal<sup>2</sup>, planned for 1980. Annex shows the final draft of the guidelines for preparation of contributions to the journal; reference is made to this draft manual - which has been reviewed by various participating

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<sup>1</sup> A general description of POETRI, Programme on Exchange and Transfer of Information, can be found in Annex 4.

<sup>2</sup> See sample of cover shown in Annex 6.

centres - for a description of background, objectives, etc. of this project. The contents of all further issues will be prepared by institutes (almost all of which participate in POETRI).

The abstract journal will be available through National Focal Points of POETRI (non-profit/subscription cost, plus - possibly - overhead) and the IRC (non-profit/subscription cost only).

## 5. LOOSE LEAF JOURNAL

In order to provide the target group, which is most in need of more appropriate information (viz. field staff in developing countries) with more comprehensive information on specific subjects, a loose leaf journal would seem an adequate solution.

Such a loose leaf journal will have a number of advantages:

- each issue will be directly relevant to the majority of its readers; full fledged journals tend to be made for a broad readership. therefore being of an "average relevancy" and distributing quite some publicity material;
- it will provide for an opportunity to deal with specific subjects in a more in-depth way than newsletters;
- it will reach a great deal more readers than a (much more expensive) journal;
- its production period will be far shorter<sup>1</sup> than that of journals<sup>2</sup> (news value); therefore, relevant articles.

Its limitations may be, that:

- if no use can be made of re-prints of articles from (a) full journal(s)<sup>3</sup>, production is relatively expensive;
- no income is received from advertising;
- quite some staff is needed, if it is not produced in combination with a journal/magazine.

At present, no loose leaf journals exist in the community water supply and sanitation field. The only initiative in this direction is a (non-published) informal proposal<sup>4</sup> on a possible serial publication in the rural water supply<sup>5</sup> field, tentatively called "RWS Sector Notes". Baldwin's proposal states that "the type of publication suggested would not duplicate anything now being done. The nearest thing I have come across would be IRC's "Practical Solutions", UNESCO's green loose leaf manual

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<sup>1</sup> 1.5 - 3 months

<sup>2</sup> 6 - 9 months

<sup>3</sup> The World Water reprint of an article on POETRI (annex 4) is an example of relatively cheap "re-use"

<sup>4</sup> By George B. Baldwin, World Bank.

<sup>5</sup> The proposal explicitly excludes "sanitation" as a potential subject to be covered.

entitled "Studies and Reports in Hydrology", and the Ross Institute's "Occasional Bulletins"<sup>1</sup>.

A prototype copy of a loose leaf journal has been prepared for review and comments<sup>2</sup>. Initially, issues would contain one or two articles; they would be published bi-monthly and distributed - in English, French and Spanish - free of charge, possibly together with the IRC Newsletter. As soon as possible<sup>3</sup>, special issues may be distributed to certain categories of Newsletter readers.

Manpower and budget requirements should be calculated following two alternatives (a. "isolated" production; b. production combined with journal, allowing - for instance - for use of shared editorial staff and re-prints). Costs are considerably lower when following the latter approach.

In both cases this would result in the publication of 6 issues per year, in three languages, total circulation (1980) 20.000 copies per issue.

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<sup>1</sup> Baldwin does not mention the loose leaf appropriate technology pamphlet series (only seldom dealing with community water supply and/or sanitation), published and distributed by GRET, Paris, France; a sample is shown in annex

<sup>2</sup> See annex 7 and 8, presenting Vol. 1, No. 1

<sup>3</sup> This will necessitate computerized handling of mailing

## 6. JOURNAL (MAGAZINE FORMAT)

The need for an improved communication of technical information on water supply and sanitation in developing countries including social, institutional, organizational and financial aspects can be partly satisfied by a journal in a magazine format.

Some limitations of a magazine as compared to a loose leaf journal (e.g. a relatively limited circulation, particularly within developing countries) have been listed earlier in Chapter 3.

A magazine on drinking water supply and sanitation in developing countries however, also has certain advantages that may give room to such a publication next to and preferably in relation with a loose leaf journal, e.g.

- for certain groups of readers a magazine may be a more suitable medium than a loose leaf journal, e.g. for libraries, universities, research institutes, consultancy firms, water undertakings, etc.

Also for operating agency staff in developing countries at the planning and programming level level as well as for international entities and donors, a magazine may be easier to handle and to read.

- In a magazine, technical information on the design, construction, operation and maintenance, and management of drinking water supply and sanitation schemes can be combined with other types of information such as: news on research and development studies; contracts, tenders and loans; news from manufacturers; information on conferences, meetings, etc. and specific country news.

- through advertisements and payments from subscribers a magazine may become self-supporting after a number of years.

At present there are various journals that partly and/or irregularly cover the drinking water supply and sanitation field for developing countries.

A comprehensive appraisal of the most relevant - mainly English - journals (and newsletters) has been made by ITDG, in response



to a request from IDRC<sup>1</sup>. The general conclusion is, that there is only a periodical entirely devoted to community water supply and sanitation in developing countries and that there is ample scope for a new journal, complementing the existing services.

Among the existing journals, the most relevant for the international drinking water supply and sanitation Decade are:

- (a) Ingeniería Sanitaria (Spanish) Rio de Janeiro,  
Asociación Interamericana de Ingeniería Sanitaria y Ambiental (AIDIS) Brazil

Sanitary engineering relevant to developing countries with emphasis on Latin America.

- (b) Appropriate Technology (English) London,  
Intermediate Technology Publications United Kingdom  
Ltd.

Agriculture, housing, construction, solar energy, water supply, sanitation, etc.

- (c) Acqua (English/French) London,  
International Water Supply Association United Kingdom  
(IWSA)

Water supply occasionally relevant to developing countries.

- (d) Indian Journal of Environmental Health (English)  
National Environmental Engineering Research Institute (NEERI) Nagpur, India

Water supply and sanitation relevant to developing countries with particular emphasis on India; very limited circulation outside of India.

<sup>1</sup> "Possibilities for a New Water Supplies and Sanitation Journal for Developing Countries", a report by F. Solomon and P.H. Stern, ITDG, April 1977.

- (e) Journal of the Indian Water Works Association (English) Bombay, India  
Indian Water Works Association  
Water supply relevant to developing countries with particular emphasis on India.
- (f) Water Supply and Management (English) New York, USA  
Pergamon Press  
Water supply occasionally relevant to developing countries. Includes irrigation and water resources.
- (g) World Water (English) London,  
Institute of Civil Engineers United Kingdom  
Water supply. Also relevant to developing countries. Includes water resources and irrigation.

Following the ITDG study, a prototype copy of a new journal - entitled "Waterlines" - has been sent by IDRC to approximately 200 organizations for review and comment. Approximately 20% have responded, in general in a positive sense. IDRC's present thinking on the journal is reflected in the attached telex, prepared for the purpose of the present meeting on information media for the Decade.

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believe results of your meeting important input for idrc discussions re publication of waterlines. need for new publication dealing with appropriate technologies for w. s.s. in rural and fringe urban areas demonstrated by positive responses to our prototype survey.

idrc's present thinking:

1. readership: professional and technical personnel including field staff involved in project conception, development and implementation in developing countries.

11. content: articles should reflect developing countries needs and priorities, should focus on low cost potable water supplies and sanitation technologies not excluding socio-economic and cultural factors. journal should also contain evaluations/results of current development programs, letters to the editors, new publications, meetings etc.

111. format and presentation: use of lightweight cover and paper in a-4 format preferred to minimize production and mailing cost. concise articles written in clear basic language level illustrated by simple line drawings.

iv. articles contributions: majority of articles preferably written by field practitioners in or from developing countries.

v. editorial board: mixture of representatives from international and developing countries organizations involved in w.s.s. programs. majority should be from developing countries.

vi. language of publication: original intention was to start up with english edition and to produce a spanish and french version (translation) in fourth year. now believe spanish and french editions should contain majority of articles written by local contributors to reflect regional priorities and needs.

vii. place of publication: idrc would prefer journal production in a developing country. this is in line with idrc's board of governors guidelines. new journal production should be attached to existing technical organization for technical backup with access to adequate publishing infrastructure for production and distribution.

viii. funding: idrc can only provide start up funds for journal. no long term support. highly unlikely new publication will be self-supporting within two to three years. idrc's decision to support waterlines depends on identification of appropriate institution as per above and assurances of continued support.

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## newsletter

Newsletter No. 101 - August 1979

### Bangladesh

#### DEVELOPMENT OF SIMPLE PVC HAND PUMP

A simple PVC hand pump is being developed in Bangladesh by the Mennonite Central Committee with CARITAS and UNICEF assistance. The pump (tentatively called the "Rower" pump) is inclined at an angle of approximately 30° from horizontal. This enables the piston rod to be pushed and pulled directly; no pins or levers are required. The piston valve consists of a rubber disc secured in the centre, and sealing on a perforated metal disc. The foot valve has a rubber flap closing a 1½ inch (4 cm) diameter opening. The pump is being tested for durability and further improvement. Initial results indicate that the "Rower" pump enables a man to lift water at a rate about 50% higher than with a No. 6 (MOSTI) pump, commonly used in Bangladesh, at a suction lift of 4.5-6 m. Further information: Mennonite Central Committee, Box 13, Noakhali District, Bangladesh.

### Canada

#### WATER QUALITY SOURCEBOOK

The Inland Waters Directorate of the Water Quality Branch, Ottawa, Canada, has published the *Water Quality Sourcebook: a guide to water quality parameters*. The authors, R.N. McNeely, U.P. Neimanis and L. Dwyer discuss the water quality parameters that are monitored on Canada's major surface waters for a number of years and stored on NAQUADAT the data processing system of the Water Quality Branch. Further information: Inland Waters Directorate, Water Quality Branch, Burlington, Ontario, Canada.

### India

#### REPAIR KITS FOR HAND PUMPS

The IRC has recently received two reports on repair kits for hand pumps from D.S. Ravi Kumar, Hyderabad, India. They are: excerpts from the project report *Tooling for Deepwell Hand Pump Repair*, submitted to the Department of Mechanical Engineering, M.S.R. College of Engineering, Bangalore, India and *Report on Repair Kits for the India Mark II Pump*. The first report identifies the problem of repair in a general manner i.e. maintenance and repair, the requirements of low cost tooling, and the type of tooling suggested (portable tripod stand, automatic clamp, efficient hoist). The emphasis is on reducing the number of workmen and to replace the traditional vice with an automatic clamp to eliminate manual interference and accidents. The aspect of recovery kits has been mentioned only to state the importance of the problem. The second report provides descriptions and drawings of a portable tripod stand, two types of clamps (pipe holders or vices, one automatic and self-locking and the other semi-automatic and self-locking), and a recovery tool with external grip on the pipes. It has been described in the report how to make tools for both the 1½ inch and 1¼ inch drop pipe. Further information: Mr. D.S. Ravi Kumar, 3-6-369-A/11, St. No. 1, Himayatnagar, Hyderabad, India.

#### ION REMOVAL IN LOCAL MATERIAL

Serpentine is a yellow or green mineral found in Andhra Pradesh which contains magnesium hydroxy silicate. It was observed that the mineral has appreciable adsorptive capacity to retain heavy metals. Experiments are described in which iron, manganese, copper, arsenic, lead and cadmium are removed when test waters containing these ions were passed over a column of crushed mineral. Reference: *Indian Journal of Environmental Health*, Vol. 20, No. 4, 413-419, 1978.

### Sudan

#### NATURAL WATER COAGULANTS

A traditional water coagulant in rural areas in the Sudan is the powdered seed of *Moringa oleifera* Lam. The properties of this coagulant are compared with those of alum, powdered root of *Maerua pseudopetalosa* and a mixture of *Hibiscus sabdariffa* L. seeds and soda. In the April 1979 issue of *Water SA* (pp. 90-96), S.A.A. Jahn and H. Dirar report on a study of natural water coagulants in an article entitled *Studies on Natural Water Coagulants in the Sudan, with Special Reference to Moringa Oleifera Seeds*. Moringa seeds act as a primary coagulant and

compare favourably with alum with respect to rate of reaction and decrease of turbidity of the treated water. Some preliminary studies on the identification of the coagulating principle are also discussed. Moringa seeds are in use as a folk medicine and as a food, so it is unlikely that they contain any toxic substances. There exists evidence that *Maerua pseudopetalosa* is toxic although this needs further investigation. The total bacterial count of the raw water was initially reduced after coagulation with Moringa seeds, but increased subsequently. The results of the use of the seeds are also compared with those obtained with coagulants of clay origin. Reference: *Water SA*, Vol. 5, No. 2, April 1979.

#### United Kingdom

##### WATER RESEARCH PROGRAMME

In its 1979/1980 research programme, the Water Research Centre (United Kingdom) will reassess conventional water treatment in relation to its performance for the removal of health related contaminants. Of particular importance are the removal of hazardous trace organics and the removal of natural colour, a trahalomethane precursor, from low turbidity waters. In the Centre's disinfection programme, all possible disinfectants and the manner of application will be examined in the search for a disinfection system that minimises the production of health-related chemicals. A survey will be conducted to determine the extent of the small source disinfection problem. An assessment of commercially available products will be made and, where necessary, the development of suitable equipment will be initiated. Further information: Water Research Centre, Medmenham Laboratory, P.O. Box 16, Marlow, Bucks. SL7 2HD, United Kingdom.

#### World Bank

##### SOLAR POWERED PUMPING STUDY

The World Bank has been appointed Executing Agency for a project on Testing and Demonstration of Small-Scale Solar Powered Pumping Systems, financed by the United Nations Development Programme. In this U.S. \$1.1 million study, which will last two years, as of June 1978, small solar-powered water pumping systems designed to irrigate small farms up to one hectare in size, will be tested in India, Mali, Sudan and the Philippines in photo-voltaic electric and solar thermal systems in the 200-300 W and 1-2 kW range respectively. Besides field testing and demonstration, market surveys and feasibility of manufacture will be investigated. While water provided by these systems is still high in costs, it is expected that the cost of solar collectors which can represent more than 90% of the total cost would go down with increased efficiency. Further information: World Bank, 1818 H. Street, N.W., Washington, D.C., 20433, U.S.A.

#### New Publications

##### NTIS SEARCH ON SEPTIC TANKS AND HOUSEHOLD SEWAGE

The National Technical Information Service (NTIS) of the U.S. Department of Commerce has published a bibliographic search entitled *Septic Tanks and Household Sewage Systems, Design and Use*. The search covers the period 1964 to May 1979. All citations are extracted from the NTIS data base. Further information: National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, U.S.A.

#### Meetings

The Water Research Centre (United Kingdom), in collaboration with the University of Manchester Institute of Science and Technology (UMIST), is organizing an international conference on Biological Fluidised Bed Treatment of Water and Wastewater to be held in April 1980. Contributions have been invited from leading experts in the United Kingdom, U.S.A., Canada, Australia and South Africa. The latest work at WRC and UMIST will be described and there will be opportunity to visit one or two large pilot plants. Facilities for poster papers will be provided at the conference. The conference programme will include papers on: removal of nitrate and ammonia from water; treatment of sewage in fluidised beds; workshop on basic principles of fluidised beds; treatment of industrial wastewater; process economics; denitrification of concentrated industrial wastes. Further information: the Conference Organizer, Water Research Centre, Medmenham Laboratory, P.O. Box 16, Marlow, Bucks. SL7 2HD, United Kingdom.



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## faits nouveaux

Faits Nouveaux No. 101 - août 1979

### Banladesh

#### DEVELOPPEMENT D'UNE POMPE A BRAS SIMPLE EN PVC

Une pompe à bras simple en PVC est en cours de développement au Bangladesh par le Comité Central Mennonite avec le soutien de CARITAS et de l'UNICEF. Cette pompe (appelée expérimentalement la pompe "Rower") est inclinée à un angle d'environ 30° de l'horizontale. Ce qui permet à la tige du piston d'être poussée et tirée directement; axes ou leviers ne sont plus nécessaires. La valve du piston consiste en un disque de caoutchouc assujéti au centre et une obstruction sur un disque en métal perforé. La valve du socle a un clapet en caoutchouc se fermant avec une ouverture de 1½ inch (4 cm) de diamètre. La pompe est en cours d'essai quant à sa durabilité et son amélioration ultérieure. Des résultats initiaux indiquent que la pompe "Rower" permet à un homme de monter de l'eau à une vitesse environ 50% plus grande qu'avec la pompe No. 6 (MOSTI), couramment utilisée au Bangladesh, à une hauteur d'aspiration de 4.5-6 m. Plus amples renseignements: Comité Mennonite, B.P. 13, Noakhali District, Bangladesh.

### Canada

#### LIVRE DE REFERENCE SUR LA QUALITE DE L'EAU

Le Conseil d'Administration des Lacs Intérieurs de la Branche Qualité de l'Eau, Ottawa, Canada, a publié un *Livre de Référence sur la Qualité de l'Eau: un guide de paramètres sur la qualité de l'eau* (paru en Anglais). Les auteurs, R.N. McNeely, U.P. Neimanis et L. Dwyer traitent des paramètres de la qualité de l'eau qui sont contrôlés sur la surface des lacs principaux pour un nombre d'années et emmagasinés dans NAQUADAT, le système de données d'informatique de la Branche Qualité de l'Eau. Plus amples renseignements: Conseil d'Administration des Eaux Intérieures, Branche Qualité de l'Eau, Burlington, Ontario, Canada.

### Inde

#### FOURNITURE DE REPARATION POUR POMPES A MAIN

Le CIR vient de recevoir deux rapports sur des fournitures de réparation pour pompes à main provenant de D.S. Ravi Kumar, Hyderabad, Inde. Ces deux rapports (publiés en Anglais) sont extraits du rapport de projet *Outillage pour réparation de pompes à main pour puits profonds*, soumis au Service de Génie Mécanique, Collège d'Ingénierie M.S.R., Bangalore, Inde, et du *Rapport sur les fournitures de réparation pour la pompe Inde Mark II*. Le premier rapport identifie le problème de réparation d'une façon générale, c'est-à-dire l'entretien et la réparation, les exigences d'outillage à bas prix et le type d'outillage suggéré (support trépied portatif, collier de serrage automatique, levage efficace). L'accent est mis sur la réduction du nombre des ouvriers et sur le remplacement de l'étau traditionnel par un collier de serrage automatique pour éliminer l'intervention manuelle et les accidents. Le sujet fournitures de réparation y est mentionné seulement pour établir l'importance du problème. Le second rapport fournit des descriptions et des dessins d'un support trépied portatif, deux types de colliers (porte-tuves ou étaux, l'un automatique et se bloquant par lui-même et l'autre semi-automatique et se bloquant par lui-même) et un outil de réparation avec pince externe sur les tubes. Dans le rapport se trouve décrit comment faire les outils utilisés pour les tubes descendants de 1½ et 1¾ inch. Plus amples renseignements: M. D.S. Ravi Kumar, 3-6-369-A/11, St. No. 1, Himayatnagar, Hyderabad, Inde.

#### ELIMINATION D'IONS DANS MATIERE LOCALE

La Serpentine est un minéral jaune ou vert contenant du silicate de magnésium hydraté que l'on trouve au Andhra Pradesh. On a observé que ce minéral a une appréciable capacité absorbante pour retenir les métaux lourds. Des expériences sont décrites où du fer, du manganèse, du cuivre, de l'arsenic, du plomb et du cadmium sont éliminés quand les eaux d'expérience contenant ces ions sont passées à travers une colonne de serpentine pilée. Référence: *Indian Journal of Environmental Health* (Revue Indienne de la Santé en Matière d'Environnement), Vol. 20, No. 4, page 413 à 419, 1978.

## Soudan

### COAGULANTS D'EAU NATURELS

La graine de Moringa oleifera Lam. en poudre est un coagulant d'eau traditionnel dans les régions rurales du Soudan. Les propriétés de ce coagulant sont comparées à celles de l'alun, de la racine de Maerua pseudopetalosa mise en poudre et d'un mélange de graines de Hibiscus sabdariffa L. et de carbonate de sodium. Dans le numéro d'avril 1979 de *Water SA* (de la page 90 à 96), S.A.A. Jahn et H. Dirar rapportent une étude de coagulants naturels d'eau dans un article intitulé *Etudes de Coagulants Naturels d'Eau au Soudan, tout particulièrement des graines de Moringa Oleifera.* Les graines de Moringa agissent comme un coagulant primaire et se comparent favorablement avec l'alun en ce qui concerne le taux de réaction et la diminution de turbidité de l'eau traitée. Quelques études préliminaires sur l'identification du principe coagulant y sont aussi discutées. Les graines de Moringa sont utilisées comme médicament de tradition populaire et comme nourriture; il est donc improbable qu'elles contiennent des substances toxiques. Il est prouvé que la Maerua pseudopetalosa est toxique quoique cette affirmation demande des recherches plus poussées. Le compte bactériel total de l'eau brute fut au début diminué après coagulation avec des graines de Moringa, mais il augmenta ultérieurement. Les résultats de l'utilisation de ces graines sont également comparés avec ceux obtenus de coagulants d'origine argileuse. Référence: *Water SA*, Vol. 5, No. 2, avril 1979.

## Royaume-Uni

### PROGRAMMES DE RECHERCHES SUR L'EAU

Dans son programme de recherches sur l'eau pour 1979/1980, le Centre de Recherche de l'Eau (Royaume-Uni) révisera le traitement conventionnel de l'eau en rapport avec son rendement pour l'élimination d'impuretés se rattachant à la santé. L'élimination de produits organiques en trace dangereux et l'élimination de couleur naturelle, un dérivé précédent trihalométhane des eaux à faible turbidité, est d'importance particulière. Dans le cadre du programme de désinfection entrepris par le Centre, tous les désinfectants possibles et leur manière d'application seront examinés pour rechercher un système de désinfection qui réduise au minimum la production de produits chimiques se rapportant à la santé. Une investigation sera effectuée pour déterminer l'extension du problème de petite origine. Une appréciation des produits disponibles commercialement sera faite et, quand nécessaire, le développement d'équipement adéquat sera entrepris. Plus amples renseignements: Water Research Centre, Medmenham Laboratory, B.P. 16, Marlow, Bucks. SL7 2HD, Royaume-Uni.

## Banque Mondiale

### ETUDE DE POMPAGE ACTIONNE PAR L'ENERGIE SOLAIRE

La Banque Mondiale a été désignée comme Agence Exécutive pour un projet sur Essai et Démonstration de Systèmes de Pompage à Petite Echelle Actionnés par l'Energie Solaire, financé par le Programme de Développement des Nations Unies. Dans cette étude de 1.1 millions de dollars américains qui durera deux ans à compter de juin 1978, de petits systèmes de pompage d'eau actionnés par énergie solaire conçus pour irriguer de petites fermes d'une superficie allant jusqu'à un hectare, seront testés en Inde, au Mali, au Soudan et aux Philippines en systèmes photo-voltaïques et thermaux solaires, respectivement s'échelonnant de 200 à 300 W et de 1 à 2 kW. A côté des test sur place et des démonstrations, auront lieu des études de marché et de possibilités de fabrication. Bien que l'eau obtenue par ces systèmes soit encore d'un prix élevé, il est prévu que le coût des collecteurs solaires qui peut représenter plus de 90% du coût total, s'abaissera lors d'une efficacité accrue. Plus amples renseignements: Banque Mondiale, 1818 H. Street N.W., Washington, D.C., 20433, U.S.A.

## Nouvelles Publications

### RECHERCHE BIBLIOGRAPHIQUE DU NTIS SUR LES FOSSES SEPTIQUES ET LES EGOUTS DOMESTIQUES

Le Service National d'Information Technique (NTIS) du Département du Commerce des Etats-Unis a publié une recherche bibliographique intitulée *Systèmes de Fosses Septiques et d'Egouts Domestiques, Conception et Utilisation.* Cette recherche couvre la période allant de 1964 à mai 1979. Toutes les citations sont extraites du service de données du NTIS. Plus amples renseignements: National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, U.S.A.

## Conférence

Le Centre de Recherche de l'Eau (Royaume-Uni) organise en collaboration avec l'Université de Science et de Technologie de Manchester (UMIST) une conférence internationale sur le Traitement Biologique par Banc Fluidifié de l'Eau et des Eaux Usées qui aura lieu en avril 1980. Des experts de premier ordre du Royaume-Uni, des Etats-Unis, du Canada, d'Australie et d'Afrique du Sud ont été invités à y apporter leur contribution. Les derniers travaux entrepris par le CRE et par l'UMIST y seront présentés et il sera possible de visiter une ou deux grandes usines pilotes. Des facilités pour des affiches de mémoires seront fournies à la conférence. Le programme de la conférence comprendra des mémoires sur: Elimination du nitrate et de l'ammoniaque de l'eau; Traitement des égouts par bancs fluidifiés; Atelier sur les principes de base de bancs fluidifiés; Traitement d'eaux usées industrielles; Politique économique de procédés; Dénitrification d'eaux usées industrielles concentrées. Plus amples renseignements: Water Research Centre, Medmenham Laboratory, B.P. 16, Marlow, Bucks. SL7 2HD, Royaume-Uni.



# centro internacional de referencia de la oms sobre abastecimiento público de agua

dirección postal: p.o. box 140, leidschendam, países bajos  
nw havenstraat 6, voorburg-2112 (la haya), países bajos  
teléfono: 070-69 42 51, cable: worldwater la haya, telex: 33604

## noticiero

Noticias del CIR

No. 99 - Mayo de 1979.

### PEDIDO DE DISEÑOS TIPO DE COMPONENTES PARA ABASTECIMIENTO DE AGUA

Con la designación del Decenio Internacional del Agua Potable y el Saneamiento (1981-1990) y el consiguiente compromiso creciente por parte de los gobiernos para mejorar la situación del abastecimiento de agua potable, se anticipa que cientos - o tal vez miles - de proyectos para el abastecimiento de agua potable serán propuestos para su construcción en los países en desarrollo. El enfoque de tales programas donde componentes técnicos similares como la captación de manantiales, pozos, estaciones de bombeo, reservorios de almacenamiento, filtros, etc. son aplicados una y otra vez, puede permitir el empleo de diseños estandarizados en forma beneficiosa, por ejemplo, facilitando un rápido planeamiento y construcción, simplificando el mantenimiento mediante el almacenamiento de repuestos estándar, permitiendo el incremento de las habilidades locales por el ejercicio repetitivo, requiriendo un mínimo de horas de diseño a cargo de ingenieros (los diseños "definitivos" solo requieren revisión periódica), permitiendo la delegación del trabajo a sub-profesionales e incrementando la posibilidad de manufactura local (cuando el volumen requerido lo justifique) con mayores ventajas económicas. Para apoyar los esfuerzos en esta dirección, el Centro Internacional de Referencia de la OMS sobre Abastecimiento Público de Agua, está iniciando un estudio en el que el consultor del CIR Dr. F.E. McJunkin identificará diseños tipo de componentes para el abastecimiento de agua para servicios pequeños en diversos países y revisará el material recibido por el Centro a través de una encuesta por correo en reacción a este llamado. El manual resultante servirá como trabajo de referencia y guía para los países que se encuentran en la etapa de establecer estándares para sus planes nacionales y anteproyectos de diseños estandarizados. Para participar en este esfuerzo conjunto, por favor remitir por correo sus diseños típicos a: IRC, P.O. Box 140, 2260 AC Leidschendam, The Netherlands.

República Unida del Cameroon/República Unida de Tanzania

### CRITERIOS DE DISEÑO

Al ingeniero de diseño que recién llega a un país le es frecuentemente difícil encontrar los criterios de diseño apropiados en los cuales pueda basar sus trabajos. Aquí presentamos algunas claves. Durante el discurso inaugural de un servicio de agua potable por cañerías con grifos públicos para un villorrio en el Cameroon, el gobernador local solicitó a los aldeanos que impidan al ganado suelto dañar los grifos públicos y que provean un cauce de desagüe para el agua utilizada, evitando así la proliferación de mosquitos portadores de malaria. En Tanzania, las tuberías se supone que deben ser tendidas a varios pies de profundidad para impedir que los elefantes - que pueden oler el agua - las excaven. En un informe de ingeniería, el techo de un reservorio al nivel del suelo fué diseñado para resistir el peso de dos elefantes.

### Centro de Investigación en Agua

#### INFORME ANUAL 1977/1978

El Informe Anual 1977/1978 del Centro de Investigación en Agua (Water Research Centre, Reino Unido) constituye un útil trabajo de referencia para aquellos que deseen familiarizarse con las actividades del Centro o actualizar sus conocimientos acerca del mismo. Se describen las principales áreas de actividad del Centro así como el estado actual de los conocimientos respecto a ellas. Al final de cada sección científica se provee una lista de referencias relevantes al trabajo en cuestión. Asimismo, se provee una lista completa de los informes y trabajos presentados por el Centro a través de los últimos tres años, los que ya exceden de 300. También se incluyen en el Informe los comités en los que el Centro tiene representación, las designaciones más significativas de nuevo personal y los visitantes distinguidos que ha recibido. Estas listas serán de interés para muchos de aquellos que se ocupan de las áreas de investigación sobre agua a nivel mundial. Copias del Informe Anual se encuentran disponibles para quienes las soliciten en el Water Research Centre, Medmenham Laboratory, P.O. Box 16, Medmenham, Marlow, Bucks. SL7 2HD, United Kingdom.

### Nuevas Publicaciones

#### LA ESTRUCTURA Y ADMINISTRACION DE LA INDUSTRIA BRITANICA DEL AGUA

*The Structure and Management of the British Water Industry* constituye el primero de una serie de Manuales sobre Prácticas en Agua publicados por la Institución de Ingenieros y Científicos en

Este Noticiero es editado bajo la responsabilidad del Centro Internacional de Referencia de la OMS sobre Abastecimiento Público de Agua. No refleja necesariamente la posición de la OMS.

Versión en idioma español:

Centro Panamericano de Ingeniería Sanitaria y Ciencias del Ambiente (CEPIS)  
OPS/OMS

Casilla Postal 4337, Lima 100, Perú  
Centro Colaborador de la OMS sobre Abastecimiento  
Público de Agua para la Región de las Américas



Agua (Institution of Water Engineers and Scientists). La publicación abarca los siguientes aspectos de la Industria Británica del Agua: Desarrollo Histórico; La Industria del Agua desde 1974; La Ley sobre Agua; Economía; Finanzas; Administración e Investigación. Mayor información: The Institution of Water Engineers and Scientists, 6-8 Sackville Street, London W1X 1DD, United Kingdom.

#### Reuniones

La 3ra. Feria Comercial Internacional sobre Manejo de Residuos y Limpieza tendrá lugar en Jönköping, Suecia, del 17 al 21 de Setiembre de 1979. La Feria ha sido organizada por ELMIA AB conjuntamente con expertos de la Directiva Nacional de Protección Ambiental (National Environment Protection Board) así como con agencias nacionales y asociaciones. Se llevarán a cabo un cierto número de convenciones conjuntamente con la Feria Comercial. Los temas de dichas convenciones serán los siguientes: tratamiento calorífico de los residuos combinado con la producción de calor, gas y electricidad; conversión de los residuos en abono; Investigación, tendencias en su desarrollo y prácticas usuales en el campo de los residuos; recuperación en los residuos; residuos peligrosos. Mayor información: ELMIA AB, Box 6066, S-550 06 Jönköping, Sweden.

#### CONGRESO MUNDIAL SOBRE SANEAMIENTO AMBIENTAL EN EL PLANEAMIENTO DEL DESARROLLO

Entre el 12 y el 16 de Noviembre de 1979, la Secretaría de Salud Pública y Bienestar de México, la Organización Mundial de la Salud y la Organización Panamericana de la Salud auspiciarán un Congreso en la Ciudad de México para presentar información técnica y científica referente a la interacción entre la salud y el proceso de desarrollo así como para intercambiar experiencias referentes a asuntos de organización multidisciplinaria, conceptuales y metodológicos vinculados al desarrollo social y económico y a la salud ambiental. El Congreso proveerá información a los profesionales del sector de la salud y el desarrollo con el fin de ayudarlos a incorporar objetivos de salud ambiental en el planeamiento del desarrollo nacional; enfatizando el uso de la experiencia práctica nacional que podría ser aplicada en otros lugares. Adicionalmente se espera que habrá una revisión de las actividades existentes, de fuentes de información y de cursos de adiestramiento disponibles. El Congreso está abierto a todos los países y debe resultar de interés para aquellos profesionales responsables por el análisis económico y el financiamiento de proyectos de desarrollo. Debe resultar de especial interés para aquellos responsables del diseño e implementación de proyectos de desarrollo así como para los científicos y educadores preocupados por la investigación y el adiestramiento en esta área. Para información adicional contactar a: Secretariado General del Congreso, en la Avenida Chapultepec No. 284 - Piso 13, México 7, D.F., México.



# COMMUNITY WATER SUPPLY AND SANITATION IN DEVELOPING COUNTRIES



## NEWSLETTER

### THE VOICE OF THE INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE

#### NOMINATION DU DIRECTEUR DE L'UNITÉ SPÉCIALE C

M. Hussein Raffay Idris a été nommé, à dater pour la Coopération Technique parmi les Pays du Programme de Développement des Nations Unies sera responsable de la promotion et du renforcement - vraisemblablement - d'une grande importance Internationale de l'Alimentation en Eau Potable. L'Unité susmentionnée comprendront: assistance dans les plans d'aménagement et organisation d'événements de recherche et études pour identifier, analyser et déterminer des moyens surmontant les contraintes; propositions pour des arrangements financiers; mobilisation de ressources financières; destinée à la coordination des activités de la CTPD dans le développement; promotion d'une large utilisation du développement dans le cadre de programmes et d'activités pour le Développement. Plus amples renseignements: TCDC Special Unit, United Nations Development Programme, 1 UN Plaza, New York, U.S.A.

#### GUIDE PNUD DES CENTRES NATIONAUX DE COORDINATION

L'Unité Spéciale pour la CTPD du Programme de Développement des Nations Unies a publié un Annuaire des Points Focaux Nationaux de la CTPD qui fournit des données sur l'organisation propre de ces centres telles que réunies par les Représentants Résidents. Les renseignements: TCDC Special Unit, United Nations Development Programme, 1 UN Plaza, New York, N.Y. 10017, U.S.A.

#### EXPLORATION ET AMÉNAGEMENT DES EAUX SOUTERRAINES

Un rapport du Programme Mondial des Nations Unies sur les Eaux Souterraines dans les Pays en Voie de Développement a été publié dans la Série Ressources Naturelles en Eau. Les publications antérieurement publiées dans le cadre du Programme de Développement des Nations Unies sont: *Eaux Souterraines à Grand Echelle* (1960); *Eaux Souterraines dans l'Hémisphère Occidental* (1976). Les activités de recherche et études à court-terme ont été réalisées partiellement financées dans le cadre du Programme de Développement des Nations Unies, tout comme diverses activités gouvernementales. Le rapport présente les tendances significatives de l'exploration et de l'aménagement. Il semble que beaucoup de projets de plus en plus orientés vers les régions rurales

pour l'exploration et l'aménagement des eaux souterraines (CTD/NU). Ce rapport a été récemment publié (No. 7, New York, 1979). Les publications antérieurement publiées dans le cadre du Programme de Développement des Nations Unies sont: *Aménagement d'Eaux Souterraines en Afrique* (1973) et *Eaux Souterraines en Amérique Latine* (1976). Les activités de recherche et études à court-terme ont été réalisées partiellement financées dans le cadre du Programme de Développement des Nations Unies, tout comme diverses activités gouvernementales. Le rapport présente les tendances significatives de l'exploration et de l'aménagement. Il semble que beaucoup de projets de plus en plus orientés vers les régions rurales

#### LE DÉVELOPPEMENT DE LA CTPD

Le Programme de Développement des Nations Unies a publié un Annuaire des Points Focaux Nationaux de la CTPD qui fournit des données sur l'organisation propre de ces centres telles que réunies par les Représentants Résidents. Les renseignements: TCDC Special Unit, United Nations Development Programme, 1 UN Plaza, New York, N.Y. 10017, U.S.A.

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## INFORMATION SUR LA COOPERATION TECHNIQUE PAR

Parmi les réactions découlant de l'appel à la Coopération Technique parmi les Pays en Voie tenue en août 1978 à Buenos-Aires, Argentine en faveur de la CTPD, la Division d'Information de la CTPD, vient de lancer la production régulière de la *Nouvelles de la CTPD*. Voici les objectifs de ce bulletin tiré en coopération parmi les pays en voie de développement technique et pourquoi maintenant une dimension primordiale à toute coopération internationale sur la rôle de soutien et de des Nations Unies dans la CTPD; et pour faire lors de ce développement primordial dans la *Nouvelles de la CTPD* est publié en Anglais, détails sur ce bulletin peuvent être obtenus Programme de Développement des Nations Unies

## NOMINATION DU DIRECTEUR DE L'UNITE SPECIALE

M. Hussein Raffay Idris a été nommé, à dater pour la Coopération Technique parmi les Pays du Programme de Développement des Nations Unies sera responsable de la promotion et du renforcement - vraisemblablement - d'une grande importance Internationale de l'Alimentation en Eau Potable. L'Unité susmentionnée comprendront: assister dans les plans d'aménagement et organisation d'événements de recherche et études pour identifier, analyser et déterminer les moyens surmontant les contraintes pour des arrangements financiers pour la mobilisation de ressources financières destinées à la coordination des activités de la CTPD dans le développement; promotion d'une large utilisation du développement dans le cadre de programmes et des Nations Unies pour le Développement. Plus amples renseignements: TCDC Special Unit, United Nations Development Programme, 1 UN Plaza, New York,

## GUIDE PNUD DES CENTRES NATIONAUX DE COORDINATION

L'Unité Spéciale pour la CTPD du Programme de Développement des Nations Unies a publié un Annuaire des Points Focaux Nationaux de la CTPD qui fournit des données sur l'organisation propre de ces centres telles que réunies par les Représentants Régionaux du PNUD - peuvent être obtenus de TCDC Special Unit, United Nations Development Programme, 1 UN Plaza, New York, N.Y. 10017, U.S.A.

## EXPLORATION ET AMENAGEMENT DES EAUX SOUTERRAINES

Un rapport du Programme Mondial des Nations Unies sur l'Exploration et l'Aménagement des Eaux Souterraines dans les Pays en Voie de Développement a été publié dans la Série Ressources Naturelles et Environnement antérieurement publiées dans le cadre du Programme des Nations Unies sur l'Exploration et l'Aménagement des Eaux Souterraines à Grand Echelle (1960); *Eaux Souterraines dans l'Hémisphère Occidental* (1976). Les activités sont continuellement élargies depuis leur début. Les projets et études à court-terme furent réalisés en partie financés dans le cadre du Programme de Développement des Nations Unies et un soutien supplémentaire, tout comme diverses organisations gouvernementales. Le rapport présente les tendances significatives de l'exploration et de l'aménagement des eaux souterraines dans les pays en voie de développement. Il semble que beaucoup de projets de plus en plus orientés vers les régions arides et d'approvisionnement en eau permanente et souterraine ont été financés dans le cadre du Programme de Développement des Nations Unies et un soutien supplémentaire, tout comme diverses organisations gouvernementales. Le rapport présente les tendances significatives de l'exploration et de l'aménagement des eaux souterraines dans les pays en voie de développement. Il semble que beaucoup de projets de plus en plus orientés vers les régions arides et d'approvisionnement en eau permanente et souterraine ont été financés dans le cadre du Programme de Développement des Nations Unies et un soutien supplémentaire, tout comme diverses organisations gouvernementales.

## LES PAYS EN VOIE DE DEVELOPPEMENT (CTPD)

La Conférence des Nations Unies sur le Développement (CTPD) - conférence qui s'est tenue en août 1978 à Buenos-Aires, Argentine en faveur de la CTPD, en coopération avec l'Unité Spéciale de la CTPD, vient de lancer la production régulière d'un périodique intitulé *Nouvelles de la CTPD*. Voici les objectifs de ce bulletin tiré en coopération parmi les pays en voie de développement technique et pourquoi maintenant une dimension primordiale à toute coopération internationale sur la rôle de soutien et de des Nations Unies dans la CTPD; et pour faire lors de ce développement primordial dans la *Nouvelles de la CTPD* est publié en Anglais, détails sur ce bulletin peuvent être obtenus Programme de Développement des Nations Unies

Le 5 août 1979, Directeur de l'Unité Spéciale pour la Coopération Technique parmi les Pays en Voie de Développement (CTPD) qui fait partie du Programme de Développement des Nations Unies. En tant que Directeur de cette Unité, M. Idris a présenté la CTPD, un concept qui sera essentiel pour le possible succès de la Décennie de l'Assainissement. Les fonctions de l'Unité comprennent: assister les gouvernements, à leur demande, dans leurs plans d'aménagement et organisation d'événements marquants pour les activités de la CTPD; évaluer les activités de la CTPD et pour les rencontres par la CTPD; développement de programmes spécifiques en faveur de la CTPD et de la mise en œuvre de ces activités spécifiques de la CTPD; promouvoir la CTPD dans le cadre du système des Nations Unies pour le développement; et promouvoir l'utilisation des capacités des pays en voie de développement dans le cadre de programmes et des Nations Unies pour le Développement. Plus amples renseignements: TCDC Special Unit, United Nations Development Programme, 1 UN Plaza, New York, N.Y. 10017, U.S.A.

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Un rapport du Programme Mondial des Nations Unies sur l'Exploration et l'Aménagement des Eaux Souterraines dans les Pays en Voie de Développement a été publié dans la Série Ressources Naturelles et Environnement (No. 7, New York, 1979). Les publications du Programme des Nations Unies sur l'Exploration et l'Aménagement des Eaux Souterraines ont été *Aménagement d'Eaux Souterraines en Afrique* (1973) et *Eaux Souterraines dans l'Hémisphère Occidental* (1976). Les activités d'exploration et d'aménagement des eaux souterraines se poursuivent. Pendant la période 1962-1977, quelques 100 projets et études à court-terme furent réalisés dans environ 50 pays. Ces activités sont financées en partie par le Programme de Développement des Nations Unies et un soutien supplémentaire, tout comme diverses organisations bilatérales et institutions non-gouvernementales. Le rapport présente les tendances significatives de l'exploration et de l'aménagement des eaux souterraines dans les pays en voie de développement. Il semble que beaucoup de projets de plus en plus orientés vers les régions arides et d'approvisionnement en eau permanente et souterraine ont été financés dans le cadre du Programme de Développement des Nations Unies et un soutien supplémentaire, tout comme diverses organisations bilatérales et institutions non-gouvernementales. Le rapport présente les tendances significatives de l'exploration et de l'aménagement des eaux souterraines dans les pays en voie de développement. Il semble que beaucoup de projets de plus en plus orientés vers les régions arides et d'approvisionnement en eau permanente et souterraine ont été financés dans le cadre du Programme de Développement des Nations Unies et un soutien supplémentaire, tout comme diverses organisations bilatérales et institutions non-gouvernementales.

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Reference is made to an announcement on this matter in the

**COMMUNITY WATER SUPPLY AND SANITATION  
IN DEVELOPING COUNTRIES**

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Date ....., Nr. ....

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# ABASTECIMIENTO PUBLICO DE AGUA Y SANIDAD EN PAISES EN DESARROLLO

## NOTICIERO

### LA VOZ DE LA DECADA INTERNACIONAL DEL ABASTECIMIENTO PUBLICO DE AGUA Y SANIDAD

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ENERO 1980 — NO. 106



ESTE NOTICIERO ES EDITADO BAJO LA RESPONSABILIDAD DEL CENTRO INTERNACIONAL DE REFERENCIA SOBRE ABASTECIMIENTO PUBLICO DE AGUA Y SANIDAD

VERSION EN IDIOMA ESPAÑOL: CENTRO PANAMERICANO DE INGENIERIA SANITARIA Y CIENCIAS DEL AMBIENTE (CEPIS) OPS/OMS  
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# Why WHO set its POETRI in motion

1981 1990



The launch of the United Nations "International Drinking Water Supply and Sanitation Decade" has created a huge requirement for the exchange and co-ordination of information from developing countries on project planning, research, institutional arrangements, etc. W-K Hoogendoorn (above), head of information services at the World Health Organisation's International Reference Centre for Community Water Supply (IRC) in the Netherlands, describes the type of support that IRC can provide to countries' own Decade efforts.

It has been stated time and again that most of the information needed in developing countries to improve community water supply and sanitation is available somewhere. However, a large gap exists between the availability of the information and its application and use.

Too often, engineers have lacked technical information, operators have not been instructed in maintenance, governments have based their choice of priorities on incomplete data, and external experts have been unaware of important local factors.

The United Nations Water Conference, godfather of the International Drinking Water Supply & Sanitation Decade,

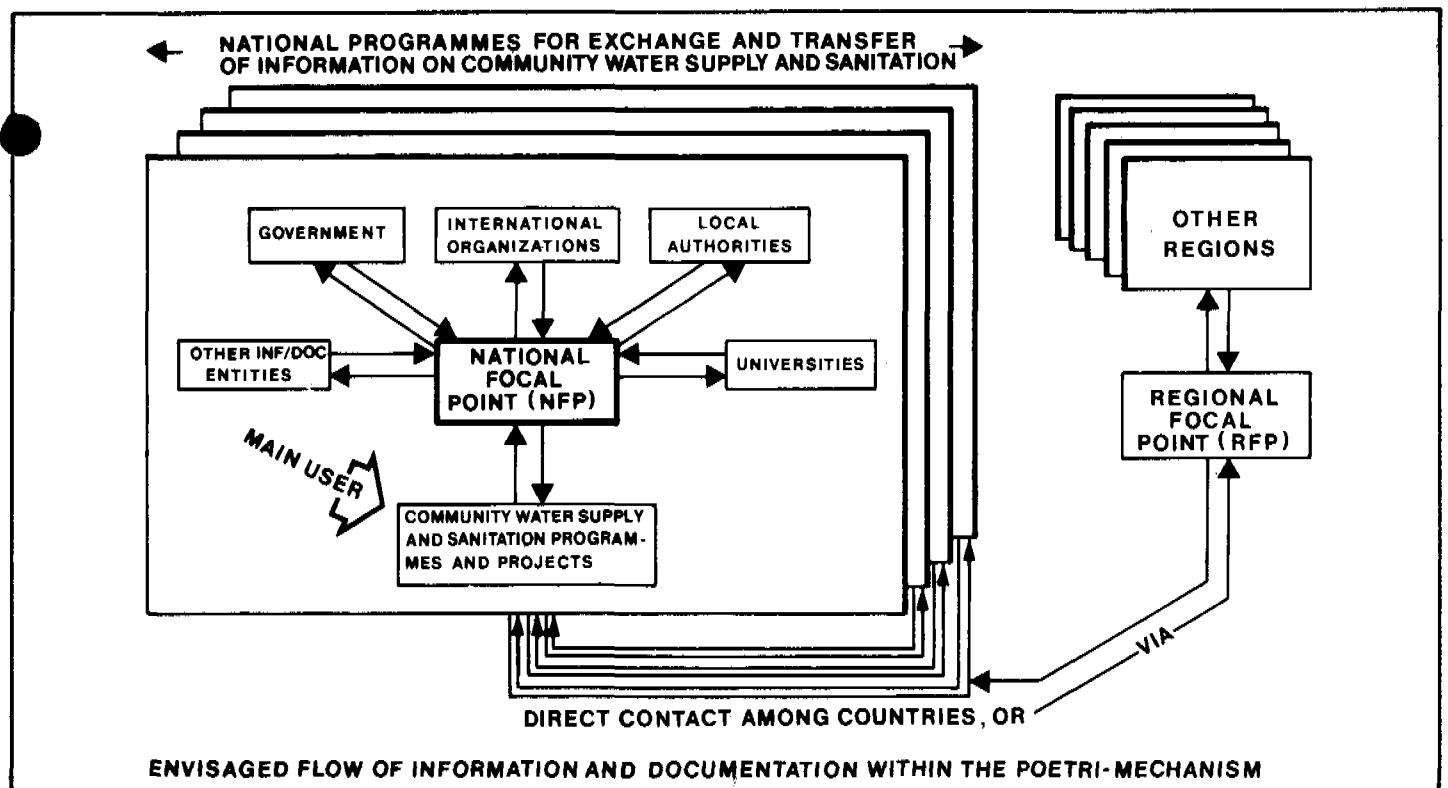
recommended in early 1977 that "an effective clearing-house mechanism should be developed through international cooperation, by strengthening existing mechanisms if available, at national, regional and international levels, to provide for the communication of selected information concerning all elements of community water supply and sanitation."

Against this background, the WHO International Reference Centre for Community Water Supply (IRC) in Voorburg, the Netherlands, has drafted a programme to develop such a clearing-house mechanism and to provide means for communicating information on com-

munity water supply and sanitation among and in developing countries.

This programme, called POETRI (Programme on Exchange and Transfer of Information), has as objectives:

- to develop and/or improve the *infrastructure* (facilities and capacities), needed in developing countries for the exchange and transfer of information and documentation;
- to develop appropriate *procedures* for the collection, analysis/evaluation, storage, retrieval, and dissemination of information on community water supply and sanitation;
- to facilitate the *exchange* of such information among developing countries





and to promote its use; and

● to identify subject areas within the field of community water supply and sanitation where insufficient appropriate information is available and, subsequently, to try and fill these gaps.

The POETRI clearing-house mechanism will consist of National Focal Points (NFPs) linked at regional level by a Regional Focal Point (RFP). Only one NFP in each country will be invited to carry out central POETRI-tasks; specific country conditions (eg size of country, communication facilities) may result in delegation of tasks by the NFP to sub-national focal points (SNFPs).

In principle, NFPs will be established at existing institutes, who are active in the water supply and sanitation field and have a certain experience in information handling. Such an institute should already have regular contacts with the national government bodies, who are responsible for the planning and implementation of water supply and sanitation programmes within the country, as well as with other (inter)national organisations active in this field.

Finally, institutes which have capacities in a limited specific subject area within the water supply and sanitation field and are prepared to carry out a number of focal point tasks, will be invited to participate in the POETRI-mechanism as Special Expertise Focal Points (SEFPs). In due course, SEFPs may also be invited in subject areas that are closely related to water supply and sanitation, such as public health, agriculture (irrigation) and solid waste disposal.

Although both the IRC and RFPs — at their respective levels — will perform some central, coordinating functions, direct contacts between NFPs (even in

different regions) are envisaged, that will not be hampered by formal channels. The mechanism structure, as outlined above, may look somewhat rigid, but will be implemented in a very flexible manner, to be based on day-to-day practice.

In general, NFPs are responsible for collection, analysis and storage of information within their country. They are to provide access to this information, which includes:

- compiling information media, such as newsheets, bibliographies, and directories;
- channelling of information to and from RFPs; and
- having a place which is open to the public, and where information and documentation can be consulted.

NFPs also have to deal with requests for information, either directly by request handling, answering questions at the NFP, when the necessary information is available or can easily be obtained, or by indirect request handling, referring a question to information sources within or outside the country, where the NFP knows pertinent information to be available. Also, NFPs will have to perform a function with regard to promotion, making it become known that the NFP and POETRI exist and what kind of services are offered. In this context they will have to establish and/or maintain regular contacts with pertinent government bodies and (inter)national organisations, active in the field of community water supply and sanitation. Finally, NFPs will have to update the available information regularly and to participate in the regular evaluation of the performance of POETRI and its focal points.

Initial POETRI activities of focal points will be directed at establishing or

improving relations with ministries, research entities and other information sources, as well as with ongoing programmes and projects in the community water supply and sanitation field within their countries. To this end, NFPs will carry out inventories of such programmes and organisations, using this opportunity to make some publicity for their function in the POETRI context and for the potential assets of the programme.

Short term, the various focal points will also be provided with a "standard library", consisting of highly relevant publications in the community water supply and sanitation field. Distribution of this basic documentation will not be limited to focal points only, but will be extended to sub-national organisations, such as water works, provincial authorities, etc.

Furthermore, bibliographies on specific subjects within the community water supply and sanitation field will be compiled in close cooperation with the various focal points.

It can be expected that, within two to three years, an effective clearing house mechanism will be available in a considerable number of developing countries, actively supporting the national efforts in the context of the International Drinking Water Supply and Sanitation Decade. Therefore, it is relevant to mention that all possible support will be given to the development of national mechanisms for transfer and exchange of information on community water supply and sanitation, internationally linked in the POETRI mechanism.

*Anyone who would wish to receive more information on the IRC, should write to the International Reference Centre for Community Water Supply, Information Section, PO Box 140, 2260 AC Leidschendam, the Netherlands.*

*Le lancement de la Décennie Internationale des Nations Unies pour l'Approvisionnement en Eau Potable et l'Assainissement (1981-90) a créé de la part des pays en voie de développement un besoin important en ce qui concerne l'échange et la coordination d'informations sur la planification de projets, la recherche, les dispositions se rapportant aux institutions impliquées, etc.*

*Afin de faciliter l'échange et le transfert de ces informations, l'OMS/Centre International de Référence pour l'Approvisionnement en Eau Collective (CIR) est en train d'organiser un programme, appelé POETRI. Cet article décrit comment POETRI va fonctionner et comment les efforts nationaux des pays en voie de développement pourront être facilités.*

*La inminencia del Decenio Internacional de los NU para el Abastecimiento de Agua de Bebida y el Saneamiento (1981-90) ha creado una demanda importante de naciones en via de desarrollo para el cambio y la coordinación de informaciones sobre la planificación de proyectos, la investigación, los arreglos institucionales, etc. Para ayudar el cambio y la transferencia de estas informaciones,*

*el OMS/Centro de Referencia Internacional para Abastecimiento Público de Agua (CIR) esta organizando un programa que se llama POETRI. Este artículo describe como POETRI funcionará y como los esfuerzos de los naciones en via de desarrollo seran facilitados.*

RESEARCH IN PROGRESS QUESTIONNAIRE

1. Name of the information source/organization:

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Address: -----  
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Tel.: ----- Telex -----

2. Name of person in charge of information storage:

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4. Name of parent organization (if different from 1.):

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5. Working language:

6. Title of research project:

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2nd investigator: -----

3rd investigator: -----

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9. Research project number:

10. Summary description of project:


11. Keywords (from Select Thesaurus):


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**COMMUNITY WATER SUPPLY AND SANITATION  
IN DEVELOPING COUNTRIES**



**ABSTRACT JOURNAL**

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ON  
COMMUNITY WATER SUPPLY AND SANITATION  
IN  
DEVELOPING COUNTRIES**

**PREPARED BY  
NATIONAL AND REGIONAL FOCAL POINTS  
FOR POETRI  
PROGRAMME ON EXCHANGE AND TRANSFER OF INFORMATION**



**JANUARY 1980 — VOL. 1 — NR. 1**





who international reference centre for community water supply

postal address: p.o. box 140, leidschendam, the netherlands  
office address: nw havenstraat 6, voorburg (the hague)  
telephone: 070 - 69 42 51, teleg.: worldwater the hague, telex: 33604

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POETRI, Programme on Exchange and Transfer of Information

THE POETRI ABSTRACT JOURNAL,

guidelines for the preparation  
of  
contributions

Ing. A.L.M. Helderma  
Library Officer

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## 1. INTRODUCTION

As a support to the "International Drinking Water and Sanitation Decade" a number of countries, in cooperation with the International Reference Centre for Community Water Supply (IRC), have developed a Programme on Exchange and Transfer of Information (POETRI).

One of the basic tools for the exchange and transfer of documentary information<sup>\*)</sup> within the POETRI mechanism will be an abstract journal.

The abstract journal has two main objectives. The first is to keep community water supply and sanitation development workers - without easy access to primary publications - informed on all significant current developments in their respective fields. This objective is met by publishing the journal regularly, for instance 4 times a year; thus, every 3 months, subscribers will receive an overview of the relevant documentary information in their field of interest.

The fact, that the abstract journal has to inform the reader without resource to primary publications, implies that the abstracts included must meet certain requirements, such as being of an informative nature (see Chapter 4); the journal does not necessarily have a current awareness function.

The second objective of the abstract journal will be to help find documentary material on a specific subject, published over a fairly long period (retrospective purposes). This objective is met by the regular printing of title,

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<sup>\*)</sup> Definition: information on material objects carrying scientific information, serving as a record designed to transmit this information, in time and space utilized in Social Practice (after Mikhailov, A.I.; Giljarevsky, R.S.; An Introductory Course on Information/Documentation, FID, 1971, The Hague).

author, subject or specialized indexes. These indexes could be added to every issue of the abstract journal, but they could also be published over a longer period (cumulative indexes).

First of all, this manual will give a technical description of how this POETRI abstract journal will be prepared. It gives guidelines for the preparing of abstracts and bibliographic descriptions, and for assigning descriptors from the POETRI thesaurus to the material included

The input of the abstract journal will be compiled on an international cooperative basis by several centres active in the field of community water supply and sanitation, mainly in developing countries. The results of this cooperation will be processed into the final manuscript.

The information, selected and abstracted by the participating centres, should be "appropriate information". It should deal with science, and scientific applications and solutions (technology), for problems typical for their particular region. This means that the participating centres have to formulate their own quality criteria for the selection of the primary material.

## 2. THE SCOPE OF THE ABSTRACT JOURNAL

As mentioned before, the precise definition of the subject scope of the abstract journal is given by the POETRI thesaurus. The approach here is that we define the subject field by defining its concept field which is represented by its vocabulary.

The thesaurus serves as a reference dictionary to help the information user formulate his information needs in terms of the defined vocabulary. If it is not possible to catch the information needs in descriptors from the thesaurus, then the information needs fall outside the scope of the journal.

The thesaurus also displays the conceptual relations between the different descriptors. These conceptual relations are, in principle based on the "prevailing tone" of the subject field.

One could call them paradigmatic or semantic relations.

As an example: the descriptor "fluoridation" is used for the basic technological process of fluoridation. This is the pure semantic meaning of the concept. Attached to this concept in the "drinking water field" we know several aspects such as health aspects, cultural aspects, organizational aspects, etc. An example of a health aspect is carcinogenic property of fluorides. The relation between cancer and fluorides is of a syntagmatic nature.

With this knowledge, we can define the water supply field as follows:



Water Supply General

Water Resources

Groundwater  
Rainwater  
Surface water  
Reuse of water

Water Collection System

Wells  
Infiltration galleries  
Pumps  
Dams  
Rainwater collection systems

Water Quality

Water quality analysis  
Biological water quality  
Physical water quality  
Chemical water quality  
Water quality control  
Water quality standards

Water Distribution Systems

Pipes  
Specials (such as reservoirs, meters, taps)  
Networks  
Public standposts  
House connections  
  
Leak detection  
Corrosion control

Water Use

Water demand  
Water wastage  
Leakage  
Water consumption  
Water savings

Water Treatment

Water treatment plant  
Water treatment processes  
Chemical treatment  
Physical treatment  
Biological treatment

---

Sociological Aspects  
Health Aspects  
Technological Aspects  
Institutional Aspects

---



The sanitation field could be described in the same way \*) .

Sanitation General

Depositing Devices

On-site Collection and Treatment

- Pit latrines
- Composting toilets
- Septic tanks and aqua privies

Collection and Off-site Treatment

- Cartage/night soil collection
- Water carried systems/sewerage
- Ponds
- Composting
- Aquatic weeds

Waste Water Utilization

- Irrigation
- Aquaculture
- Algae
- Fertilizer
- Biogas

Waste Water Disposal

Sociological Aspects  
Health Aspects  
Technological Aspects  
Institutional Aspects



\*) After "Environmental Sanitation Abstracts. Low Cost Options", Environmental Sanitation Information Centre, Asian Institute of Technology, Bangkok, Thailand.

### 3. THE FORMAT OF THE ABSTRACT JOURNAL

The format, c.g. the table of contents, of the abstract journal can be directly deduced from the definition of the subject scope which has been dealt with in the preceding chapter.

The journal will be divided into two main chapters; one on Water Supply and one on Sanitation. The chapters will be subdivided into the following paragraphs:

#### 1. WATER SUPPLY

##### 1.1. Water Supply

- 1.1.1. General
- 1.1.2. Sociological aspects
- 1.1.3. Health aspects
- 1.1.4. Technological aspects
- 1.1.5. Institutional aspects

##### 1.2. Water Resources

- 1.2.1. General
- 1.2.2. Groundwater
- 1.2.3. Rainwater
- 1.2.4. Surface water
- 1.2.5. Reuse of water

##### 1.3. Water Collection

- 1.3.1. General
- 1.3.2. Wells
- 1.3.3. Infiltration galleries
- 1.3.4. Pumps
- 1.3.5. Dams
- 1.3.6. Rainwater collection

##### 1.4. Water Quality

- 1.4.1. General

- 1.4.2. Biological water quality
- 1.4.3. Physical water quality
- 1.4.4. Chemical water quality
- 1.4.5. Water quality analysis
- 1.4.6. Water quality control
- 1.4.7. Water quality standards

1.5. Water Distribution

- 1.5.1. General
- 1.5.2. Public standposts
- 1.5.3. House connections
- 1.5.4. Pipes
- 1.5.5. Specials (reservoirs, taps, fittings, meters)
- 1.5.6. Networks
- 1.5.7. Leak detection
- 1.5.8. Corrosion control

1.6. Water Use

- 1.6.1. General
- 1.6.2. Water demand
- 1.6.3. Water wastage
- 1.6.4. Leakage
- 1.6.5. Water consumption
- 1.6.6. Water savings

1.7. Water Treatment

- 1.7.1. General
- 1.7.2. Physical water treatment
- 1.7.3. Chemical treatment
- 1.7.4. Biological treatment
- 1.7.5. Water treatment plants

2. SANITATION

2.1. Sanitation

- 2.1.1. General

- 2.1.2. Sociological aspects
- 2.1.3. Health aspects
- 2.1.4. Technological aspects
- 2.1.5. Institutional aspects

2.2. Depositing Devices

2.3. On-site Collection and Treatment

- 2.3.1. General
- 2.3.2. Pit latrines
- 2.3.3. Composting toilets
- 2.3.4. Septic tanks and aqua privies

2.4. Collection and Off-site Treatment

- 2.4.1. General
- 2.4.2. Cartage
- 2.4.3. Water carried systems
- 2.4.4. Ponds
- 2.4.5. Composting
- 2.4.6. Aquatic weeds

2.5. Wastewater Collection

- 2.5.1. General
- 2.5.2. Irrigation
- 2.5.3. Aqua culture
- 2.5.4. Algae
- 2.5.5. Fertilization
- 2.5.6. Biogas

2.6. Wastewater Disposal

The entries will be placed in one of these subparagraphs according to their "prevailing tone" (Chapter 2). So, for instance, an article entitled "Health Aspects of Chlorination" can be found in paragraph 1.7.3. Chemical treatment. Chlorination is the "prevailing tone" of the article and there exists a paradigmatic relation with the description "Chemical treatment".

If an entry has two prevailing tones, the full entry is mentioned in only one subparagraph. In the other reference is made to this entry, which receives two numbers. Where the full entry is mentioned depends on the judgement of the person who selects the documents. An example could be a document entitled "Wells and Handpumps for Developing Countries". The "prevailing tones" here are Wells and Handpumps. The full entry could be included under 1.3.2.: Wells as for instance No. 79.132.007 with a reference to 1.3.4.: Pumps. (example: 79.134.014 see 79.132.007). To keep the abstract journal as accessible as possible, this "double entry" approach should be kept to a minimum.

Literature in which water supply or sanitation is being considered as an aspect of a related wider problem is dealt with in the paragraphs Water supply general and Sanitation general (1.1.1. and 2.1.1.). An example of this is a publication entitled "Schistosomiasis and its control".

In these two paragraphs we also deal with the overall infrastructural topics of water supply and sanitation such as Planning national water supply, Policy aspects, Problem identification of the water supply and sanitation sector, etc.

Therefore, a choice has to be made concerning the subparagraph where an entry will be included. This does not mean that the entry can be retrieved on subparagraph subject heading only (or "prevailing tone"). Each entry will be made retrievable by means of a subject index in each issue.

The entries included will be numbered according to the paragraphs in which they are classified. The year of inclusion will also be represented in the entry number.

Example: 79.132.001 is the first abstract in the 1979 volume in paragraph 1.3.2. (wells). In the same way 79.243.16 means the 16th entry that has been classified under water carried systems (paragraph 2.4.3.) in 1979.

4. THE FORMAT OF THE ENTRY

Below you will find two examples of entries that could be included in the Abstract Journal:

Bibliographic description	79.254.001	<p>NEW APPROACHES TO APPROPRIATE SANITATION IN DEVELOPING COUNTRIES</p> <p>Leich, H.H. (Environment Forum, Bethesda, U.S.A.)</p> <p>Asian Institute of Technology</p> <p>in: <i>Water Pollution Control in Develop- ing Countries, proceedings of an International Conference, February 1978 Bangkok, 1978, pp. 65-69 (Eng.)</i></p>
	Abstract	<p>Water flushed toilet systems have many disadvantages. They waste large quantities of pure water, and are very expensive. The most important disadvantage is the impact on public health, because of risk of drinking water infection by disease organisms. Most alternative non water flushed systems - such as the compost toilet and the biological toilet - are still too expensive for 95% of the people in developing countries. They need systems of U.S. 10.- or less per household. An indoor low-cost system, similar to the "earth closet" system used in Britain, was developed. For urination, a large bucket is provided which can be emptied in a dry well outside the village. Defecation takes place on a seat built on a wide mouthed bucket lined with a cloth bag. Each user covers the new deposit with a layer of soil. The full bag is buried. It is an indoor system without odours or danger of infection, based on low-cost technology, employing local labour and materials on a decentralized basis. It requires a minimum of energy and it returns rich organics to the soil.</p>

Availability	Descriptors

Descriptors: Non-water carried excreta disposal systems/ Bucket latrines/ Fertilizers/ On-site waste disposal

Availability: Asian Institute of Technology, P.O. Box 2754, Bangkok, Thailand.

Price unknown.



Bibliographic

description

CONTRIBUTIONS TO A MAIL SURVEY ON  
PRACTICAL SOLUTIONS IN DRINKING WATER  
SUPPLY AND WASTES DISPOSAL FOR DEVELOP-  
ING COUNTRIES

WHO International Reference Centre for  
Community Water Supply

Voorburg, 1977, pp. various (Eng.)

Abstract

There is a need for alternative techniques which are un-complicated, easy to work with and require low maintenance, which can be managed by local people. A compilation of these techniques may enable engineers to select from it the solution which would best suit the social, cultural and economic conditions of the country and the technical level of their personnel. In this way it could be a tool in promoting self-reliance. The mail survey was intended to collect these techniques, which in most cases are not published. The first part contains information which may stimulate further testing and development activities at local level directly. Practical solutions are included on water resources and recovery, water treatment, water transport and use, solar and wind energy and waste collection and disposal. Part II contains other contributions. All solutions are illustrated and reference is made to the original source.

Availa- Descriptors

bility

Descriptors: Low-cost technology, Water resources, Rainwater collection, Wells, Well drilling, Spring water collection, Surface water collection, Bank filtration, Water treatment, Sedimentation, Coagulation, Settling, Filtration, Disinfection, Water storage, Handpumps, Hydraulic rams, Solar energy, Wind energy, Waste disposal, Excreta disposal systems, Solid waste disposal systems, Utilization

Availability: WHO International Reference Centre for Community Water Supply, P.O. Box 140, 2260 AC Leidschendam, the Netherlands. Free-of-charge.

In the entry we can distinguish the following parts of information:

- 1 - the bibliographic description
- 2 - the abstract
- 3 - the descriptors
- 4 - the availability data

These parts of information will be discussed in the following paragraphs.

#### 4.1. - The Bibliographic Description

In the bibliographic description, we try to describe, as concisely as possible, the characteristics of a document, in order to be able to distinguish it from other documents. The characteristics of interest are, the title, the author, the author's affiliation, the publisher and document data.

The title (see example) is printed in capital letters because it is the most descriptive single part of information in the whole entry. If the language of the document differs from the language of the abstract, a translated title will be given. The original title is given between brackets, in lower case letters.

For example:

Title ————— HANDPUMPS (Bombas de Mano)  
Original title —————  
Author ————— McJunkin, F.E.

The initials of the author are given behind the surname. When more than three authors are mentioned on the title page of the document, only the first three are registered, followed by the expression "et al".

For example:

Title ————— WATER, HEALTH AND DEVELOPMENT; AN INTER-  
DISCIPLINARY EVALUATION  
Author ————— Feachem, R.; Burns, E.; Cairncross, S.; et al

Authors names are separated by the use of a semi-colon.

In some cases, the person(s) mentioned on the title page is not indicated as the author(s), but as the editor(s) or compiler(s). This indication is given behind the author's name(s), between parentheses.

For example:

Title ——— WATER FOR THE THOUSAND MILLIONS  
Editor ——— Pacey, A. (edit. and comp.)  
Compiler ———

A publication cannot be anonymous. In cases where no individual author is mentioned, the institution mentioned is used as author.

For example:

Title ——— INTERNATIONAL TRAINING SEMINAR ON COM-  
MUNITY WATER SUPPLY IN DEVELOPING COUNTRIES  
Institutional International Reference Centre for Com-  
author ——— munity Water Supply

The author's affiliation is mentioned in the bibliographic description if it is mentioned on the title page. With more authors, we give the affiliation of the first one only.

If the entry refers to a part of a book (for instance, a chapter) or a set of documents (for instance, a set of conference papers) then the title of the overall volume is printed, in italics, because this is the information on which one has to search in a library catalogue.

For example:

Title ——— FINANCING A RURAL WATER SUPPLY PROGRAMME  
Author ——— M.C. Mould  
Affiliation ——— World Bank  
Publisher ——— International Reference Centre for  
Community Water Supply  
Published in — in: *International Training Seminar on  
Community Water Supply in Developing Countries*

This is also applicable for journal articles on which entries are included in the abstract journal.

For example:

Title ——— THE UNISIST DRAFT ON INDEXING PRINCIPLES;

Institutional TEXT AND COMMENTS

author ——— UNESCO

Journal ——— in: *International Classification*, 4(1977)1,  
pp. 29-34

The publishers of the journal are not mentioned in the entry.

#### 4.2. The Abstract

A good abstract contains:

- 1/ the tenor and the purpose of the research project, or the philosophy, of which the original document reports, and also the reason for this reporting;
- 2/ the methods, and/or technologies, that were used to meet the objectives. If they are unusual or original, they have to be described in more detail;
- 3/ the findings reported in the document (results);
- 4/ the interpretation or value of the findings (conclusion).

Because the abstract should contain as much information as possible, in order to make it useful for readers without access to primary documents, the main part of the abstract is written in the informative style. This means that the abstractor identifies himself with the author of the document he deals with, and writes the abstract in the active form, preferably in the past tense. This pertains in particular to the results and conclusions of the document abstracted.

To enable the understanding of the overall contents of the document, the indexer should preferably read the whole document, however in most cases, for economical reasons this is not practicable. To ensure that no useful information

- is overlooked, particular attention should be paid to
- the title
  - the introduction, and the opening phase of chapters and paragraphs
  - illustrations, tables, diagrams and their captions
  - conclusions
  - words or groups of words which are underlined or printed in an unusual typeface.

The author's intention is usually stated in the introduction. Generally, the final section states how far these aims are achieved

The introduction, tenor, purpose, methods and/or technology (1 and 2 above) could be described in an indicative or descriptive manner. This, because the journals' main public will be "specialists" who are familiar with these basic data. This part is written in the passive form, preferably in the present tense.

If the necessity exists to describe the tenor, purpose, method and/or technology in more detail, because, for instance, it is unusual/original, then this part could also be written in the informative style.

#### 4.3. The Descriptors

To be able to identify a document with a number of descriptors, the indexer has to understand the overall contents of the document, the purpose of the author, etc. Then he has to select the concept necessary for retrieval<sup>\*</sup>.

When the indexing is done by the same person who makes the abstract, part of this process takes place during the "abstracting process". Identifying the concepts from the document that express its subject, can be related to a

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<sup>\*</sup>) In practice these three stages tend to overlap.

scheme of categories, recognized as important in the field covered by the document e.g. phenomena, properties, operations, equipments, etc.

For example, where a document deals with water treatment, one could systematically search for a concept representing a specific treatment technology, for instance slow sand filtration; for the properties of this specific technology, the operation, such as cleaning; for health aspects of this technology, etc.

After this identification process, a choice has to be made of these concepts that are necessary for retrieval.

The final selection of concepts to be used in the abstract journal, is limited by the journal's subject scope.

The last stage of the process is translating the chosen concepts into elements of the indexing language (descriptors). As the indexing language used is the POETRI thesaurus, the rules applying to the thesaurus and which are described in the introduction to this tool, must be used.

5. THE WORKSHEET

To facilitate the preparation of contributions to the abstract journal, a worksheet has been prepared. This sheet is shown in Annex 1 of these guidelines; the same annex shows - as an example - two completed worksheets, using the two "entries" described at the beginning of Chapter 4.

WATER SUPPLY AND SANITATION ABSTRACTS - WORKSHEET

NUMBER				
DATA	1 <sup>st</sup> entry	2 <sup>nd</sup> entry	3 <sup>rd</sup> entry	library signature
TITLE	(title in language of abstract)			
ORIGINAL TITLE				
AUTHOR(S)	1 <sup>st</sup> :			
	2 <sup>nd</sup> :			
	3 <sup>rd</sup> :			et al
AUTHORS AFFILIATION	(of first author only)			
PUBLISHER				
	place:	date:	no. of pages:	
DOCUMENT DATA	(if applicable) 19.... (.....)..... pp. .... *.....			
OTHER INFORMATION	(if applicable: serial name and number; ISBN number; publication type; etc.)			
ABSTRACT				
	(continued p.t.o.)			
DESCRIPTORS				
AVAILABILITY	(name, address, country)			
abstractor	name:		price:	
	institute:		date:	



(continued)

ABSTRACT

WATER SUPPLY AND SANITATION ABSTRACTS - WORKSHEET

NUMBER	79254001			
DATA	1 <sup>st</sup> entry	2 <sup>nd</sup> entry	3 <sup>rd</sup> entry	library signature
TITLE	(title in language of abstract) New Approaches to Appropriate Sanitation in Developing Countries			
ORIGINAL TITLE				
AUTHOR(S)	1 <sup>st</sup> : Leich, H.H.			
	2 <sup>nd</sup> :			
	3 <sup>rd</sup> :			et al
AUTHORS AFFILIATION	(of first author only) Environment Forum, Bethesda, U.S.A.			
PUBLISHER	Asian Institute of Technology			
	place: Bangkok	date: 1978	no. of pages: pp. 4	
DOCUMENT DATA	(if applicable) in: Water Pollution Control in Developing Countries, proceedings of an International Conference, Feb. 1978 19.....(.....)..... pp.65...-69..			
OTHER INFORMATION	(if applicable: serial name and number; ISBN number; publication type; etc.)			
ABSTRACT	<p>Water flushed toilet systems have many disadvantages. They waste large quantities of pure water, and are very expensive. The most important disadvantage is the impact on public health, because of risk of drinking water infection by disease organisms.</p> <p>Most alternative non water flushed systems - such as the compost toilet and the biological toilet - are still too expensive for 95% of the people in developing countries. They need systems of U.S. 10.- or less per household. An indoor low-cost system, similar to the "earth closet" system used in Britain, was developed. For urination, a large bucket is provided which can be emptied in a dry well outside the village. Defecation takes place on a</p> <p style="text-align: right;">(continued p.t.o.)</p>			
DESCRIPTORS	Non-water carried excreta disposal systems/bucket latrines/fertilizers/on-site waste disposal			
AVAILABILITY	(name, address, country) Asian Institute of Technology, P.O. Box 2754, Bangkok, Thailand.			
			price: Unkown	
abstractor	name: Helderman	institute: IRC		date: 12/11/79

(continued)

seat built on a wide mouthed bucket lined with a cloth bag. Each user covers the new deposit with a layer of soil. The full bag is buried. It is an indoor system without odours or danger of infection, based on low-cost technology, employing local labour and materials on a decentralized basis. It requires a minimum of energy and it returns rich organics to the soil.

ABSTRACT

WATER SUPPLY AND SANITATION ABSTRACTS - WORKSHEET

NUMBER	79.114.001			
DATA	1 <sup>st</sup> entry	2 <sup>nd</sup> entry	3 <sup>rd</sup> entry	library signature
TITLE	(title in language of abstract) Contributions to a Mail Survey on Practical Solutions in Drinking Water Supply and Wastes Disposal for Developing Countries			
ORIGINAL TITLE				
AUTHOR(S)	1 <sup>st</sup> :			
	2 <sup>nd</sup> :			
	3 <sup>rd</sup> :			et al
AUTHORS AFFILIATION	(of first author only)			
PUBLISHER	International Reference Centre for Community Water Supply			
	place: Voorburg	date: 1977	no. of pages: various	
DOCUMENT DATA	(if applicable) 19..... (.....)..... pp.....			
OTHER INFORMATION	(if applicable: serial name and number; ISBN number; publication type; etc.)			
ABSTRACT	<p>There is a need for alternative techniques which are uncomplicated, easy to work with and require low maintenance, which can be managed by local people. A compilation of these techniques may enable engineers to select from it the solution which would best suit the social, cultural and economic conditions of the country and the technical level of their personnel. In this way it could be a tool in promoting self-reliance. The mail survey was intended to collect these techniques, which in most cases are not published. The first part contains information which may stimulate further testing and development activities at local level directly. Practical solutions are included on water</p> <p style="text-align: right;">(continued p.t.o.)</p>			
DESCRIPTORS	Low-cost technology/water resources/rainwater collection/wells/ well drilling/spring water collection/surface water collection/bank filtration/water treatment/sedimentation/coagulation/settling/filtration/			
AVAILABILITY	(name, address, country) WHO International Reference Centre for Community Water Supply, P.O. Box 140, 2260 AC Leidschendam, the Netherlands			price: Free-of-charge
abstractor	name: Helderman	institute: IRC	date: 12/11/1979	

(continued)

resources and recovery, water treatment, water transport and use, solar and wind energy and waste collection and disposal. Part II contains other contributions. All solutions are illustrated and reference is made to the original source.

ABSTRACT



**COMMUNITY WATER SUPPLY AND SANITATION  
IN DEVELOPING COUNTRIES**



**A PROFESSIONAL LOOSE LEAF JOURNAL**

**THE USE OF AIDS IN ENVIRONMENTAL  
SANITATION EDUCATION**

**BY**

**DRS. C. VAN WIJK - SIJBESMA**



**JANUARY 1980 — VOL. 1 — NR. 1**



**INTERNATIONAL REFERENCE CENTRE FOR COMMUNITY WATER AND SANITATION  
P.O. BOX 140, 2260 AC LEIDSCHENDAM  
THE NETHERLANDS**

*This loose leaf journal is published bi-monthly. Each issue contains one or more articles on different aspects of community water supply and sanitation in developing countries. All issues are being distributed, free of charge, with the IRC Newsletter.*

*Should you need additional copies and/or translations into French or Spanish, please notify the Information Section of the Centre, making use of the attached request form.*



The Editorial Board of this loose leaf journal consists of representatives of UNICEF, the World Bank and the World Health Organization.



Editorial staff:

<i>W.-K. Hoogendoorn</i>	<i>editor-in-chief</i>
	<i>technical editor</i>
<i>A. L. M. Helderma</i>	<i>documentation</i>
<i>A. J. Berends</i>	<i>art work</i>
	<i>administration</i>

# THE USE OF AIDS IN ENVIRONMENTAL SANITATION EDUCATION

by

DRS. C. VAN WIJK-SIJBESMA



## 1. INTRODUCTION

Much has been said and written already about the relationship between water of a sufficient quantity and quality on the one hand and about the prevention of some of the most prevalent infectious diseases in developing countries on the other. The importance of improved sanitation and hygiene as an additional condition for improved health is also frequently stressed.

The expected health impact is usually a major reason (though not necessarily the only one) to initiate water supply and sanitation projects in rural communities and in urban fringe areas, where conditions are below the mark. However, experience indicates that such projects quite often do not have the impact anticipated. It is quite common to find that construction programmes are delayed and targets not met due to problems of poor access, transport of materials and equipment, transfer and recruitment of skilled labour, supervision etc. It is also no exception to find that fully completed facilities are not accepted by the population, or that they are not properly maintained and administered. And even when such problems do not arise, the expected health impacts may not occur, because people have not changed their behaviour on those points related to the incidence of environmental diseases.

## 2. THE QUEST FOR COMMUNITY PARTICIPATION AND EDUCATION

It is increasingly felt that the direct involvement of communities in the various project phases is a

condition for success. The community members or their representatives can for example be consulted about the scope and contents of the project, the choice and design of the facilities, their siting and the rates the users of the services will have to pay. Often the community takes part in the construction process through voluntary labour and other contributions. Sometimes local caretakers, operators or administrators are trained.

In all these cases, education will have to go hand in hand with participation. People will have to be informed about the general programme and the specific project, and the contributions expected from them in the decisionmaking, implementation and operation and maintenance stages. Those participating in selfhelp construction activities will need instructions on what they have to do, and how and why they have to do it. The future users will have to learn something about the proper handling, use and maintenance of the facilities. This may vary from general users' education to training programmes for community caretakers, operators and administrators. Last, but certainly not least, the whole community has to learn to distinguish between good and bad environmental sanitation practices and conditions, and to act accordingly, so that the positive effect of good water supply and sanitation facilities is not undone by poor hygienic behaviour.

Such education differs from conventional teaching in that it not just aims at an increase of knowledge, but at a change in behaviour and at regular community action to ensure satisfactory environmental sanitation conditions. It is therefore not a matter of giving information to be



memorized. It requires mutual understanding: the members of the various target groups will have to know why they have to change conditions and behaviour and will have to become committed to the project goals, and the educators must learn the specific goal barriers to the desired changes. Joint planning, implementation and evaluation of the educational programme is therefore as necessary as the joint planning, implementation and evaluation of the technological programme.

A continuous dialogue between the community members and the programme workers, for which the latter have to be well-trained, is the main tool in this educational process. Teaching aids can however serve as a useful contribution to any educational programme. It is therefore not surprising that the WHO International Reference Centre for Community Water Supply receives an increasing number of requests for information on educational aids for community water supply and sanitation programmes, particularly regarding health education.

It is neither possible nor useful to meet such requests by merely providing examples of educational aids. For one thing, it is impossible to keep adequate track of all relevant environmental education aids which are continuously produced. More important is that every situation calls for its own aids, with more or less adaptation to the particular local conditions and target groups. Nevertheless, some general observations can be made on the subject which may be of use to those planning and implementing participation and education components of community water supply and sanitation programmes.

In the following paragraphs the advantages and disadvantages are discussed of a mass approach in which general and centrally produced aids are used. It is concluded that a more interpersonal approach which allows for the incorporation of local conditions and the greater involvement of the target groups is more effective. It is suggested that this approach calls for special educational aids and techniques which offer better opportunities for feedback and active participation from the audiences. Finally, it is supposed that a manual and resource book for participatory aids and techniques will answer the need of those requesting educational material better than a sample of some material used in a number of community water supply and sanitation programmes.

### 3. A MASS APPROACH TO SANITATION EDUCATION

An obvious and popular line to take in sanitation education programmes is to start with a mass approach using various types of audiovisual and visual aids. Thus, special films and slide series are developed and posters, booklets, pamphlets and brochures printed. Wall slogans, banners, and even printed dress and curtain materials have been used. Sometimes the mass media are involved through special radio and television programmes and articles in newspapers and magazines.

This mass approach, using centrally produced, general aids does have several advantages. The aids can be used to get or recapture the attention of the public and create a general awareness of a problem. They can reach many people in a relatively short time and offer a way of reinforcing the major messages, while at the same time allowing enough variation to keep people interested. The use of attractive aids can contribute to the authority of the educator. Points which are difficult or time consuming to put into words can be illustrated more easily. Performances or broadcasts can trigger off discussions.

The use of such aids in a mass approach does also have a number of limitations, however. Scotney (1976) listed several negative characteristics, such as their concentration on information, while the ultimate objective of all health education is an improvement in behaviour rather than just knowledge increase. Another limitation is their passivity: they are heard or seen, but the impact is uncertain and the audience is not actively involved in their use, as can be the case with demonstrations. They may also give rise to uncertainty or confusion, so that extra time and efforts are needed afterwards to get matters straight. Often there are practical restrictions to the use of general aids (seating, electricity, timing of meetings etc.).

Frequently educational aids are also seen in a different light by the health educator and the audience. For the former the aid is an educational tool to get a programme message across, for the latter it may be a distraction or convey a totally different message.

In New Zealand, a successful dental health education poster showed a whale jumping out of the water in pursuit of a tube of toothpaste. When the same poster was used in Fiji, the response was immediate and overwhelming. Fiji fishermen sent a rush call to New Zealand for large quantities of this wonderful new fish bait (Foster, 1973).

Investigations of the use of pictorial aids with illiterate target groups have revealed the im-

portance of thorough pretests (Fuglesang, 1973; Holmes, 1964, 1968; NDS/UNICEF, 1975). The credibility of the medium used in transferring the messages may also vary considerably (Rogers, 1972), so that the awareness created can be negative instead of positive.

Another disadvantage of the use of general aids in a mass approach may be that the health educator gets to rely on them too much, so that less preparation is felt to be necessary, no attempt is made to relate them to the particular circumstances of the audience and the whole procedure becomes a mere matter of routine. Although the aids are often developed by experts, the link with the audience can only be made by someone who is familiar with the local conditions and can bring about a feeling of engagement. These disadvantages can be avoided by investigating the credibility of the medium, by using more traditional and local media with a higher familiarity and credibility, and by pre-testing whether the messages are understandable, relevant and culturally correct. Drama based on local conditions, puppet shows and traditional opera are frequently used, e.g. in a dental health education programme in England (Heath, 1969), in a family planning programme in Nigeria (Fuglesang and Perl, 1972), in a schistosomiasis campaign in Surinam (Locketz, 1976) and in a sanitation campaign in Botswana (Kidd and Byram, 1978). Exhibitions based on local materials (photographs, student art) are also used

(Laurent, 1975; Locketz, 1976), but may be less impressive.

The effectiveness, relevancy and cultural suitability of the messages can be pretested on a small representative sample of the target audiences. The production of local aids and the involvement of members of the target groups in their development can also decrease problems of low understanding, relevancy and cultural fit. Courtejoie and Herman (1966) based their educational aids in a malaria eradication campaign on a selection of photographs on local living conditions by local auxiliary health workers, who also pretested them on representatives of the various target groups.

#### **4. A LOCALLY ORIENTED, SMALL-GROUP AND PERSONAL APPROACH**

However, doubt may arise concerning the effectiveness, efficiency and significance of a mass approach using general audiovisual and visual aids in sanitation education programmes\*). Not

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\*) An exception is the case where a mass approach can be used throughout the programme: the same technological package for all communities, offering a high level of service and standard procedures for community involvement in planning, implementation, operation and maintenance, and in administration.

FIGURE I

only does the preparation of films, slides and printed matter for general and widespread use demand much time, funds and skilled manpower, but follow-up educational activities are conditional to achieve lasting behaviour changes. Moreover, the importance of community participation should be made clear right from the start. A mass approach offers less or no opportunities for two-way communication, when compared to a small group and personal approach, which should immediately link-up with the mass approach.

In view of the advantage discussed above, a mass approach need not be totally relinquished, but sophisticated, expensive and general aids should not be considered a first necessity.

Village meetings can also be based on the available information on local environmental health conditions (incidence of water related diseases, stool examination results etc.), with assertive statements made by a number of locally respected authorities and formal and informal leaders. Other possibilities are: reports of visits to demonstration projects or technology testing sites by a group of community representatives (Adeniyi, 1973; Janus, 1962; Mihale, 1974) or an account by a delegation from a community which has been served successfully already (Holmes, 1964), provided all potential user categories are represented (Obibuaku, 1967). An element of competitiveness may enhance the effect of such comparisons (Kincaid et al., n.d.; Mihale, 1974). At this stage, no aids at all need to be used during the meeting, maybe except for such simple ones as blackboard and chalk. Locally made posters can serve to diffuse information on the time, place and subject of the meeting, in addition to the use of personal information channels (e.g. announcements made during church services and other gatherings, and by the village crier).

As stated above, a more personal follow-up will remain necessary. Through such an approach, varying from small group discussions to a personal dialogue, it is easier to persuade people to change some of their environmental sanitation behaviour and conditions. It is also easier to discuss what behaviour and which conditions should and should be changed according to both the educator's and the villagers' opinion. For the latter may have different viewpoints on the definition of negative practices and an unhealthy environment. They can also reveal the barriers which prevent them from improving the existing situation.

A third advantage is that qualitative evaluation can be added more easily to the conventional quantitative monitoring procedures. Suchman (1967) criticized the emphasis put by many public health programmes on the evaluation of programme effort (number of talks given, average number of attendants etc.) rather than

on the assessment of the programme effects and the programme process. It is useful to know how many people have attended a meeting, but it can be more worthwhile knowing who attended and who did not, what the reasons for non-attendance were, whether the messages of the meeting were understood and seen as relevant and applicable under the particular local circumstances, and whether they resulted in any actual changes.

An additional reason for using a small group approach in community water supply and sanitation projects is that in the various project phases different educational target groups can be distinguished, consequently, needing different educational messages.

The following simple example may illustrate this: matters like community cooperativeness for selfhelp activities, choices concerning the technological facilities and initial and later payments will usually be a male affair, while women may need to be approached first on matters of acceptability of the supply, proper use and improved hygiene.

## 5. THE USE OF PARTICIPATORY AIDS AND TECHNIQUES

A locally oriented small-group approach in general requires more time and additional manpower.

The first condition may be no too difficult to meet, because of the special characteristics of the educational programme as part of a participatory water supply and sanitation project. This programme does not primarily aim at short term results, such as the immunization of as many people as possible during a vaccination drive, but forms part of a community based technology programme, demanding a more continuous effort in each participating community.

The training of technical water supply staff in motivation, communication and community organization techniques, the set-up of special promotion services or the provision of some basic technical information to local health or development workers for them to carry out the necessary community organization and education tasks, could contribute to solving manpower problems.

There may be a third consequence, because even with conventional techniques and aids the small-group approach does not automatically result in a better two-way communication. All too often the procedures resemble those of the larger gatherings. A talk is given by the educator

who clarifies the messages with the aid of blackboard and chalk, pictures, a flannelgraph etc. Afterwards questions can be asked by the audience, and a discussion is held, often stimulated by questions from the educator, in order to try and involve the audience more actively.

It is therefore suggested that special techniques and aids are also needed to justify the participatory character of the educational process. First of all, this can be done by following a self-discovery approach during the discussions. This means that through a question and answer technique the educator discovers a link between the felt problems of the audience and the subject of the educational programme, and guides the audience step by step to a number of conclusions on necessary provisions and behaviour changes (Holmes, 1964; Tentori, 1962). Roleplaying is another technique used frequently.

Such techniques are not easy to apply, however. They are in sharp contrast to the more traditional ways of teaching to which the educator and audience both are accustomed. Special aids will make it easier for the educator and the target groups to accept a different role for educator and public. Thus, microscope demonstrations were used in China (White, 1974), helminth specimen were collected and kept alive in a large container in a Philippine sanitation programme (Feliciano and Flavier, 1967) and local photographs were shown in Nigeria and Colom-

bia (Ademuwagun, 1975; World Bank, 1978), to spark off discussions on problem identification and solution and on programme priorities. Other useful aids in this respect are: "Tell the story and find the mistakes" picture series (Holmes, 1968; UNICEF, 1978), poster sorting (UNICEF, 1978) and structured scenarios (White, 1978).

Only one step further lies between the use of participatory aids and techniques in small group discussions and their use for an even more active community involvement. Joint environmental walks can be organized to investigate environmental sanitation conditions in public places (Whyte, 1977). Students of primary schools can carry out latrine surveys (Miyasaka, 1971), or draw health maps of their community (Aarons et al., 1979). Observations or role playing at a water source can be used to discuss water collection, transport, storage and usage patterns. Self-rating cards can be used to make participants evaluate conditions in their homes (Miyasaka, 1971).

Nearly all these examples of participatory aids and techniques have originated from health education programmes that formed part of an environmental sanitation project. This is not surprising, since this is the type of education of which the importance in environmental sanitation projects is unchallenged and where great interest exists in the testing of different educational media, methods and aids. Nevertheless there is also ample scope for the use of such innovative

FIGURE II

techniques in the other educational components of water supply and sanitation programmes, for example regarding general programme and project information, selfhelp instructions, users' education and training of community members for proper operation and maintenance of the facilities.

In the educational programme accompanying the planning phase of the technological project, use can for example be made of special problem and solution identification aids. Such an aid, aiming at investigating an awareness of the need for water purification, could be a series of photographs on reasons for drinking water pollution. A great number of examples can be given, ranging from very obvious ones (e.g. dead animals in the drinking water source), less obvious ones (e.g. direct and indirect pollution by human excreta) and culturally difficult ones (e.g. cattle watering in a source) up to pollution by micro organisms. The use of a microscope for demonstration purposes can clarify this last example. Once the need for purer water has been recognized, the dual necessity of better facilities and proper users' practices will become obvious topics for further discussion. Thus the aid can have a function for the joint choice of the technology (water supply with or without some kind of purification system) as well as for the health education programme as a whole.

In view of the need for special participatory aids and techniques as outlined above, the IRC will, in close cooperation with other relevant agencies, compile a manual and resource book, based on the existing experiences in this field. It is believed that such a publication would be of more assistance to the great variety of community water supply and sanitation programmes than information on and samples of the existing traditional aids for environmental health education.

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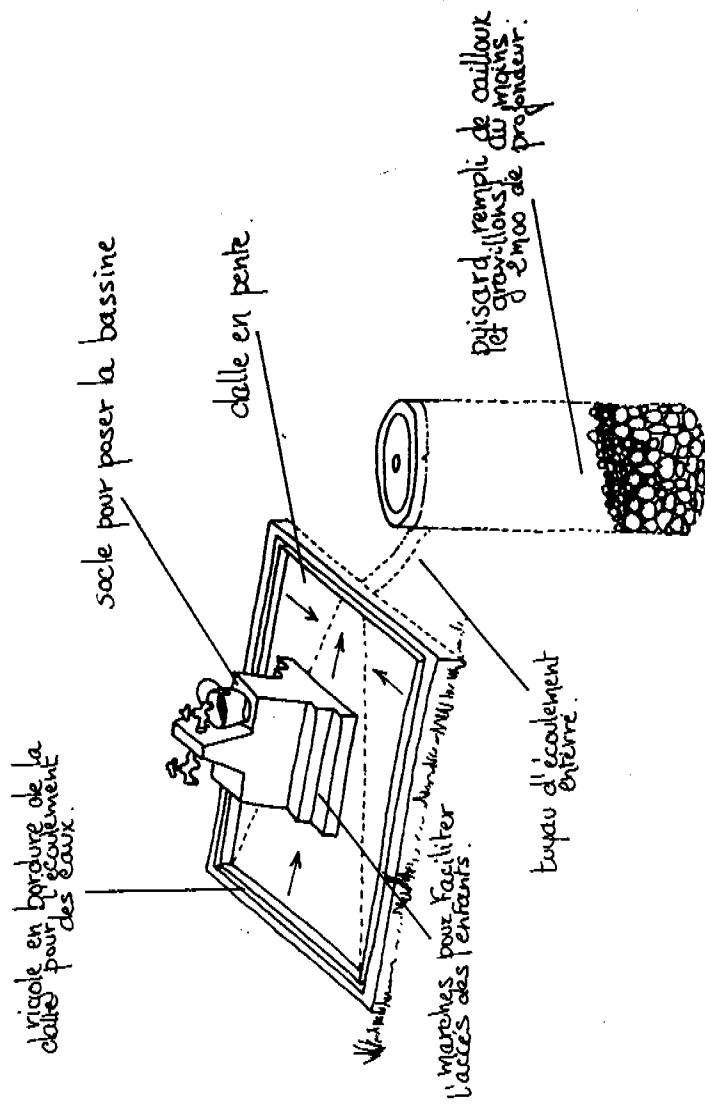
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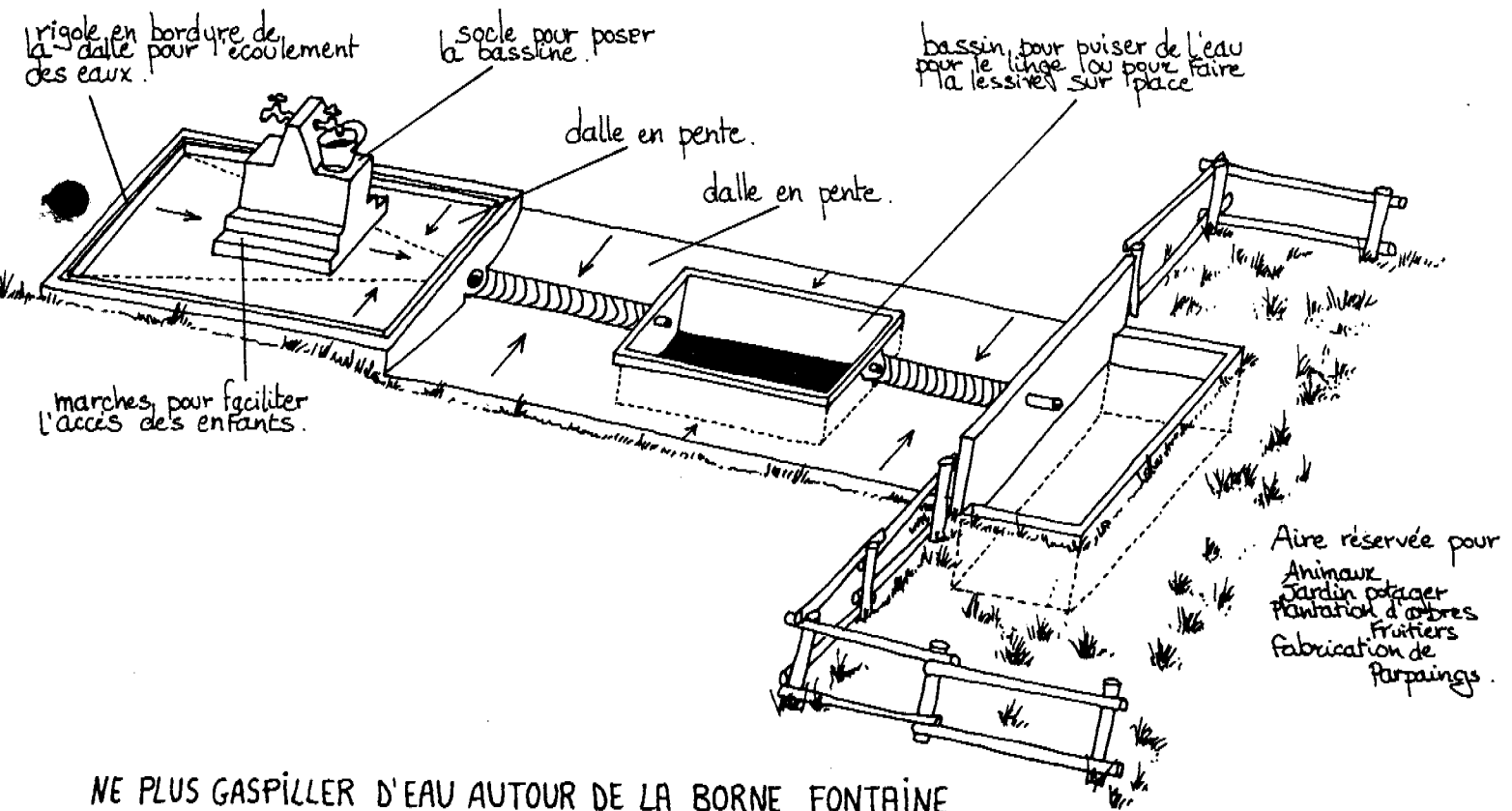
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