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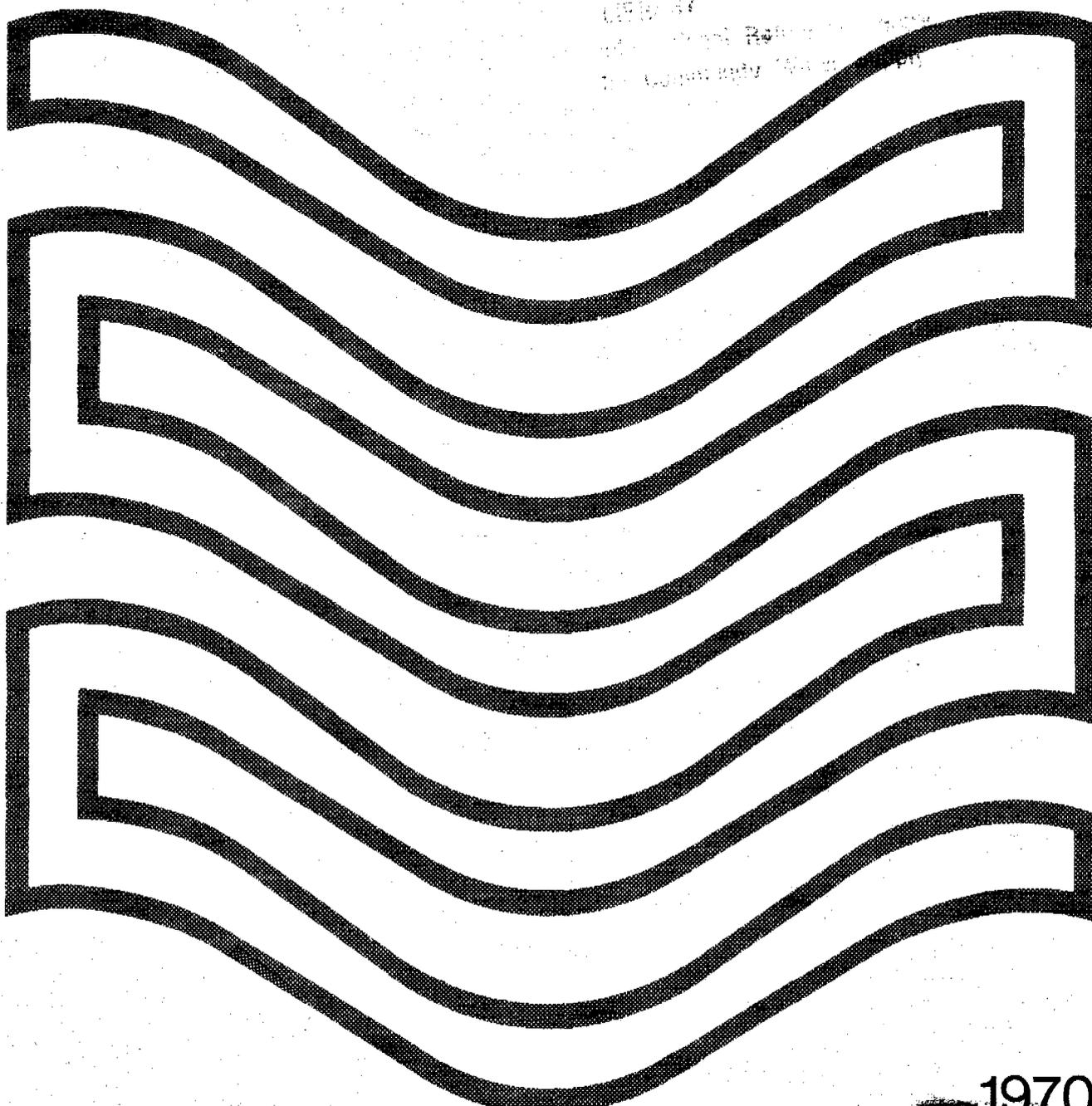
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International reference centre on community water supply

parkweg 13, the Hague, the Netherlands

second annual report



1970

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W.H.O. International Reference Centre
for Community Water Supply

The Hague

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ENCLOSURES

1. Collaborating Institutions
2. Functions of the I.R.C.



Only a few drops of water, but so precious.... - WHO-photo

1. SUMMARY

In December 1968 an agreement was concluded between the World Health Organization and the Government of the Netherlands by which the Government Institute for Drinking Water Supply in The Hague has been designated as an International Reference Centre for Community Water Supply. The duties of the Centre as well as the Organization are described in the first annual report, dated 31 December 1969.

The W.H.O. International Reference Centre for Community Water Supply operates through a network of Collaborating Institutions all over the world and executes its tasks in co-operation with the Government Institute for Drinking Water Supply and other bodies in the Netherlands active in the field of water supply research and development, viz.:

- The Testing and Research Institute of the Netherlands Waterundertakings KIWA Ltd.
- The Netherlands Waterworks Association.
- Technological University Delft.
- International Courses in Sanitary Engineering.
- Research Institute for Public Health Engineering, T.N.O.
- National Institute for Public Health.

All these Institutions are represented on an Advisory Board to the Centre. Members of this Board are also representatives of W.H.O. and the Government of the Netherlands (Ministry of Public Health, Section for International Affairs) with Professor W.F.J.M. Krul as an advisor. Details about the organization of the I.R.C. are given in par. 2.

The financial supports of the I.R.C. are described in par. 3.

An important event during the reporting period was the International Conference on Research and Development in Community Water Supply held at Dubrovnik, Yugoslavia, in October 1970. A short report is given in par. 4. During this meeting the role of the Collaborating Institutions and

the W.H.O. International Reference Centre could be defined more exactly, so that the I.R.C. was enabled to draft a five-years programme outlining the future objectives and activities. It became evident that the organizational set-up of the I.R.C. should allow for future expansion of the activities in order to meet the requirements so clearly expressed by the Collaborating Institutions at the Dubrovnik Conference.

After the initial stage of rather limited activities, the Centre now has arrived at the point of getting the network of Collaborating Institutions into effective operation and to speed up its own activities. Already the collection and dissemination of information concerning research and development in the field of community water supply has been started. The regular publication of a Newsletter, intended to disseminate brief information on the various activities of I.R.C. and the Collaborating Institutions has been realized.

In par. 5 a short description is given of the I.R.C. activities on various subjects during this second year of operation.

The five-years programme, approved by the Advisory Board in December 1970, is discussed in par. 6.

Officials who paid a visit to the I.R.C. are mentioned in par. 7; lectures and visits by I.R.C. Staffmembers in par. 8 and 9 respectively.

Although difficulties arose concerning attracting the required personnel, the building up of the Centre could be continued with the help of personnel of the Government Institute for Drinking Water Supply, who devoted part of their time to the I.R.C. (see par. 10).

Very helpful assistance was received from Mr. J. Lieffering who acted as the Centre's P.R. Officer.

As previously was the case, the Centre was housed in the buildings of the Government Institute.

In conclusion it must be stated that many wishes still remained unfulfilled. The Dubrovnik Conference on Research and Development, however, made clear that both developed and developing countries expect from I.R.C. a worldwide active role in promoting development and research in close co-operation with the W.H.O.

The I.R.C. believes that during the period under review a start has been made which may lead to the realization of this expectation.



Handpump in Afghanistan - WHO-photo

2. THE ORGANIZATION OF I.R.C.

2.1 Collaborating Institutions

During the reporting period seven new institutions were officially designated as Collaborating Institutions, namely:

- The Institute of Hygiene
The University of Aarhus
Universitetsparken
DK 8000 Aarhus / Denmark
- The All-India Institute of Hygiene and Public Health
110 Chittaranjan Avenue
Calcutta / India
- Central Public Health Engineering Research Institute
Nehru Marg
Nagpur-3 / India
- Institute of Hydro Sciences and Water Resources
Technology
64 Ghadessi Street
Teheran / Iran
- Centre Belge d'Etude et de Documentation des Eaux
CEBEDEAU
2, Rue Armand Stévar
B-4000 Liege / Belgium
- Faculty of Engineering
University of Nairobi
Box 30187
Nairobi / Kenya
- Dept. of General and Environmental Hygiene
The Institute of Hygiene and Epidemiology
Srobárova 48
Prague / Czechoslovakia

At the end of 1970, 28 institutions were collaborating with the I.R.C.

A list of the Collaborating Institutions as of 1 January 1971 is attached to this document as annex I.

2.2 W.H.O. Community Water Supply Unit

In August, the Director of the W.H.O. Division of Environmental Health Mr. C.H. Atkins, visited the Centre to discuss the activities of I.R.C.

The Director and the Manager of I.R.C. paid a visit to the Community Water Supply Unit of W.H.O. in Geneva.

Mr. Martijn paid his visit in August 1970 to discuss the contribution of I.R.C. to the Conference on Research and Development in Community Water Supply at Dubrovnik. Discussions included the I.R.C.'s future programme.

Mr. Verheul met the C.W.S. Unit of W.H.O. in Geneva in November 1970. Discussions included the I.R.C.'s future programme following the Conference at Dubrovnik as mentioned above and several other items.

Mr. Wood of the W.H.O - C.W.S. Unit visited the I.R.C. on 23th and 24th June and on 7th and 9th December for the meeting of the Advisory Board. Mr. Wood had discussions with staffmembers of I.R.C. about the Research and Development Programme of W.H.O., activities of I.R.C. and other matters.

He attended one of I.R.C.'s regular staffmeetings.

2.3 Advisory Board

The second meeting of the Advisory Board was held on June 24th 1970 in The Hague.

The discussions focussed on the annual report 1968/1969 of the I.R.C. and the 1970 programme.

The third meeting of the Advisory Board was held on Decem-

ber 9th in The Hague. Representatives of W.H.O. - C.W.S. Unit (Mr. W.E. Wood) and of the Collaborating Institutions (Dr. R.G. Allen of the Water Research Association) also attended the meeting. The discussions affected mainly the Conference in Dubrovnik and the I.R.C.'s five-years programme, which was approved.

In 1970 I.R.C. started to invite members of Collaborating Institutions to attend the Advisory Board meeting. It is believed that their participation can be fruitful for the discussions on policy and future actions.

Representatives of Collaborating Institutions from developing countries would be very welcome. Financial limitations did not allow of realization of this idea. Therefore I.R.C. should create financial possibilities for future assistance of Collaborating Institutions from developing countries.

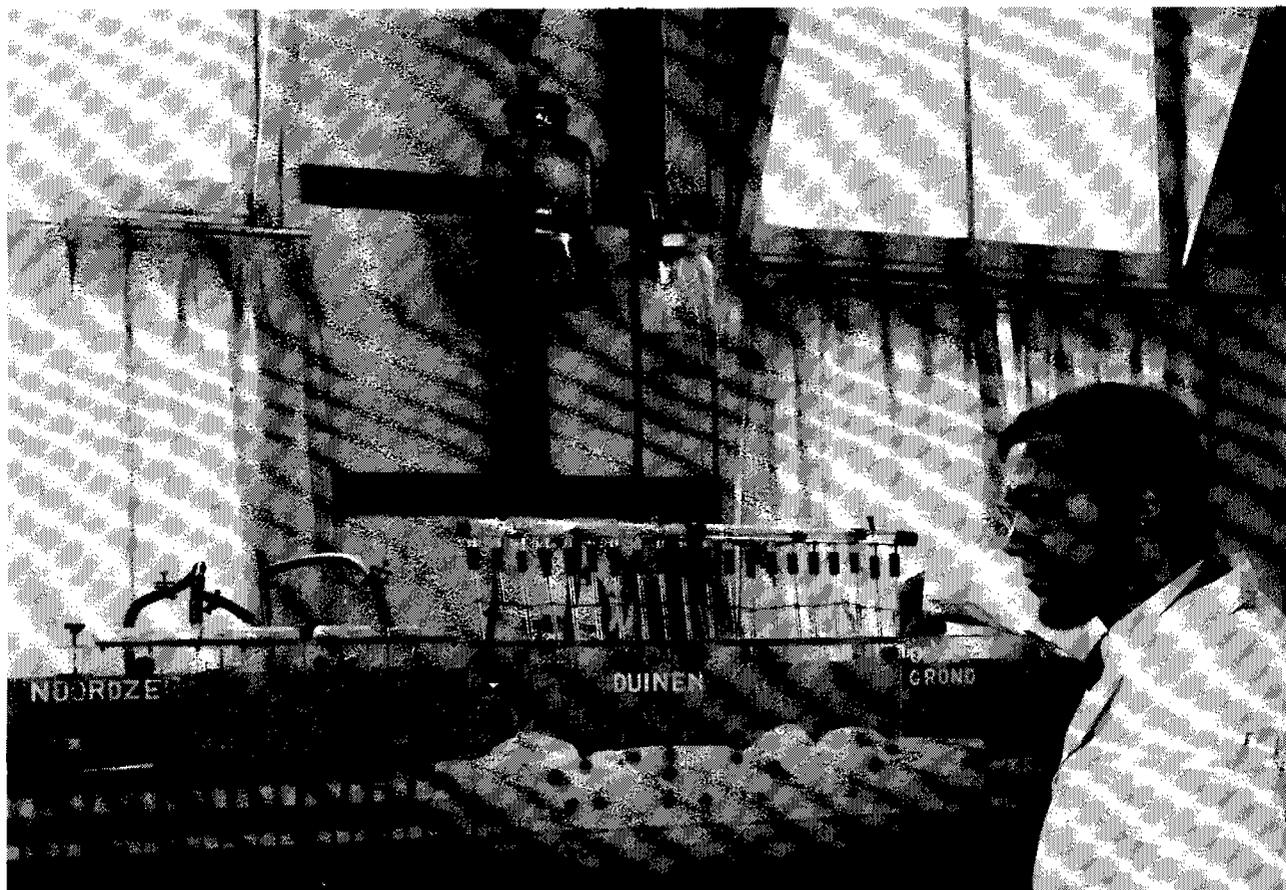
2.4 Organization

In view of the future size of the Centre, sections were created. Because of the limited staffmembers the Centre still operated as one general section. Specialization will be necessary in coming years.

3. FINANCES

Total costs of the Centre for the year 1970 amounted to approximately U.S.\$48,000.- The yearly contribution of W.H.O. remained U.S.\$10,000.-

Because of the required size of the operational unit and of the planned activities, the required budget as indicated in the five-years programme, will amount to a much higher total.



Hele-Shaw-model of an infiltration area in the dunes of North-Holland, Government Institute for Drinking Water Supply

4. W.H.O. CONFERENCE AT DUBROVNIK

From 7 - 14 October 1970 the International Conference on Research and Development in Community Water Supply was held at Dubrovnik, Yugoslavia. Some 60 participants and observers from 31 countries attended the conference.

I.R.C. was represented at the conference by its director and three members of the staff.

The Conference was sponsored by the Yugoslavia Federal Administration for International Technical Cooperation, the World Health Organization and the United States Department of Health, Education and Welfare.

The purpose was to explore ways in which education and research organizations can contribute to the practical solutions of water supply problems in their respective countries, and in particular to methods of overcoming the twin obstacles of inadequate finances and insufficient skilled staff.

The Conference was organized to bring together a group of Directors or senior officers of Research and Development Institutes to discuss needs for research and development studies as reflected by operational problems and to plan for the establishment of an international network of Collaborating Institutions, of which the I.R.C. will form the nexus.

The following subjects were discussed:

- the role of Collaborating Institutions in developing and developed countries;
- identification of research and development needs;
- support to research institutions by W.H.O.'s Research and Development Programme through I.R.C.
- needs of research institutions;
- standardization and simplified design;
- quality control;
- use of national resources.

The discussions were mainly concentrated on the role of the Collaborating Institutions and the W.H.O. International Reference Centre. The Centre is of opinion that this meeting was a valuable support of its activities. It was emphasized that a Collaborating Institution must be defined as an institution that has shown a willingness to move into water supply research and development; an institution already engaged in research and development in community water supply or intending to be; an institution prepared to collaborate in a world-wide programme, and one that has been formally designated as such by the World Health Organization. There is no financial obligation between the Collaborating Institutions and the W.H.O. in this relationship.

In the discussions the tasks of the I.R.C. were outlined and the ultimate goals were reviewed.

The functions of I.R.C. as agreed upon during the meeting are stated in annex 2.

It was further considered by the Conference that it would be desirable for the Advisory Board of the I.R.C. to broaden its membership to secure expression of the needs of the Collaborating Institutions within developing countries.

Discussion also focussed on various I.R.C. services such as provision of information, abstracts, translation services, maintenance of data banks, bibliographic services and catalogues of training opportunities. The need for a wide spectrum of services was recognized, many questions of detail were asked but it was realized that the I.R.C. is new and has to feel its way and must evaluate the demands for its services against limited available resources and the resolution of many questions of operational detail which can and will be resolved only by operation experience.

As mentioned before, it was realized that I.R.C. can only reach its ultimate goals step-by-step.

The first step must be to act as a liaison between the

sources of information and the Collaborating Institutions through an up-to-date data collection system. There was a consensus that a newsletter, including all relevant information, should be published regularly. It is also desirable that a bulletin, designed to be a public relations device for persuading decision makers to support water supply research and development, should be published.

Additional I.R.C. services that would be of great value to the Collaborating Institutions and to the water supply field, generally will include the preparation of state-of-the-art and background papers, mutual testing of equipment and other findings, financial support, translation facilities and last but not least, political "leverage".



Laboratory, Government Institute for Drinking Water Supply

5. WORK PERFORMED DURING REPORT PERIOD

5.1 Section Information and Documentation

Papers

At the occasion of the W.H.O. Conference at Dubrovnik, I.R.C. presented the following informative papers:

- Information on Collaborating Institutions (in English and French).
The information has been collected on base of a questionnaire set out to 24 C.I.'s;
- Research Programme relative to Drinking Water Supply in the Netherlands;
- I.R.C.'s first Annual Report (1968/1969);
- A brochure of I.R.C. containing general information;
- A tentative study on Water Disinfection by Iodine;
- A tentative study on Design Criteria (rapid filtration);
- A list of fundamental studies to be undertaken;
- A folder with information on non-collaborating institutions working in the field of community water supply.

Information on institutions

In order to gather information on institutions working in the field of community water supply, a questionnaire was sent out to 121 institutions in the United States.

The stated questions concerned basic information of the institute, facilities and staff, research projects, training programmes, publications, periodicals etc.

Up to now approx. 30 answers were received. The collected information will be worked up and kept in a documentation system.

Fluoridation

A request was received to prepare information and collect reports and resolutions on the subjects of fluoridation of water supplies, for the Permanent Mission of Jamaica to the European Office of the U.N. A letter concerning this subject was sent out to the Collaborating Institutions. Several answers and reports were received which were forwarded

to the Permanent Mission.

W.H.O. International Standards for Drinking Water

In connection with a meeting of the Expert Committee of the W.H.O. on the revisions of the W.H.O. International Standards for Drinking Water, the Collaborating Institutions were asked to give their opinion as to desirable changes. Many suggestions from several institutions were received and passed on to the consultant to the Committee who will examine them.

General mail

Apart from the above mentioned mail, almost 700 letters were received and more than 350 letters were sent out. Subjects concerned information on institutions, and questions and announcements on research projects including schistosomiasis in ground water supplies, bacteriological evaluation of water quality, cardiovascular diseases, health hazards of coagulant aids, studies on slow sand filtration and others. Requests were received on methods of abstraction, purification, conveyance of water and recharge.

Documentation System

A begin was made with an orientation of documentation systems. Till now use was made of the facilities of the Government Institute for Drinking Water Supply. One of the facilities consists of a documentation pool in which the Government Institute and 10 Water Undertakings participate. This documentation pool deals with the internationally known periodicals in the field of hydrology and community water supply. The summaries are coded according to the Universal Decimal Code system and stored into a card index. Next to the library of the Government Institute, ample use was made of the libraries of the Testing and Research Institute of the Netherlands Waterundertakings KIWA Ltd., and of the Technical University at Delft.

5.2 Section Research-Coordination

A background study on the use of plastic pipes has started.

Research on coagulant aids was continued.

5.3 Section Design-Coordination

The activities on behalf of the development of an iodine design equipment for wells were continued. After the theoretical study was finished, experiments were carried out with cellulose membranes and a device was developed. Contacts were made with the Asian Institute of Technology, Bangkok, and the Central Public Health Engineering Research Institute, Nagpur, for the testing of the device under field conditions.

5.4 Section Training and Education

A list of relevant symposia was prepared and will be taken up in the Newsletter.

5.5 Public Relations

The main activities in the field of Public Relations were the preparation of a brochure on I.R.C., and the publication of the I.R.C. Newsletter and the lay-out of a press release.

Newsletter

The first edition of the Newsletter appeared on December 9th. The intention is that this letter will periodically bring brief information on the various activities of I.R.C. and the Collaborating Institutions and on other relevant subjects. The first Newsletter was sent out to approx. 825 addresses. It contained among others information on the above mentioned Conference, the announcement of an outfit for the examination of residual chlorine in water, a contribution about

quality standards for drinking water, and information about field tests on pitting corrosion of copper tubes.

Brochure

The brochure gives background information on I.R.C. and provides for further useful data.

Press Release

During the Durbrovnik W.H.O. Conference a press release was sent to all known water supply periodicals all over the world with the headline: "\$9,100 million for drinking water supply in developing countries", mentioning the conference itself and the role that the I.R.C. plays in it.

The release was published in the following periodicals:

- Aqua
- British Water Supply
- Water and Water Engineering
- News Sheet of the Belgian Waterworks Association
- H₂O, periodical of the Netherlands Waterworks Association
- E.S.E. notes of the Department of Environmental Sciences and Engineering of the University of North Carolina.

6. FUTURE WORK

A five-years programme was established in order to show the ultimate implications of the task of the I.R.C. within the network of Collaborating Institutions and to formulate the objectives and activities for 1971.

One of the conclusions stated in the report was that for a full scale operation a staff of 29 has to be realized, while the required budget then will amount to Dfl. 1.800.000,-. It is proposed to reach this level gradually after a period of 5 years. Special arrangements have to be made to enable I.R.C. staffmembers to visit Collaborating Institutions and W.H.O. Regional Offices and staffs of Collaborating Institutions to visit the I.R.C.

When the necessary personnel is available the following activities will be expanded in 1971:

- The Information and Documentation Section will devote time to the development of data storage system and to system of data-collection. The information gathered from Collaborating Institutions and other Institutions (e.g. in the U.S.A.) will be documented and information on abstracting services and documentation centres will be disseminated.
- In the Research-Coordination Section a review of research needs and research projects will be made up. Background and state-of-the-art papers will be prepared and sent to Collaborating Institutions for comment. Items will include plastic pipes, disinfection (iodine), simple treatment processes and coagulant aids. If possible the set-up of twin institutions will be initiated.
- In the section Design-Coordination, attention will be paid to problems concerning application of local materials and to criteria of reliability, flexibility and economy of water supplies.
Existing design criteria and standards of water quality

will be studied and information on these items will be gathered. A begin will be made with investigation on water needs and consumption.

- The Education and Training Section will publish lists on relevant symposia and conferences and will collect information on training courses.

The newsletter will continue reporting all information, made available by the four sections and by Collaborating Institutions. The results of activities of I.R.C. will be brought together in technical papers and bulletins.

One of the activities for 1971 will concern a support to the I.W.S.A. Standing Committee on problems of water supply in developing countries.

For the I.W.S.A. Congress, which will be held in New York, in 1972, a background paper on these problems and assistance in secretarial work will be prepared.

It is hoped that for the above mentioned programme in 1971 a staff of 12 co-workers will be available.

7. VISITORS

The following persons visited I.R.C. during the reporting period:

- | | |
|-------------------|---|
| Dr. B.D. Blood | - International Health Attachee to the U.N. Office, U.S. Mission, Geneva. |
| Prof. G.J. Bonde | - The Institute of Hygiene, University of Aarhus, Denmark. |
| Mr. C.A. Farish | - National Sanitation Foundation, Ann Arbor, Michigan, U.S.A. |
| Mr. R.J. Frankel | - Asian Institute of Technology, Bangkok, Thailand. |
| Mr. E.L. Hockman | - Bureau of Water Hygiene, Rockville, Maryland, U.S.A. |
| Prof. T.Ishibashi | - Department of Urban Engineering, University of Tokyo, Japan. |
| Mr. C.S. Pineo | - W.H.O. Consultant on Data Collection, Geneva. |
| Mr. S. Unakul | - W.H.O. Regional Office for South-East Asia, New Delhi, India. |

8. LECTURES

In his capacity of Director of the I.R.C., Mr. T. Verheul held a lecture on 17th November 1970 at the 1970 Public Works and Municipal Services Congress and Exhibition in London. The lecture was given at the session on "European Conservation year 1970" and was titled "Water; where are we going"; it was published in British Water Supply of December 1970.

9. VISITS

Mr. J.M.G. van Damme participated at the Conference on Water Quality and Technology at Budapest, Hungary. On that occasion interest was evoked for I.R.C.'s work and many contacts were made.

A report will be published in H₂O.



Public fountain Senegal - WHO-photo

10. I.R.C. STAFF

In June 1970 Mr. Th.G. Martijn, civil engineer, has been appointed as part-time manager. As a technical supervisor, he is responsible for the guidance and co-ordination of I.R.C.'s work.

Mr. A. Kepinski joined the Centre in September 1970. He is full-time in charge with research co-ordination and training.

During the reporting period two members of the staff of the Government Institute for Drinking Water Supply devoted part of their time to I.R.C. activities, namely

Mr. J.M.G. van Damme and Mr. F.L. Schoufour.

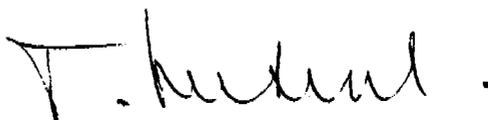
The P.R.-Officer Mr. Lieffering of KIWA, gave very helpfull assistance to the activities of the I.R.C.

At the end of 1970 the staff of the Centre consisted of the following persons:

Manager (part-time)	Mr. Th.G. Martijn
Information and Documentation (part-time)	Mr. J.M.G. van Damme
Research-Coordination and Training and Education	Mr. A. Kepinski
Design-Coordination (part-time)	Mr. F.L. Schoufour
Chemical Aspects (part-time)	Mr. J. Hrubec
Public Relations Officer (part-time)	Mr. J. Lieffering
Secretary	Miss M.L. van der Sar

As was stated before efforts are made to increase the staff, to increase its translation facilities and above all to arrive at having a full-time manager.

The Hague, 31 December 1970



Ir. T. Verheul,
Director,
W.H.O. International Reference Centre
for Community Water Supply.

List of Collaborating Institutions

as of 1 January 1971

1. Office de la Recherche Scientifique et Technique Outre-Mer
M. M. Gleizes
Service Central Hydrologique
19, Rue Eugène Carrière
71 PARIS-18e
France

2. The Water Research Association
Dr. R.G. Allen,
Ferry Lane, Medmenham
MARLOW, BUCKS. SL7 2HD
England

3. Sanitary Engineering Laboratory
Dr. S. Erol Ulug
Middle East Technical University
ANKARA
Turkey

4. Consiglio Nazionale delle Ricerche
Prof. Ing. R. Passino
Via Reno 1
ROME
Italy

5. Centre of Sanitary Engineering
Prof. L. Mendia
The University of Naples
Via Claudio 21
NAPLES
Italy

6. Testing and Research Institute of the
Netherlands Waterundertakings KIWA Ltd.
Ir. G. Wijnstra
Sir Winston Churchilllaan 273
RIJSWIJK Z.H.
The Netherlands

7. Department of Civil Engineering
Prof. P.C.G. Isaac
University of Newcastle upon Tyne
Claremont Road
NEWCASTLE UPON TYNE 2
England

8. The Institute of Hygiene
Prof. G.J. Bonde
The University of Aarhus
Universitetsparken
DK-8000 AARHUS C
Denmark

9. Faculty of Engineering and Architecture
Dr. H.I. Hamid
University of Khartoum
KHARTOUM
Sudan

10. Sanitary Engineering Department
Prof. Dr. M.A.A. Farag
Faculty of Engineering
The University of Alexandria
ALEXANDRIA
U.A.R.

11. Hebrew University
Prof. Hillel I. Shuval
Hadassah Medical School
JERUSALEM
Israel

12. Water Quality Office
Mr. James McDermott
Environmental Protection Agency
Crystal Mall Bldg. 2
WASHINGTON D.C. 20242
U.S.A.

13. Department of Environmental Sciences and Engineering
Dr. Daniel A. Okun
School of Public Health
University of North Carolina
CHAPEL HILL, NORTH CAROLINA 27514
U.S.A.

14. Department of Environmental Engineering
Prof. E.E. Pyatt
College of Engineering
University of Florida
GAINESVILLE, FLORIDA 32601
U.S.A.

15. Instituto de Engenharia Sanitaria
Eng. José de Santa Ritta
Rua Fonseca Teles 121 - 15^o and.
RIO DE JANEIRO
Brazil

16. Department of Sanitary Engineering
Prof. G. Rivas-Mijares
Central University of Venezuela
CARACAS
Venezuela

17. National Sanitation Foundation
Mr. C.A. Farish
2355 West Stadium Boulevard
ANN ARBOR, MICHIGAN 48106
U.S.A.

18. Civil Engineering Department
Prof. P.A.K. Awotwi
Faculty of Engineering
University of Science and Technology
KUMASI
Ghana

19. Faculty of Engineering
Mr. T.M. Aluko
University of Lagos
LAGOS
Nigeria

20. The Victoria Jubilee Technical Institute
Prof. B.L. Mahabal
Matunga
BOMBAY
India

21. Department of Environmental Engineering
Prof. M.B. Pescod
Asian Institute of Technology
P.O. Box 2754
BANGKOK
Thailand

22. Department of City Planning and Sanitary Engineering
Prof. Tamon Ishibashi
University of Tokyo
Hongo 7-3, Bunkyo-ku
TOKYO
Japan

23. The All-India Institute of Hygiene and Public Health
Prof. N. Majumder
110 Chittaranjan Avenue
CALCUTTA
India

24. Central Public Health Engineering Research Institute
Prof. S.J. Arceivala
Nehru Marg
NAGPUR 3
India

25. Institute of Hydro Sciences and Water Resources
Technology (IHT)
Mr. Valiollah Youssefy
64 Ghadessi Street
TEHERAN
Iran

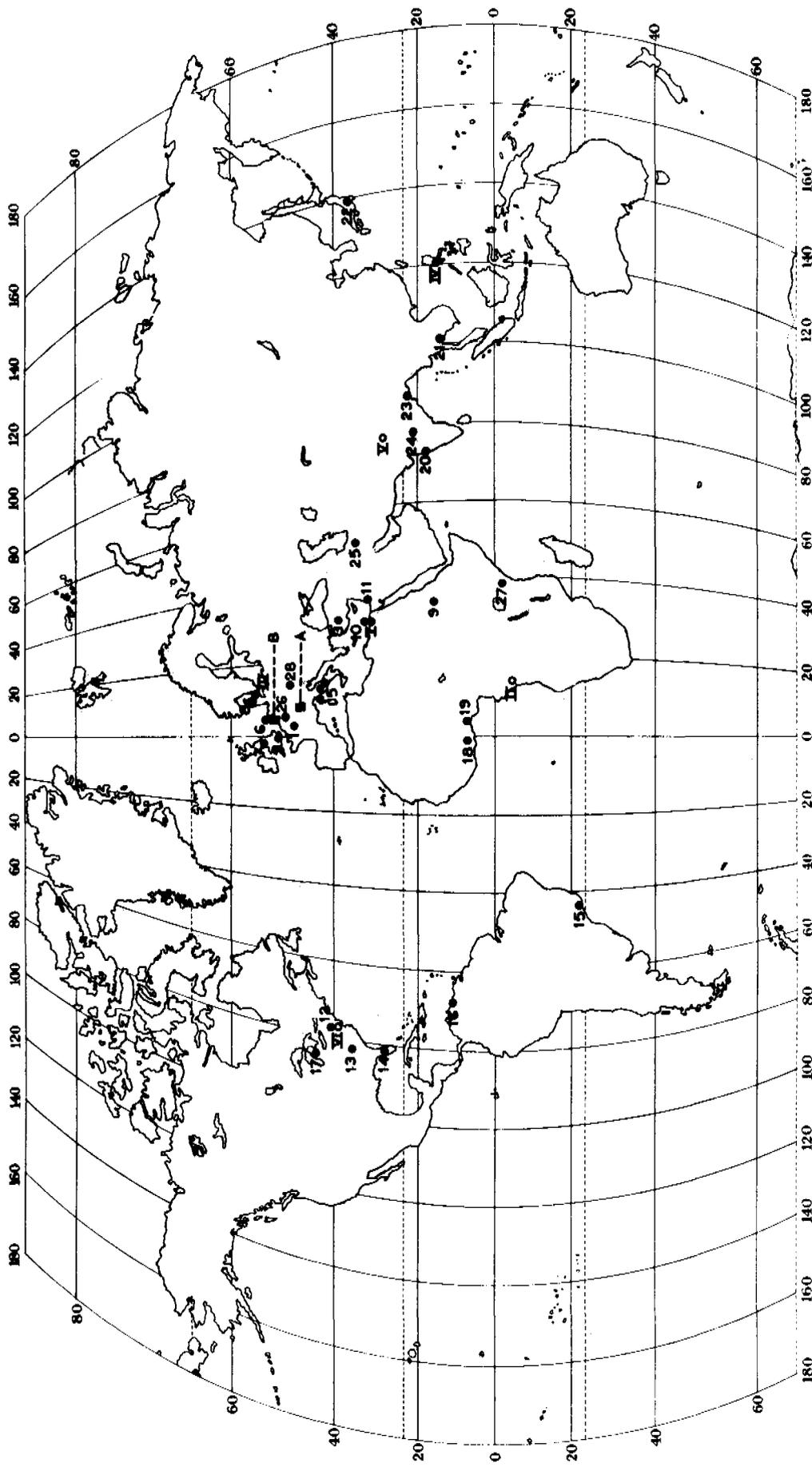
26. Centre Belge d'Etude et de Documentation des Eaux
CEBEDEAU
M. E. Leclerc
2, Rue Armand Stévar
LIEGE
Belgium

27. Faculty of Engineering
Mr. C.P. Vivian
University of Nairobi
NAIROBI
Kenya

28. Dept. of General and Environmental Hygiene
Prof. Dr. Karel Symon
The Institute of Hygiene and Epidemiology
Srobárova 48
PRAGUE 10
Czechoslovakia

The functions of I.R.C. should include:

- to develop criteria for the design and operation of community water supply facilities, especially in developing countries, and to encourage the maximum use of local materials and skills within such countries;
- to maintain and bring up-to-date periodically information about facilities and programmes of relevant research of the Collaborating Institutions, which information will be available to all these taking interest in these activities as well as to foster public relations in the field of water supply;
- to conduct substantial research and development work in community water supplies and to keep up-to-date on research work related to water supplies being carried out throughout the world, whether undertaken by Collaborating Institutions or any other body; to maintain a reference library of published works on the subject and to provide information thereon;
- to advise World Health Organization and the Institutions as to problems on which research is required and to assist in stimulating a systematic approach to a solution of the problems;
- to act as a liaison between Collaborating Institutions, to advise upon and encourage joint research projects where appropriate, and to train fellows from these institutions in water research;
- to promote evaluation of research work carried out and testing of practical applicability of new methods;
- to train local research workers by means of fellowships; exchanges, seminars, meetings, etc.



A = W.H.O. Headquarters, Geneva
 B = W.H.O. I.R.C. for CWS, The Hague
 I-VI = W.H.O. Regional Offices (Alexandria, Brazzaville, Copenhagen, Manila, New Delhi, Washington)
 1-28 = Collaborating Institutions (as indicated on annex 1)