OVERSEAS DEVELOPMENT ADMINISTRATION

External Review of GARNET

August 1992

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SUMMARY OF RECOMMENDATIONS

1 The emphasis on the informal, decentralized approach adopted by GARNET is strongly endorsed. This aspect should be highlighted in the proposed brochure, see item 2.

Promotion

2 A short attractive brochure should be prepared explaining the purpose of GARNET. It should be translated into French, Spanish and possibly Chinese and be circulated as widely as possible.

3 A short newsletter should be prepared by GARNET at six-month intervals. French and Spanish versions should be circulated. Ultimately, a Chinese version might be included.

4 GARNET should adopt a high profile at conferences, seminars and workshops dealing with developing country water and sanitation problems including water-related health issues and social and gender problems.

5 GARNET should make special efforts to involve Chinese and ultimately Russian participation in the network. Exploratory visits to explain its purpose and functioning may be necessary.

Research

6 GARNET should assist researchers to identify possible sources of finance for specific applied research projects. However, it should not become involved in the details of the aid process.

Organization

7 The possibility of phasing out the Regional Network Coordinators should be considered.

CONTENTS

8 GARNET should monitor more closely the performance of the TNC's to ensure that they are effective.

9 GARNET headquarters should be rotated at approximately three-year intervals subject to the approval of the Collaborative Council.

10 An advisory committee should be set up as soon as possible to monitor and advise on GARNET's progress and activities.

EXTERNAL REVIEW OF GARNET

1. INTRODUCTION

Objectives

1.1 The objectives of the review are,

- to re-examine the goals of the GARNET initiative and the extent of the demand which exists for GARNET services.
- to evaluate the process which has been designed for the establishment of GARNET.
- to assess the progress made by WASH with reference to the goals established in The "Oslo paper" and
- to make recommendations for the future of GARNET.

The Establishment of GARNET

1.2 The recommendation to set up a Global Applied Research Network (GARNET) was taken by the Temporary Working Group (TWG) on Applied Research, which met in France in November 1989. The Working Group had itself been established by Water and Sanitation Collaborative Council of the World Health Organisation (WHO). Early in 1990, the Working Group invited the International Development Research Centre (Canada), the USAID sponsored Water and Sanitation for Health (WASH) organisation and the UN Development Programme and the World Bank joint programme to develop an applied research network, embracing water, sanitation and related health and social topics.

1.3 Detailed proposals for GARNET were presented at the Safe Water 2000 conference held in Delhi in September 1990 which marked the end of the Water and Sanitation Decade, 1980-1990. GARNET became operational in March 1991. Subsequent meetings at which the GARNET initiative was discussed were held in Oslo in September 1991 and Zurich in June, 1992.

GARNET's Role

1.4 The overall purpose of the GARNET initiative, as set out in the paper submitted to the Delhi conference in August 1990 are,

- to promote the conceptualization and implementation of research on new and conventional topics;
- to facilitate and promote the dissemination and exchange of information about current and completed research;
- to promote discussion, debate and identification of new directions for applied research;
- to assist in strengthening the capacity of developing country institutions, organizations and agencies to identify, design and implement applied research projects;
- to promote the creation of new knowledge by building on the results of past research;
- to reduce, and eventually eliminate, the duplication of research efforts; and,
- to identify possible sources of funds for particular research topics.

1.5 After discussion, the Temporary Working Group on Applied Research defined four major sections into which the various topics could be grouped. These are,

- expansion and enhancement of service,
- benefits of improved water supply and sanitation services,
- system sustainability, and
- environmental sustainability.

Details of the sub-topics are included in Annex 1

2. ACHIEVEMENTS

Introduction

2.1 Since GARNET became operational in March 1991, WASH have concentrated their activities on identifying organisations, worldwide who would assume the role of network co-ordinators. Two types of co-ordinators were envisaged, namely Topical Network Co-ordinators (TNC's) dealing with specific topics and Regional Network Co-ordinators (RNC's) covering a range of topics in a specific region. To date 31 TNC's and 4 RNC's have been established. Details are included at Annexes 3. and 4.

Selection of TNC's and RNC's

2.2 The criteria for selecting TNC's and RNC's are listed below. Candidate must,

- demonstrate an involvement or strong interest in applied research: TNC's on the specific topic which is relevant to developing country situations; RNC's on a variety of topics relevant to developing country situations;
- demonstrate functioning communication facilities with easy access into and out of the TNC or RNC;
- state that they have sufficient financial resources to support a minimum level of activities;
- agree to submit a brief status report every six months to the GNC;
- agree to negotiate with any other organization wishing to become the TNC or RNC for the same topic or region;
- promote the equal sharing of research findings and information;
- commit to assisting others in identifying funding sources for research in their topic area, and
- commit to bringing researchers together through communications (e.g. mailings-level 1, newsletters-level 2 and workshops/meetings-level 3).

2.3 After selection, the levels of input which the selected candidates may be able to achieve are categorised, with three levels. These are included at Annex 2, and are summarised below.

Level 1 - maintain a data base of all members including details of their research activities. Submit a report, twice a year to the Global Network Coordinator (GNC). Respond to any information requests.

Level 2, as 1, but including the circulation of a periodic newsletter and establishing an information centre of research activities.

Level 3, as levels 2 and 1, but including the organization of periodic workshops and visits among network members.

Out of the current 31 TNC's, 10 have opted for level 1, 11 for level 2, and 7 for level 3. Three did not indicate a preference.

Topic Networks

2.4 Of the 31 TNC's already selected, 13, say 42% are newly created. The topics have been categorised in the Table below.

Table 1 - Categories of Topics

Subject	No of Topics
Water Supplies	10
Sanitation	11
Health	5
Social Aspects	nil
General topics	5

The topics cover about 14 of the sub topics listed in Annex 1. The distribution appears reasonable, with the exception of the absence of any coordinators for social aspects.

2.5 The regional distribution of the TNC's is included in Table 2 below.

Table 2 - Regional Distribution of TNC's

Europe	15
America North	5
America South & Central	3
Africa, East and South	3
Africa, West	3
Asia	2

Of the 15 European TNC's, 9 are based in the UK and the Netherlands.

2.6 There is likely to be overlapping between some of the topics. For example there are two coordinators dealing with Institutional Development namely WEDC at Loughborough and the International Institute for Hydraulic and Environmental Engineering at Delft. There are also two TNC's dealing with Anaerobic Wastewater Treatment, both in the Netherlands.

2.7 In a number of instances, little if any work has been done by the TCO's to establish their networks. Conversely a number of TCO's represent existing long established networks, such as that organised by WASH in 1984 covering rainwater harvesting, which now has 15 members, and the Solar Distillation network which was set up in 1960 by the Brace Research Institute, Canada and which has now about 40 members.

2.8 The all-important topic of handpump technology does not appear to be adequately covered. The TNC in England has not yet established his network. The TNC in Malaysia is reported to be exclusively concerned with the development, manufacture and marketing of a single model.

2.9 To date there are no TNC's concerned with the social aspects of improved water supplies and sanitation, with particular emphasis on the role of women. Problems and possible solutions will be highly ethnic group specific. It may be difficult to locate a single TNC to cover the whole range of problems worldwide.

Regional Networks

2.10 To date there are four Regional Network Coordinators. Three are well-known centres of applied research in the Far East, East Africa and the UK. The fourth, in Bangladesh, which specialises in health aspects is well established locally but is uncertain how far it should extend its network geographically.

2.11 The extent of the outreach of the Regional Coordinators varies. The Bangladesh and UK based coordinators operate solely within their countries. AMREF and the centre at AIT in Thailand cover a wider geographic field. It is noteworthy that there are no RNC's in West Africa, South America or the Middle East.

Manpower Inputs and Cost Estimates

2.12 WASH estimated their inputs to be at the rate of 3-5 days per month for an information specialist and 2-3 days per month for a manager. This is equivalent to a total input of 78 days a year. The actual input over the whole 17 month period of WASH's involvement has been 523 hours. Assuming a seven hour day this is equivalent to a mean annual input of 52 days per year.

2.13 WEDC estimate that their annual input will be about 80 man days. It is considered that it is likely that an additional effort may be required to sustain and encourage GARNET activities, especially in its formative years.

2.14 The input required to support the newly established International Programme for Technology Research in Irrigation and Drainage (IPTRID) network at Hydraulics Research, Wallingford is about 8 man months - say 160 man days per year.

2.15 The costs of the WASH inputs and forecasts of the WEDC inputs are included in Table 3 below.

Table 3 GARNET Annual Operation Costs in $US

		WASH	WEDC forecast
Staff input	man days	80	80
Staff costs		17,600	40,000
Overheads, newsletters, communications, travel, etc.		4,800	16,500
		23,400	56,500

2.16 It is clear that the cost of sustaining GARNET is likely to increase substantially for the next three years.

3. RECOMMENDATIONS

3.1 As a result of discussions and based on comments made by TNC's and RNC's, it appears that there are a number of weaknesses in the current organisation of GARNET which should now be addressed. In making these comments and suggestions, the fundamental aim of ensuring that GARNET should remain an informal, flexible network has been borne in mind.

Promotion

Explanatory Brochure

3.2 There appears to be considerable uncertainty about the purpose of the GARNET initiative, and the relations between the TNC's and RNC's. It is recommended that a clear explanation of their respective roles and responsibilities, should be prepared and circulated as widely as possible. A document on the lines of that produced for IPTRID, (Hydraulics Research, Wallingford) in April 1991 entitled 'Networking' is envisaged.

3.3 It will be essential to emphasise that there is no intention to interfere in any way with current or future research programmes. GARNET's role in information exchange should be highlighted.

3.4 It is recommended that this document should be translated into French and Spanish and possibly Chinese - see Para 3.7 below.

Newsletter

3.5 A short newsletter describing GARNET activities and other appropriate information of general interest should continue to be circulated at about six-monthly intervals. It is recommended that the format be improved to make it more attractive and the print enlarged. It is understood that arrangements have been made to include extracts in publications such as WaterLines: this should continue. The newsletter should be translated into French, Spanish and possibly Chinese.

Conferences and Seminars

3.6 It is recommended that the existence and role of GARNET should be publicised at conferences, seminars and workshops on water, sanitation and related health and social problems in developing countries. It is likely that the annual conferences organised by WEDC will provide an excellent opportunity to explain the aims and objectives of GARNET.

China

3.7 There has so far been no contact with Chinese organisations to encourage them to join GARNET. The experience of Hydraulics Research, UK when setting up the IPTRID network, indicates that there may be great interest in joining. An essential first stop would be to translate the brochure referred to in para 3.2-3.4, into Chinese, and follow this by an exploratory visit by a GARNET representative.

3.8 Similar initiatives might eventually be taken in the dry regions of the Commonwealth of Independent States.

Research

3.9 Several TNC's have enquired about the possibility of providing funds for applied research programmes through GARNET. Although there is no possibility of providing direct financial help, it is considered that a short booklet be prepared listing the sources of research funds together with their requirements and limitations. Many developing country universities are ill-informed about potential sources and the methods of applying for assistance.

Organisation

3.11 There are only four RNC's at present, two of whom were visited and one contacted during the evaluation. Their activities vary and are described below.

3.12 WEDC are setting up a comprehensive network embracing all the applied research activities concerned with the provision of water and sanitation in developing countries. At present this initiative is limited to the UK only.

3.13 The African Medical and Research Foundation (AMREF) has a wide remit throughout East Africa. They are concerned with training, information and research in that order of priority. They are closely involved with the International Training Network (ITN). They do not get involved in research themselves but support and encourage research activities. They are uncertain about what GARNET is expecting of them.

3.14 The Bangladesh based International Centre for Diarrhoeal Diseases Research are active in this field only in Bangladesh. They have had no guidance about whether and how they should seek to expand the network in these and related activities into other countries in the region.

3.15 It appears that the relationship between the TNC's and the RNC's is not clearly defined, and that some overlapping is likely to occur. Two possible options should be considered, namely

- to discontinue the RNC's or
- to expand their functions to include some of the other activities promoted by the Collaborative Council, such as that for information, education and communication.

Selection of TNC's

3.16 It is considered that there should be more discrimination in the appointment of TNC's. In the course of the brief survey of their activities during this evaluation it is apparent that six TNC's out of 11 contacted have not as yet taken action to set up their network. Furthermore, as noted in para. 2.6 there is duplication of topics, even within the same country.

3.17 The requirement that each TNC should submit a short account of activities at six monthly intervals should give a clear insight into the effectiveness of the organisation. Those who appear inactive and disinterested should be replaced.

Rotation of GARNET Headquarters

3.18 The proposal that GARNET headquarters be rotated at about three year intervals is strongly endorsed. The possibility of inviting an institution in a developing country to undertake this task should be considered. An adequate modern communications network would be a prerequisite. However the provision of additional funds to sustain the required activities may present problems.

An Advisory Committee

3.19 To date, the recommendation made at the Oslo meeting in September 1991 that an advisory body should be set up to monitor and advise GARNET has not been implemented. It is recommended that such an advisory committee be set up as soon as possible. In addition it might bring fresh ideas both on applied research and the dissemination of information to make GARNET more effective. It is considered that an annual review would be adequate.

4. CONCLUSIONS

Progress to Date

4.1 It is considered that after 17 months, the Global Network Coordinators have made a good start in setting up GARNET. In this period 31 TNC's and 4 RNC's have been identified. However, some revisions of the list are now recommended to avoid overlapping and to remove under-performers. It was noted that, in reply to a questionnaire circulated on July 23 last, to all TNC's, only six had replied by August 5th. Further stimulation of interest is necessary.

Further Research

4.2 Since the start of the Water and Sanitation Decade in 1980, there has been a worldwide, sustained initiative to identify and improve appropriate methods to provide safe water and sanitation facilities to the rural communities in the developing world. There have also been parallel activities to ensure that the links between improved water supplies and sanitation and health are better understood. Finally the importance of involving the recipients, especially the women, in the selection of technology and the location and maintenance of the installation, has been widely recognised.

4.3 The technologies involved have had, of necessity, to be simple and cheap. Possibly the most complicated item of equipment employed is a deep well pump, powered by a small, two-cylinder engine, both of which are mass-produced and subject to little further research. Technologies for water filtration and for removing iron salts are well-known and efforts are now concentrated on producing cost-effective improvements appropriate for rural situations. The improvement of the design of handpumps has been very actively pursued for the past ten years. It has led to the manufacture of robust models capable of being maintained at village level.

4.4 It is accepted that there may be some topics where further research is required, such as the problems associated with the development of low cost sewage treatment in semi-urban areas. However, over a wide range of topics the apparent emphasis on applied research in GARNET's activities may be misplaced, and an increased effort should be focused on the exchange of information and experience at field level.

Information Exchange at Field Level

4.5 It is considered that GARNET should now seek as a matter of priority, TNC's with field experience in dealing with such aspects as community management, operation and maintenance, hygiene education, all of which are included in the topics included in the list at Annex 1.

4.6 GARNET should then, through the TNC's encourage field workers to record and exchange their experiences. To this end the establishment of data banks would be of great value. It is considered most important that these aspects, which are now being effectively tackled at village level, should be recorded now. They should not await an academically inspired evaluation sometime in the future.

4.7 It may be difficult to identify appropriate TNC's for this role. It is thought unlikely that NGO's would be willing to help due to the limitations of funds available. However they would be willing to share their experience. Organisations such as the Blair Research Laboratory in Harare, or its successor organisation might help. It is possible that the PROWWESS group, based at the World Bank, might assist with the search for suitable candidates.

Topics for GARNET

Expansion and enhancement of service:

- Handpump Technology
- Desalination
- Technology Transfer
- Rainwater Harvesting
- Hygiene Education
- Water/Sanitation System Rehabilitation
- Investment Financing Options
- Low Cost Sanitation
- WSS Norms and Standards
- Water Quality
- Peri-urban/Community Participation

Benefits of Improved WSS Services

- Health Benefits
- Economic Benefits
- Social Benefits
- Environmental Benefits
- Intersectoral Linkages & Coordination
- Demand Measurement and Stimulation

System Sustainability

- Community Management
- Operation & Maintenance
- Cost Recovery
- Institution and Human Resource Development

Environmental Sustainability

- Waste Water Reuse
- Solid Waste
- Urban Sanitation
- Environmental Education
- Water Resources Protection
- Environmental Assessment

Level of Commitment for Network Co-ordinators

LEVEL 1

- Develop and/or maintain files or database on network members which will contain information on organization name, address, contacts, etc.
- Maintain current information on research efforts, studies or projects by network members.
- Update information on research activities by network members on a periodic basis through individual meetings, personal contact, questionnaires, etc.
- Respond to information requests from network members and others about the network.
- Provide information twice per year to the Global Network Coordinator (GNC) about the network. This will include information on the number of network members, network promotion, etc. See the attached form for a more detailed description.
- No fees charged to members.

LEVEL 2

- All of the above activities (except some topical networks may charge an annual membership fee).
- In collaboration with other network members, publish and distribute a periodic bulletin or newsletter. This publication would contain information on current applied research efforts, findings, proposals, etc.
- Establishment or expansion of information centre that collects, obtains, and disseminates applied research information to network members.
- Promotion of the network through announcements, articles, etc.

LEVEL 3

- All of the above activities.
- Sponsor and/or organize periodic workshops, demonstrative visits, pilot projects, etc. among network members.

TOPICAL NETWORK COORDINATORS

3 August 1992

Topic	Agency	Contact	Level	Members	Research	Fees	Status
1. Appropriate Technology	Division of Water Technology CSIR P.O. Box 395 Pretoria 0001 South Africa Phone: 27-12-841-3897 Fax: 27-12-841-4785	P. Solsona	2	20	Y	N	Estab
2. Dracunculiasis Operations Research Network	London School of Hygiene and Tropical Medicine Keppel Street London WC1E 7HT United Kingdom Phone: 44-71-636-8636 FAX: 44-71-436-5389	Sandy Cairncross	2	20	Y	N	New
3. Groundwater Pollution	International Reference Centre for Wastes Disposal CH-860 Duebendorf Switzerland Phone: 41-1-823-5018/17 FAX: 41-1-823-5028	Roland Schertenleib	1	15	Y	N	Estab
4 Handpumps, Unimade (IDRC Handpump Network)	University of Malaya Dept. of Mechanical Engineering 59100 Kuala Lumpur Malaysia Phone: 60-3-7578308 Ex.260 FAX: 60-3-7573661	Goh Sing Yau	3	13	Y	N	Estab
5. Housing and Health	UNCHS HABITAT P.O. Box 30030 Nairobi Kenya Phone: 254-2-333930 Fax: 254-2-226473/226479	Mario Piche	1	?	Y	N	Estab
6. Hygiene Behavior	London School of Hygiene and Tropical Medicine Keppel Street London WC1E 7HT United Kingdom Phone: 44-71-636-8636 FAX: 44-71-436-5389	Sandy Cairncross	?	?	?	?	New

TOPICAL NETWORK COORDINATORS

Topic	Agency	Contact	Level	Members	Research	Fees	Status
7. Impact Assessment (Health)	All India Institute of Hygiene and Public Health 110, Chittaranjan Ave. Calcutta 700 073 India Phone: 5200 FAX:	K.J. Nath	1	10	Y	N	New
8. Infrastructure for Low-Income Urban Housing	Water Engineering and Development Centre (WEDC) Loughborough University of Technology Leicistershire LE11 3TU, UK Phone: 44 509 222885 FAX: 44 509 211079	Andrew Cotton	1	50?	?	?	?
9a. Institutional Development	International Institute for Hydraulic & Environmental Engineering Oude Delft 95 P.O. Box 3015 2601 Delft Netherlands Phone: 31-15-788021 FAX: 31-15-122921	Guy Alaerts	3	40	Y	N	New
9b. Institutional Development	Water, Engineering, and Development Centre Loughborough University Leicestershire LE11 3TU United Kingdom Phone: 44-509-222885 FAX: 44-509-211079	Andrew Cotton	1	?	Y	?	New
10. Latrines (Emptying of Pit Latrines)	International Reference Centre for Wastes Disposal CH-860 Duebendorf Switzerland Phone: 41-1-823-5018/17 FAX: 41-1-823-5028	Roland Schertenleib	2	15	Y	N	Estab
11. Latrines, Composting	Centro Mesoamericano de Estudios Sobre Tecnologia Apropiada 4a. Avenida 2-18, Zona 1 Apartado Postal 1160, Guatemala 01901 Guatemala Phone: 502-2-22153/53847 FAX:	F. Villegas	2	?	Y	N	Estab

TOPICAL NETWORK COORDINATORS

Topic	Agency	Contact	Level	Members	Research	Fees	Status
12. Low-Cost Sanitation	Water Engineering and Development Centre (WEDC) Loughborough University of Technology Leicistershire LE11 3TU, UK Phone: 44 509 222885 FAX: 44 509 211079	Andrew Cotton	1	50?	?	?	?
13. Participatory Monitoring and Evaluation	UNDP/World Bank Water and Sanitation Program 1818 H St. NW Washington, D.C. 20433 United States Phone: 1-202-473-1304 FAX: 1-202-477-0164	Deepa Narayan-Parker	3	50	Y	N	New
14. Pumping Technology, Non-Mechanized	University of Warwick Dept. of Engineering Coventry CV4 7AL United Kingdom Phone: FAX: 44-203-418922	Terry Thomas	1	?	Y	N	Estab
15a. Rainwater Harvesting	Water and Sanitation for Health Project 1611 N. Kent St., Suite 1001 Arlington, VA 22209 United States Phone: 1-703-243-8200 FAX: 1-703-243-9004	Dan Campbell	2	15	N	N	Estab
15b. Rainwater Harvesting (Rainwater Quality)	Centre Regional Pour l'Eau Potable et l'Assainissement à Faible Cout 03 BP 7112 Ouagadougou 03 Burkina Faso Phone: 226-31-03-59/60 FAX: 226-31-03-61	C. Toure	2	20	Y	N	New
16. Solar Distillation	Brace Research Institute MacDonald Campus P.O. Box 900, Ste-Anne-de-Bellevue Quebec H9X 1C0 Canada Phone: 1-514-398-7833 FAX: 1-514-398-7767	T. A. Lawand	3	10	Y	N	Estab

TOPICAL NETWORK COORDINATORS

Topic	Agency	Contact	Level	Members	Research	Feas	Status
17. Solar Water Disinfection	Brace Research Institute MacDonald Campus P.O. Box 900, Ste-Anne-de-Bellevue Quebec H9X 1C0 Canada Phone: 1-514-398-7833 FAX: 1-514-398-7767	T.A. Lawand	3	30	Y	N	Estab
18. Solar Water Pumping	International Water Engineering Centre University of Ottawa/Civil Engineering Dept. Ottawa, Ontario K1N 6N5 Canada Phone: 1-613-564-2258 FAX: 1-613-564-9860	Eric Schiller	2	8	Y	N	New
19. Solid Waste Recycling	UNCHS HABITAT P.O. Box 30030 Nairobi Kenya Phone: 254-2-333930 Fax: 254-2-226473/226479	G. Rao	1	50	Y	N	Estab
20. Waste Management	Centro Panamericano de Ingenieria Sanitaria y Ciecias del Ambiente Casilla Postal 4337 Lima 100, Peru Phone: 51-14-35-41-35 Telex: 21052	A.F. Munoz	?	25	Y	?	Estab
21. Wastewater Reuse	International Reference Centre for Wastes Disposal CH-860 Duebendorf Switzerland Phone: 41-1-823-5018/17 FAX: 41-1-823-5028	Roland Schertenleib	1	50?	Y	N	Estab
22a. Wastewater Treatment (Anaerobic)	International Institute for Hydraulic & Environmental Engineering Oude Delft 95 P.O. Box 3015, 2601 Da Delft Netherlands Phone: 31-15-788021 FAX: 31-15-122921	Guy Alaerts	3	50	Y	N	Estab

TOPICAL NETWORK COORDINATORS

Topic	Agency	Contact	Level	Members	Research	Fees	Status
22b. Wastewater Treatment (Anaerobic)	Wageningen Agricultural University Dept. Environmental Technology P.O.B. 8080 6700 Wageningen Netherlands Phone: 31-83-70-83174 FAX: 31-83-70-84411	Gatze Lettinqa	1	50?	Y	?	Estab
22c. Wastewater Treatment (Lagoons)	Centre Regional Pour l'Eau Potable et l'Assainissmenet à Faible Cout 03 BP 7112 Ouagadougou 03 Burkina Faso Phone: 226-31-03-59/60 FAX: 226-31-03-61	C. Toure	2	19	Y	N	New
22d. Wastewater Treatment (Wetlands)	Linkoping University Dept. of Water & Environment S-581-83 Linkoping, Sweden FAX: 46-13-133630	Dr. Karin Sundblad	2	15?	Y	N	Estab
23. Wastewater & Water Treatment (Separation Processes)	TECHWARE 70 rue aux Laines Wolstraat 70 1000 Brussels, Belgium Phone: 32-2-5188894 FAX: 32-2-5026735	Jan G. Janssens	2	25	Y	N	New
24. Water Loss	Centro Panamericano de Ingenieria Sanitaria y Ciecias del Ambiente Casilla Postal 4337 Lima 100, Peru Phone: 51-14-35-41-35 Telex: 21052	S.A. Caporali	?	15	Y	?	Estab
25. Water Treatment (Iron Removal)	Centre Regional Pour l'Eau Potable et l'Assainissement à Faible Cout 03 BP 7112 Ouagadougou 03 Burkina Faso Phone: 226-31-03-59/60 FAX: 226-31-03-61	C. Toure	2	20	Y	N	New

TOPICAL NETWORK COORDINATORS

Topic	Agency	Contact	Level	Members	Research	Fees	Status
26. Water Treatment (Suspended Solids Removal)	International Institute for Hydraulic & Environmental Engineering Oude Delft 95 P.O. Box 3015, 2601 Da Delft Netherlands Phone: 31-15-788021 FAX: 31-15-122921	Guy Alaerts	3	40	Y	N	Estab

REGIONAL NETWORK COORDINATORS

Topic	Agency	Contact	Level	Members	Research	Fees	Status
Asia	Environmental Sanitation Information Center c/o. A.I.T., GPO Box 2754 Bangkok 10501 Thailand Phone: 66-2-516-0110-29 FAX: 66-2-516-2126	Marta Miyahsiro	3	?	Y	Y	Estab
Bangladesh	International Centre for Diarrhoeal Disease Research GPO Box 128 Dhaka 1000 Bangladesh Phone: 800-2-600171/78 Ext. 242 FAX: 880-2-883116	Bilqis Amin Hoque	1	50	Y	N	New
East Africa	AMREF Wilson Airport P.O. Box 30125 Nairobi, Kenya Phone: 254-2-501301 Fax: 254-2-506112	Melvin Woodhouse	3	?	Y	N	Estab
United Kingdom	Water Engineering and Development Centre Loughborough University Leicestershire LE11 3TU United Kingdom Phone: 44-509-222885 FAX: 44-509-211079	Andrew Cotton	1	6-7	Y	N	New

People Met

Craig Hafner	WASH, U.S.A.
Dan Cambell	WASH
Johnathan Darling	WASH
John Austin	USAID
Mike Garn	UNDP/World Bank
Wendy Wakeman	UNDP/World Bank
Jim Chauvin	Consultant, Canada
Prof. John Pickford	WEDC, Loughborough
Andrew Cotton	WEDC
David Howarth	WEDC
T.D. Pike	ODA, London
David Collett	WaterAid, London
Andre Dzikus	HABITAT, Nairobi
Melvin Woodhouse	AMREF, Nairobi

People Contacted by Telephone

T. A. Lawand	Brace Research, Canada
Prof. Guy Alaerts	IHE Delft
Roland Schertenleib	IRCWD, Zurich
Prof. Terry Thomas	University of Warwick UK
Bilqis Hoque	ICDDR Bangladesh
Dr. K. Sanmuganathan	HR Wallingford
J. M. van Damme	IRC The Hague
Peter Kolsky	LSH and TM, London

Acronyms

GARNET	Global Applied Research Network
TNC	Topical Network Co-ordinator
RNC	Regional Network Co-ordinator
GNC	Global Network Co-ordinator
WASH	Water and Sanitation for Health
WEDC	Water Engineering and Development Centre, UK
AMREF	African Medical and Research Foundation, Kenya
AIT	Asian Institute of Technology, Thailand
IPTRID	International Programme for Technology Research in Irrigation and Drainage, UK
IDRC	International Development and Research Centre, Canada
LSH and TM	London School of Hygiene and Tropical Medicine, UK
ODA	Overseas Development Administration, UK
WHO	World Health Organisation
IRC	International Reference Centre, Netherlands
ICDDR	International Centre for Diarrhoeal Disease Research, Bangladesh
IHE	Institute for Hydraulic Engineering, Netherlands
IRCWD	International Reference Centre for Waste Disposal, Switzerland
HR	Hydraulics Research, Wallingford, UK