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VECTOR CONTROL

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Vector Control - John R Evans - Correspondence

Mr. H.A. Rafatjah,
World Health Organization
VBC/EPO
20 avenue Appia
1211 Geneva 27

13 November 1981

Dear Mr. Rafatjah,

I returned from Washington recently, and as you are away from Geneva I am sending you this note which reflects the Bank's initial reaction to Joint WHO/FAO/UNEP Panel of Experts on Environmental Management for Vector Control. On the basis of my participation - limited - in the Panel's last meeting (22 to 29 September) in Geneva, and more so as a result of your fuller briefing and discussion on 7 October with Dr. John Evans, Director, Population, Health and Nutrition Department, of the World Bank, we are now better informed about the seriousness with which the members of the Secretariat and of the Panel view the need for better understanding, improved technology, proper infrastructure (including institutional machinery) and above all the need for better coordination of national, regional and international action for vector control. I must hasten to add, however, that we have not reached the stage to consider what direct role the Bank can play in the work of the Panel.

As an operational institution, involved in the financing of multisectoral development projects, the Bank has been involved and concerned with minimizing the adverse affects of these projects on environment and on health of those who expect to benefit from such investments. To the extent possible, the Bank technical staff is constantly seeking information and technical solutions which can be incorporated in the design of projects for this purpose. We are therefore interested in following more closely the work of the Panel and of the secretariat. In addition to attending some of your formal and informal meetings, we would, for instance, welcome an opportunity for the Bank's staff working on agricultural, rural development, health and other sectors to hear from you, first hand, and in more detail the findings of your work so far and also how you plan to approach this multi-faceted and complex problem. Mrs. Shirley Boskey, Director, International Relations Department, Mr. Yudelman, Director, Agricultural and Rural Development Department, Dr. John Evans and Dr. James A. Lee,

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INCOMING MAIL UNIT

Environmental Adviser have asked me to find out in due course when you might be in the vicinity of Washington, so that they could arrange a seminar and, if necessary, other meetings for this purpose.

I understand from Mr. Yudelman that this matter came up during a recent visit to Washington of Mr. C. Fernando, Director, Investment Center, FAO. Mr. Fernando said that he and his staff too will be pleased to know more about the work of the Panel. You may suggest to Dr. T.H. Mather to contact Mr. Fernando in this regard.

I believe that this is as far as we can go at this stage. Please give me a call if you have any questions or comments.

Best wishes.

Sincerely yours,



Mahmud A. Burney
World Bank Representative
to
UN Organizations - Geneva

cc: Mrs. Shirley Boskey
Mr. M. Yudelman
Dr. John Evans ✓
Dr. James Lee

OFFICE MEMORANDUM

Zeh

DATE: November 6, 1981

TO: Mr. M.P. Benjenk, VPE
 THRU: Mr. M. Yudelman, Director, AGR
 FROM: F.L. Hotes, Irrigation Adviser, AGR
 SUBJECT: Attendance at October 19-23, 1981 Meeting of UN ACC Intersecretariat Group for Water, Geneva

1. I represented the Bank at the subject meeting at which a total of 19 United Nations (UN) agencies and regional commissions were represented (Annex I). The Group was formally established by the Agency Coordinating Committee (ACC) of the UN in 1980, following several years of informal operations. Harold Shipman and John Kalbermatten represented the Bank at the meetings until this one. The work of the Bank representative involves reading copious quantities of UN and Intersecretariat Group documents and resolutions, supplying information and statistics to the Group on Bank water resources activities, participating in the Group's attempts to coordinate (i.e. minimize duplication among) the water resources efforts of the numerous UN agencies involved in such work, and helping the Group prepare reports to the ACC and higher UN bodies (including the General Assembly) on worldwide progress towards meeting the global water resources goals established at the UN Water Conference held in Mar del Plata, Argentina, in 1977. Normally the Group meets annually.

2. Principal action items emanating from the meeting primarily related to the furnishing of Bank project information to the Secretariat. I advised the meeting that we would supply only readily available information, and that we generally could not respond to special questionnaires. This continues our existing policy in that regard. FAO and WHO informally approached me regarding Bank participation in the recently funded WHO/FAO/UNEP Panel of Experts on Environmental Management for Vector. Dr. John Evans (PHN) had previously been contacted on this matter. This will be pursued further by AGR with PHN and PAS.

3. It is my impression, based on attendance at this and one prior meeting, that the Bank receives little benefit from participation in the Group compared to the potential benefits to other agencies. Most of the coordination effort relates to UNDP-type projects. However, the goodwill generated by Bank participation probably is sufficient justification for continuing participation. Non-attendance could be interpreted as arrogance on the part of the largest development agency. Further, the Group provides contact points within the 18 other agencies which can prove valuable to the Bank on occasion, and future advance information on their activities is expected to improve and also prove useful to the Bank.

Cleared by and cc: Mr. D.C. Pickering, Assistant Director, AGR

cc: Messrs. Collins, (AGR); Lee, (PAS); Evans, (PHN);
 Kalbermatten, (TWT); Fish, (EGY); Boucher, (IRD)

FLHotes:js

LIST OF PARTICIPANTS

Chairman	Jaromír Němec (WMO)
Secretary	Habte M. Neghassi (UN/DIESA)
UN/DIESA	Pierre Najlis
UN/DTCO	Enzo Fano
ECE/ENHS	Henri G. Dirickx G. de Bellis
ESCAP	Abelardo S. Mañalac
ECLA	Terence R. Lee
ECA	Yilma W. Emmanuel
ECWA/NRST	Bader Hirzalla
UNDRO	Anatoly Samoilenko
UNIDO	Jack B. Carmichael
UNEP	Anastase Diamantidis
UNICEF	Martin Beyer
UNDP	Roger Berthelot
ILO	D. Christov
FAO	T.H. Mather
UNESCO	Sorin Dumitrescu
WHO	Odyer Sperandio
World Bank	Fred Hotes
WMO	Dieter Kraemer
IAEA	Bryan R. Payne

OFFICE MEMORANDUM

Feb

TO: Mr. D.C. Pickering, Assistant Director, AGR

FROM: F.L. Hotes, Irrigation Adviser, AGR

SUBJECT: October 19-23, 1981 Meeting of UN ACC Intersecretariat Group for Water, Geneva

DATE: November 5, 1981

1. I represented the Bank at the subject meeting at which a total of 19 United Nations (UN) agencies and regional commissions were represented. A list of participants is attached as Annex I. The Group was formally established by the Agency Coordinating Committee (ACC) of the UN in 1980, following several years of informal operations. Harold Shipman was the first Bank representative. Upon his retirement he was succeeded by John Kalbermatten, Senior Water Supply and Wastes Adviser (TWT). Mr. Kalbermatten had requested in 1979 that someone else knowledgeable in Bank water resources activities relieve him of this [somewhat onerous] assignment, and AGR agreed that I would serve as Bank representative for a limited, but indefinite period of time beginning in 1981. The work of the Bank representative involves reading copious quantities of UN and Intersecretariat Group documents and resolutions, supplying information and statistics to the Group on Bank water resources activities, participating in the Group's attempts to coordinate (i.e. minimize duplication among) the water resources efforts of the numerous UN agencies involved in such work, and helping the Group prepare reports to the ACC and higher UN bodies (including the General Assembly) on worldwide progress towards meeting the global water resources goals established at the UN Water Conference held in Mar del Plata, Argentina, in 1977. Normally the Group meets annually.

2. Principal information or action items emanating from the meeting are commented upon below:

- (a) Several information and data request responses are to be sent to the Secretariat of the Group (UN/NY/DIESA) by specified dates. I advised the Group that the Bank could not complete different types of questionnaires covering the same or similar information, but that we would continue to supply information on Bank water supply, hydroelectric power, and irrigation and drainage projects financed during the past year. Further, that we would arrange for News Releases on such projects to be sent routinely to the Secretariat, and we would try to send them monthly statements on future projects such as that published in the UN News Forum.
- (b) The Group is preparing a Brief for UNDP Country Representatives and Coordinators on the main expertise, experience, and functions of the various UN water resources agencies. I agreed to assist the UNDP/NY representative and the Chairman of the Group in preparing matrix tables which would be part of the brief. The three parties will meet in the Bank for

two days sometime after January 1981 to prepare table drafts. I agreed also to update the material on the Bank contained in the report of the UN Joint Inspection Unit, Geneva, entitled "Note on Guide to Agencies and Offices of the UN System Active in the Water Field" JIU/Note/81/1 of June 1981, and to add a paragraph on two on Bank policy and work as an Executing Agency for UNDP.

- (c) A report summarizing all the water projects in progress or contemplated in the near future by UN organizations will be prepared by the Secretariat using inputs from the organizations. The UNDP computerized system will provide major inputs. This report should be of interest to the Bank, and will be circulated to all concerned in the Bank, when received.
- (d) The Bank should respond to an inquiry from the World Meteorological Organization dated 30 September 1981, asking for Bank comments on proposed projects under the new World Climate Programme - Water. AGR will take the initiative.
- (e) Joint WHO/FAO/UNEP Panel of Experts on Environmental Management for Vector Control, established in April 1981 is seeking Bank participation (\$13,000/year, minimum). Mr. Burney, Bank Representative to UN Organizations in Geneva and Dr. John Evans (PHN), have attended meetings in Geneva on this subject. The FAO representative of the Intersecretariat Group, Mr. Tom Mather, took me to WHO headquarters to further discuss it with Mr. H. A. Rafatjah, Chief, EPO/WHO and Mr. Chen Kuo, EPO/WHO. I explained that this would have to be discussed internally within the Bank, but that we would try to give them a response within about four months. AGR will initiate discussions with Dr. Evans and Jim Lee to develop recommendations to VPCPS on this matter. [The telex received from Mr. Burney, who was in Washington, D.C. when I was in Geneva, providing background information, was invaluable in guiding my remarks to Mr. Rafatjah.]

3. It is my impression, based on attendance at this and one prior meeting, that the Bank receives little benefit from participation in the Group compared to the potential benefits to other agencies. Most of the coordination effort relates to UNDP-type projects. However, the goodwill generated by Bank participation probably is sufficient justification for continuing participation. Non-attendance could be interpreted as arrogance on the part of the largest development agency. Further, the Group provides contact points within the

Mr. Pickering

-3-

November 5, 1981

18 other agencies which can prove valuable to the Bank on occasion, and future advance information on their activities is expected to improve and also prove useful to the Bank.

Attachment

cc: Messrs. Baum, Rajagopalan, (CPS); Yudelman, Christoffersen, Niaz, Collins, (AGR); Sheehan, Fish, (EGY); Kalbermatten, (TWT); Evans, (PHN); Lee, (PAS); Boucher, (IRD); Burney, (Geneva)

FLNotes:js

LIST OF PARTICIPANTS

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UNEP	Anastase Diamantiqis
UNICEF	Martin Beyer
UNDP	Roger Berthelot
ILO	D. Christov
FAO	T.H. Mather
UNESCO	Sorin Dumitrescu
WHO	Odyer Sperandio
World Bank	Fred Hotes
WMO	Dieter Kraemer
IAEA	Bryan R. Payne

For discussion c. D. Boskey
et al.

HEALTH ASPECTS OF WATER RESOURCES DEVELOPMENT PROJECTS

Executive Summary for Dr J. Evans, World Bank

Introduction

It is agreed that the practical achievement of the Organization's goal of "Health for All" and the rapidity with which it can be achieved depend on:

- a) The extent of resources made available, and
- b) The manner in which these resources are utilized.

It is also agreed that if this drive is to succeed the nations must rely primarily on their own resources and determination.

On the other hand, developing countries have only limited resources and often a large number of priority areas. Health is not usually given the high priority it deserves for socioeconomic development if presented alone, but can receive considerably higher consideration if presented as a component of development. The role of health as a bridge for socioeconomic development needs to be demonstrated.

Projects for development of water resources offer unique opportunities for demonstration of the effective role of health in socioeconomic development, an area on which most developing countries heavily depend for agricultural extension and increased food production through irrigation and where high prevalence of diseases associated with water presents a major obstacle.

The essentiality of a healthy farmer for success and high productivity in agricultural schemes is now universally accepted and needs no longer to be justified on grounds of quantified health benefits, a task which has proved difficult in other areas. Gradually governments and international and bilateral agencies (WB, FAO, UNDP, USAID, etc.) have accepted this fact and modified their attitude and policies to include health as a component of development projects. The United Nations General Assembly Resolution (34/58) adopted in November 1979, also urged that health be considered as an integral part of development and not separate from it.

The Role of WHO and other Participating Organizations

... WHO has been actively pursuing and promoting the development in this field and has succeeded in realizing marked progress. The attached document gives examples of these achievements and shows that all preliminary steps have been completed and a working mechanism now exists for an all out extension of activities in collaboration with national and international agencies.

The establishment of the joint WHO/FAO/UNEP Panel of Experts on Environmental Management for Vector Control in April 1981 is the latest and perhaps the most important step.

The Panel, in its first meeting in Geneva (22-29 September 1981) made far-reaching recommendations for promotion of intersectoral collaboration, training and research and for the establishment of an international information system.

A number of projects were proposed and in approving these the Panel recommended that international and bilateral funding should be sought. Panel members were requested to intervene with funding agencies to secure their interest and participation.

The Panel also recommended that its secretariat should be strengthened with staff and resources to enable them to meet the extended task assigned to them. For this the Panel recommended that:

- 1) The present contributions of the participating organizations amounting to US\$30,000 should be increased by US\$53,000 (as per attached list I).
...
- 2) The Panel members and the participating organizations should intervene with funding agencies to secure their interest and funding for carrying out the project proposals (as per attached list II).
...

As far as No. 1) is concerned a request has been submitted to the Director-General of WHO for a grant of \$53,000 to facilitate timely initiation of the recommended activities for 1981/82.

There are also good reasons to believe that an interested government will assist with the establishment of the international information centre in 1982 which will gradually take over most of the activities listed under List I.

This government is also interested in project (j) (list II) and may provide funding for its implementation.

... ENCLS: (3)

LIST I

BUDGET SUMMARY OF THE PANEL

<u>Item</u>	US\$
(a) Organization of the next Panel meeting	40 000
(b) Secretariat meetings	-
(c) Establishment of an international information system	10 000
(d) Initiation of an inventory of water development agencies and projects	8 000
(e) Compilation of bibliographies	5 000
(f) Issuing newsletters	5 000
(g) Strengthening of the secretariat	15 000
	<u>83 000</u>
	Participating Organizations' present contribution
	<u>30 000</u>
	Additional contributions required
	<u>53 000</u>
(h) Participation in multidisciplinary missions (Extrabudgetary contributions)	<u>75 000</u>

LIST II

PROJECT PROPOSALS

<u>Project No.</u>	<u>Summary</u> <u>Title</u>	<u>Estimated Cost</u> US \$
(a)	Strengthening of engineering and agricultural educational institutions in environmental management for disease/vector control	15 000
(b)	Seminar on prevention and control of health and environmental problems in water resources development projects (To be held in Europe, without field observations)	20 000
(c)	Seminar on prevention and control of health and environmental problems in water resources development projects (To be held in Sudan or another developing country, with field observations.)	20 000
(d)	Training courses on prevention and control of health and environmental problems in water resources development projects in arid and semi-arid zones	
	Course 1 in Kenya	85 000
	Course 2 in Mauritania	100 000
	Course 3 in Paraguay	100 000
(e)	Preparation of training aids	15 000
(f)	Organization of pilot operations in disease control programmes for incorporating simple environmental management measures	50 000
(g)	Preparation of guidelines for carrying out health/environmental impact studies	12 000
(h)	An assessment of the effectiveness and the long-term economy of canal lining for vector control	20 000
(i)	Field tests of equipment for environmental management related to vector control	55 000
(j)	Studies on the socioeconomic impact of environmental management measures	40 000
(k)	Training course in vector ecology and control in development	22 000

* WHO'S ACTIVITIES ON THE HEALTH ASPECT OF WATER RESOURCES DEVELOPMENT AND PREVENTION AND CONTROL OF WATER-ASSOCIATED DISEASES

TABLE OF CONTENTS

1. International Collaboration
 2. Training, Information and Communication Systems
 3. Manuals and Technical Documents
 4. Technical Cooperation and Field Research
- References

* Prepared for Civil Engineering/Schistosomiasis Working Group, Southampton, UK,
21 - 24 April 1980.

WHO'S ACTIVITIES ON THE HEALTH ASPECT OF WATER RESOURCES DEVELOPMENT AND
PREVENTION AND CONTROL OF WATER-ASSOCIATED DISEASES *

In developing countries, the development of water resources for irrigation, power, flood control and other uses has been done with little or no attention to their health implications and requirements. As a result, many of such schemes constructed with the aim of social and economic improvement of the populations, has led in practice to the creation of important health problems and often to a reduced productivity and economic development.

Examples of such schemes are numerous in all continents where diseases such as malaria, schistosomiasis, onchocerciasis and diarrhoeal infections are widespread and affect seriously the well being, productivity and prosperity of the populations involved. A few attempts were made in the past to assess the health impacts in such projects and to organize preventive and control activities. These attempts were, however, often belated, insufficient and fragmentary and limited mostly to epidemiological investigations and sometimes also to recommendations for certain control. The basic preventive approach through provision of health measures and features in the project's plans, designs and operation, was seldom considered or applied.

In 1976, an interagency review was made in the UN system of the experience in examining the health aspects of water resources development projects. The report, which was issued on 19 August 1976, made a review of the health problems of the water resources development, examined the procedures followed for dealing with these problems in the UN system and in the national administrations or bilateral assisting agencies, and put forward a number of institutional, administrative and technical recommendations. The report pointed to a number of deficiencies both procedural and institutional in the project review process in the UN system and in the follow-up actions given to the technical recommendations during the project's development.

Information on the national projects and on those carried out with bilateral aids were scanty.

The review report which was later approved by the ECB contains a number of recommendations for institutional and administrative provisions within UN agencies to strengthen collaboration and expedite project review. It also contains a number of technical recommendations for health impact studies, implementation of health protection measures and evaluation of progress as well as development of training and information systems.

1. International Collaboration

FAO/WHO Memorandum of Understanding

As a follow up of the recommendations resulting from the interagency review, the WHO and FAO pursued the interagency consultation and in January 1978 three memoranda of understanding were signed by the two Directors General. Of these, one document dealt with the prevention and control of water-borne and associated diseases in agricultural water development activities. The document provides for interagency collaboration in regular review, exchange of information, training of staff, cooperation with other organizations and governments and for designation of focal points in the two organizations and coordination activities at regional and country levels.

* By H.A. RAFATJAH and C. KUO, Sanitary Engineers, Equipment Planning and Operations, Division of Vector Biology and Control, WHO, Geneva.

It is expected that other organizations involved in the development of water resources, e.g. World Bank, UNEP, UNDP, ICID, etc., or bilateral agencies will join the collaborative efforts with national and government administrations responsible for development of water resources.

WHO/FAO/UNEP Panel of Experts

An interagency Panel of Experts on Environmental Management for Vector Control is being established. As provided in Article 4(1) of the FAO/WHO Memorandum of Understanding, the Panel will provide for regular consultation and extended collaboration in water resources development projects. It will review progress in international cooperation in the field and will propose research and training projects.

2. Training, Information and Communication Systems

Seminars

(a) A seminar on the prevention and control of vector-borne diseases in water resources development projects was held in Egypt and the Sudan in March/April 1978. The principal objective of the Seminar was to bring the attention of the planners, designers and engineers to the health implications of their work and to the need for incorporating features and procedures for the prevention and control of disease transmission and prevalence during the various stages of the water resources development projects. The report of the seminar (document VBC/EM/78.1) has been well received and provides useful guidelines to the vector control workers as well as the water resources development planners and engineers.

The following seminars, short courses, workshops and study tours have been proposed:

(b) Seminar on Integrated Control of Vector Mosquitos

A series of three seminars to be held at different locations, one in each year, the first one probably in Grand Cayman, Greater Antilles in 1980. The participants will be acquainted with integrated strategies, procedures for planning, organizing and evaluating integrated control programmes based on cost-effectiveness.

(c) Seminar on Water Management for Vector Control in Arid and Semi-Arid Zones

A series of four seminars to be held at different locations, one in each year, the first one probably in a selected country in East Africa in 1981. The participants - design engineers, constructors and health staff will be acquainted with the health problems of water resources development in arid and semi-arid regions and to provide them with information on appropriate water management methods and procedures beneficial for both health and agriculture.

(d) Short Course on Hydrotechniques

A series of three courses to be held at the Martinovsky Institute, Moscow, USSR, one in each year starting 1980-81. The aim will be to train engineers in methods of environmental management for vector/disease control, which could be incorporated in the design, construction, operation and maintenance of water resources development projects.

(e) Workshop/Study Tour on the Design, Operation and Maintenance of Irrigation Projects as Related to Water-Associated Diseases

A series of four workshop/study tours to be held in Bulgaria, one in each year starting 1980. The health, irrigation and agriculture staff will review the design, operation and maintenance of a few selected irrigation schemes in Bulgaria, will study the specific vector/water management problems encountered in their own national projects, and will discuss and exchange views with the Bulgarian engineers and specialists on how such problems could be effectively resolved.

3. Manuals and Technical Documents

(a) Manual on Environmental Management for Mosquito Control with a Special Emphasis on Malaria Vectors has been compiled and its first manuscript circulated to selected reviewers for comments. It is expected that the final draft will be ready at the end of June 1980 for editing and printing and the printed version will be ready for distribution at the end of 1980 or beginning of 1981. Included in the Manual are treatises on environmental modification, environmental manipulation, reduction of man/vector content, as well as the planning of environmental management activities for mosquito control under different situations.

(b) The Manual on Larval Control Operations in Malaria Programmes, published in 1973, devoted two chapters (out of four) on naturalistic control and source reduction. It is planned to revise this Manual in 1980 and 1981, to bring it up to date with the latest development in this field, to enlarge the portion on geographical reconnaissance and land surveying.

It is hoped that national vector control programmes and water resources development projects will prepare their own manuals using the WHO manuals.

(c) Technical documents

Several technical papers and documents have been prepared on the health aspects of water resources development for presentation in different international conferences or for training of staff. Some of these are included in the list of references to this document.

4. Technical Cooperation and Field Research

(a) BNHP

As a follow-up to the Egypt/Sudan Seminar, the Blue Nile Health Project in the Sudan was formulated and is now in operation. The project area, consisting of the Gezira, Managil and Rahad irrigation schemes with 1.7 million permanent population and 0.5 million transient labour and 2.1 million acres of cultivated irrigated land, is presently plagued with a number of important water-associated diseases, mainly malaria, schistosomiasis and diarrhoeal diseases, which have caused severe health problems and lowered agricultural productivity. The project is designed to prevent and control these diseases through a comprehensive approach using environmental management methods including agriculture and irrigation improvement, biological agents, judicious application of insecticides and molluscicides, provision of water supply and sanitation, health education, community participation as well as detection and treatment of cases through an extended system of primary health care and strengthened health services.

The project area is divided into three zones. During the first five years, in the Rahad Zone (30 villages and 50,000 population at present), the presently available control measures will be used to prevent transmission of schistosomiasis presently absent and to control malaria and diarrhoea transmission emphasizing permanent measures. In the Gezira-Managil zone (1936 villages and 1.6 million population), the present disease control operation will be strengthened, improved and extended, and the current irrigation and agricultural practices will be reviewed for improvement.

In the study zone (55 villages, 50,000 population), an intensive epidemiological baseline survey will be carried out in 1980 and a comprehensive control strategy will be designed and implemented for field trials thereafter. Field research and pilot studies on different control methods, singly and combined, will also be carried out during the first 5-year period, for evaluation of their cost-benefit, cost-effectiveness and feasibility for application in the area and for the design and subsequent refinement of the comprehensive strategy. As from the sixth year, the strategy will gradually be introduced in all zones, area by area, until the entire project area is covered towards the end of the 10-year project duration.

(b) The project includes a component of field research and pilot study. It provides an excellent opportunity for practical training of vector control workers and the water resources development engineers from other countries, on the health implications of water development projects and the various methods for the prevention and control. Seminars are planned for this purpose.

(c) WHO has participated in health impact studies in several development projects. Recent examples of these are the Rufigi River Development project in Tanzania and of the Kagera River Basin Development project in Ruanda, Burundi and Tanzania.

The comprehensive approach for the control of water-associated diseases have many advantages; it is expected that additional projects similar to the one in the Sudan, which is the first of its kind, will be formulated in the near future.

WHO consultant engineers have been provided or planned to advise governments on the planning and application of environmental management methods for vector control (e.g. Solomon Island to advise on the control of mosquito breeding in coastal lagoons).

(d) Expert Committee on Environmental Management for Vector Control

The first meeting of the above Expert Committee was convened in Geneva in November 1979. At the meeting, the Committee reviewed the known environmental management measures which were used for vector control in the past, assessed the present application of these measures in vector control programmes and development projects, estimated the interaction of these measures with agriculture, irrigation and socio-economic development, established principles for the planning, organization and evaluation of environmental management operations for vector control, and made appropriate proposals in the areas of training, information and research. Its report, which contains the experts' views and recommendations and provides authoritative guidance, is in an advanced stage of publication in the WHO Technical Reports Series.

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Water Resources + Irrigation:

1. What scope of water resources + irrigation
2. Operating agencies in countries ? asking for advice.

Functions

Peered = forum of scientists + decision makers - govt

Secretariat = incl. person from WB

- Inventory of projects
- R+D on technical aspects -
- Info dissemination + training

* Not expecting money from Bank. Want Bank deal with legal issues for funding + access to projects

Feels technology is known. ^{Some} problem is adaptation to local circumstances. But chief function is sensitization and organization of local boards. Also training engineers & Water Resources does not include drinking water + sanitation. Unable to get WHO counterparts at Geneva to collaborate. Feels they are making some progress.

- (1) Suggest bottom-up from country level projects (like HSR) rather than top down from Paul + supra with lang. → reform → countries. Bank ~~will~~ would prefer to work at country level projects
- (2) But approach is "costly" of delay with adverse health consequences of a project. If considered in advance there can assess initial design features of project where well have both irrigation + health benefits i.e canal lining - reduces rehabilitation measures and water leakage. Blue Nile project for "rehabilitation" of system would be struggle.
- (3) If Bank to be represented in Paul, they would prefer transdisciplinary person as focal point for contact with Agr. + Health. For communications (J. U) For operational impact better to have Env. ^{in ARD}



WHO



FAO



UNEP

JOINT WHO/FAO/UNEP PANEL OF EXPERTS
ON ENVIRONMENTAL MANAGEMENT FOR VECTOR CONTROL

Geneva, 22 - 29 September 1981

Agenda Item 1

EPO/PE/WP/81.1

ENGLISH ONLY

TERMS OF REFERENCE AND FUNCTIONS OF THE PANEL

by

H.A. Rafatjah *

BACKGROUND

In the last two or three decades, development and exploitation of natural resources has reached an unprecedented dimension especially in developing countries. The increasing demand for water for food and fiber production or for energy and raw material for industrial extension has led to the launching of a great number of development projects of different sizes in various parts of the world. Many of these projects, especially those related to land and water development involve important environmental and health implications often undesirable.

In the past little or no consideration was given to the health and environmental aspects of water resources development and exploitation. Although methodologies for prevention and control of undesirable health effects existed, institutional framework for their consideration and incorporation was inadequate or inexistent. Collaborative mechanisms to bring together various concerned disciplines and agencies were to be organized.

Experience shows that many agricultural schemes, especially in developing countries are afflicted with high prevalence of diseases that could have been prevented, usually with little extra efforts, were ~~there~~ certain health and environmental safeguards observed, in their planning and construction works. For many of these projects a restoration of healthy environment may take considerable time and efforts and important resources. Without that continued degradation of health and environmental quality may largely defeat the very purpose of the project's development and further decline the socio-economic conditions of the population involved.

Over 350 dams with a height of over 15 metres are completed each year (Icold, 1973) adding to the inventory of 10 000 - 12 000 (McJunkin, 1975). It was estimated in 1977 (Houston) that by 1985 some 23 million ha. of irrigated land will be added to the 50 million ha. which existed at that time. Considering that in Africa alone only 22% of the arable land is cultivated, one can imagine pessimistically but perhaps realistically the vast magnitude of health and environmental problems which lie ahead.

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PANEL AND ITS AIMS

The joint WHO/FAO/UNEP Panel of Experts is established therefore to create the kind of institutional framework that has been lacking in the past. Prior to the establishment of the Panel the health aspects of some water resources development projects were reviewed in WHO/FAO project review meetings. In February 1973, the eleventh and the last review meeting was held in Rome. In 1978 a Memorandum of Understanding was signed by WHO and FAO, and later in 1981 by UNEP. The Agreement provided for institutional collaboration among UN agencies involved in the development of water resources, thus leading to the formation of this Panel in 1981.

The major aim of the Panel is to bring together various organizations and institutions that are involved in development at national and international levels, to create a forum for communication and exchanges of views and to ensure that everyone is informed and conscious of the consequences and receives adequate advice and guidance in time.

To accomplish this task the Panel has to be multi-disciplinary, including all disciplines concerned and involved in development whether technical or managerial or socio-cultural and political, from national and international, private and governmental agencies.

FUNCTIONS

The Panel needs to identify and establish close communication lines with organizations and firms at national and international levels assisting or planning or constructing development works. It should keep them abreast of latest technical developments for protection of health and environment and for this it must encourage field research and establish close ties with scientific institutions. Field research projects will be formulated by the Panel and assistance will be sought and secured for their financing and implementation and for dissemination and application of results achieved.

The Panel needs to produce and disseminate technical information and to train national and international specialists in techniques and methodologies of applying health and environmental safeguards. It needs to produce guidelines, manuals and technical publications and hold training courses and seminars.

The Panel needs to promote integrated development strategies and discourage narrow sectoral planning compartments.

The Panel finally needs to stimulate and encourage establishment of similar Panels at national and regional levels and to maintain communication with and supporting and strengthening this network through national legislative support.

REQUIREMENTS

For all of this the Panel needs above all strong political support and of course modest financial and administrative assistance. Once the vital mission of the Panel in the promotion of socio-economic development of populations in developing countries is recognized and supported politically, securing necessary resources and facilities should not prove very difficult.

The successful achievements of the Panel's aims depends entirely on the personal interest and enthusiasm of its members and on the degree of support they provide to its functions and activities.

MEMBERS

The document setting out the Panel and its functions provides for 20 members to be designated by each participating organization. This meeting might wish to put forward names of individuals that they feel able to assist the Panel in furthering its aims and objectives as described above. Invitations have already been extended to other interested and concerned organizations, e.g. World Bank, UNDP and UNICEF, to join the Panel as the participating organization. In this way the membership of the Panel can be extended to cover more countries and more disciplines and thus further strengthen the political and technical influence of the Panel and provide greater assurance that its decisions are accepted and applied.

SECRETARIAT

Your Secretary and the Panel's secretariat will look after implementation of the decisions taken at the Panel's meetings. They will keep you regularly informed of the progress made and problems encountered and will seek your advice and support to proceed further with the assigned activities.

The Chairman will be kept informed of the details of the Panel's operation and will be consulted on all important issues. The Chairman may in turn consult concerned members on various issues before advising the Secretary. His views and decisions will represent those of the Panel.

The Secretary and the secretariat will be at all times available for consultation and would be ready to answer queries and to receive suggestions from the Panel members. It will be through a close working relationship and of everyone being fully aware of how the planned activities are being implemented that progress can be assessed.



Arrangements between the World Health Organization,
the Food and Agriculture Organization of the United Nations
and the United Nations Environment Programme relating to a joint
Panel of Experts on Environmental Management for Vector control

On 14 October 1980, the World Health Organization (WHO), the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Environment Programme (UNEP) concluded a Memorandum of Understanding Governing WHO/FAO/UNEP Collaboration in the Prevention and Control of Water-Borne and Associated Diseases in Agricultural Water Development Activities.

The purpose of the Memorandum of Understanding is to promote and facilitate collaboration among those responsible for health, water development and the protection of the environment with a view to ensuring the introduction and application of health safeguard measures throughout the planning, design, construction and operational phases of water resources development projects executed in conjunction with Member States of FAO, UNEP and WHO.

In order to provide the necessary expertise, bringing together the various disciplines relevant to their collaboration, in furtherance of the Memorandum of Understanding, WHO, FAO and UNEP (hereinafter referred to as "the Participating Organizations") have agreed to establish a WHO/FAO/UNEP Panel of Experts on Environmental Management for Vector Control, for the objectives and with the functions set out below.

I. OBJECTIVES

The Panel of Experts has been established in order to strengthen collaboration between the Participating Organizations, and to promote collaboration between the latter and other appropriate international and national agencies, in their programmes and projects relating to natural resources, agricultural and health development, and in the use of environmental management techniques for the control of disease vectors and the protection of human health and the environment.

II. FUNCTIONS

1. The Panel of Experts will:

- (a) review the status and progress of environmental management activities within health programmes and in programmes and projects for the development of natural resources and agriculture, with particular reference to water development programmes and projects;
- (b) advise on means of promoting measures for the protection of human health through the application of environmental management for disease vector control in the planning, design, construction and operation of projects for the development of land, water and other natural resources;
- (c) advise on ways of securing continued technical and financial support at national and international levels and on areas where research or field investigations are required, and propose related projects as well as the sites where the latter can be carried out;

- (d) suggest **guidelines** for the identification and formulation of health protection measures in water resources development and for the introduction of necessary provisions in project planning, design, construction, operation and maintenance;
- (e) review the status of **skilled manpower** resources and **training** facilities for environmental management activities in vector control, and advise on and encourage necessary improvements by such measures as the establishment of training courses, seminars and workshops and the preparation of manuals;
- (f) advise on the **collection and dissemination of information** on research, progress and innovations in techniques for vector control, including investigations into the feasibility of establishing an international reference centre;
- (g) periodically study the status of **interagency coordination** and give advice on ways of collaboration at national, regional and global level;
- (h) give advice on any other matters relevant to the strategies and activities to be carried out in the context of the objectives set out in Section I above.

2. At the beginning of each year, the Panel of Experts will propose, for the consideration and approval of the Participating Organizations, its **plan of work** for the year concerned.

3. The Executive Head of any of the Participating Organizations may seek the advice of the Panel of Experts, or of individual members, on matters coming within its competence.

4. The Panel of Experts will **periodically review its own functions and performance** and propose to the Participating Organizations any necessary changes to enhance its effectiveness.

III. MEMBERS OF THE PANEL OF EXPERTS

1. The members of the Panel of Experts will be **scientists of high international standing** in the fields of **health, agriculture, the environment or other relevant disciplines**. They may be designated from among the current members of relevant WHO, FAO and UNEP panels of experts or from among other experts.

2. The Participating Organizations will, from time to time, decide upon the total number of the members of the Panel of Experts, which will not exceed [sixty]. The Participating Organizations will, in consultation with each other, designate an equal number of members. The length of the terms of office of the members will be agreed between the members and the Organization designating them.

IV. PARTICIPATION OF OTHER ORGANIZATIONS

Any other organization in the United Nations system that has expressed its interest in participating in the present Arrangements will, if all the current Participating Organizations agree, be invited to participate. Subject to its acceptance of these Arrangements, such organization will become a Participating Organization, having the same rights and obligations as the other Participating Organizations, with effect from the beginning of the year following that in which it accepted these Arrangements.

V. SECRETARIAT

1. The Secretary of the WHO Expert Committee on Vector Biology and Control dealing with environmental management of vector control will be the Secretary of the Panel of Experts. Each of the other Participating Organizations will assign a staff member to collaborate with the Secretary.

2. The Secretary will be responsible for carrying out, in consultation with the Participating Organizations, all the administrative tasks required in connection with the work of the Panel of Experts. In particular, the Secretary will:

- (a) maintain liaison between the Participating Organizations and the Chairman and members of the Panel of Experts, and
- (b) make the necessary preparations for, and assist in, the meetings of the Panel of Experts.

VI. MEETINGS OF THE PANEL OF EXPERTS

1. Regular meetings of the Panel of Experts will take place once a year and will consist of selected members of the Panel. The convening of additional meetings may be proposed by a meeting of the Panel of Experts or by the Secretary. The meetings of the Panel will be convened by the Secretary acting on behalf of the Executive Heads of the Participating Organizations.

2. The members of the Panel of Experts who will be invited to participate in a meeting will be selected by the Participating Organizations taking into account the nature of the subjects to be discussed and the specialities of the members of the Panel.

3. The Participating Organizations may invite other international organizations and national organizations or agencies to be represented at meetings of the Panel of Experts in an observer capacity.

VII. CONSULTANTS

The Participating Organizations may, where necessary, request specialists of high standing to undertake research, to prepare a study or to perform similar work relating to a specific subject to be discussed at a meeting of the Panel of Experts, and invite them to attend the meeting.

VIII. CHAIRMAN OF THE PANEL OF EXPERTS

The Chairman of the Panel of Experts will be elected by the members attending each regular meeting of the Panel. He will hold this position until the next regular meeting. A chairman may be reelected for not more than one succeeding term.

IX. BUDGET AND FINANCING

The Participating Organizations will contribute, in equal shares, to the cost of the meetings and other activities of the Panel of Experts in accordance with a budget drawn up and approved by them jointly at the beginning of each year. Funds to meet additional administrative costs, as well as the costs of any project to be carried out in connection with the activities of the Panel, will be sought from donor agencies.

X. DURATION OF THE PANEL OF EXPERTS

1. The Panel of Experts is established for an initial period of three years following the date of acceptance of these Arrangements by WHO, FAO and UNEP.
2. Six months prior to the expiration of that period, the Participating Organizations will jointly review the functions and performance of the Panel of Experts and take a decision with respect to its continuation.



IAEA



FAO



UNEP

**INTERNATIONAL SYMPOSIUM
ON NUCLEAR TECHNIQUES IN THE STUDY AND CONTROL
OF PARASITIC DISEASES OF MAN AND ANIMALS**

Vienna, 29 June to 3 July 1981

IAEA-SM-256/78

ENVIRONMENTALLY-SOUND INTEGRATED METHODS
FOR CONTROLLING PARASITIC DISEASES

by

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ENVIRONMENTALLY-SOUND INTEGRATED METHODS
FOR CONTROLLING PARASITIC DISEASES

Integrated control or integrated pest management can be defined as "the selection and application of methods of control to optimize results". Application of integrated control in health programmes is more complex than in pest management in agriculture. In the case of parasitic diseases man is another major element in addition to the environment and parasite and sometimes the vector. Thus the assessment of economic losses or setting up of an economic threshold, which is an essential part of the pest management planning process, will be difficult and at best an approximation or arbitrary. Much research and field investigation is required to identify systems and elements involved in parasitic disease epidemiology and their control and to design feasible integrated control strategies that are environmentally sound and could best fit varied epidemiological, socio-economic and politico-cultural conditions.

In the meantime, interim integrated strategies have to be formulated using the available methods of control, on the basis of experience available regarding their cost, effectiveness, benefits and safety to man and environment. The selection of an optimum and feasible strategy can be made for each situation in field trials on a trial-and-error basis.

At present chemotherapy and/or chemical methods of vector control are most widely used in parasitic disease control programmes. The continued use of these methods is indispensable due to their high effectiveness, comparatively low cost and especially the quick results they produce. However, they should be combined with other methods of control, e.g. use of biological agents or environmental management measures to alleviate the growing problem of vector resistance to pesticides and to secure long-term effectiveness and better environmental and human safety.

Of the available biological methods of vector control, the use of larvivorous fish against mosquito-borne parasitic diseases has proved operationally feasible and effective. Similarly, several methods of environmental management are available and can be used against major parasitic diseases.

* * * * *

1. INTRODUCTION

Integrated control in its true sense, has relatively rarely been planned and carried out in disease prevention and control programmes. For the most part, reliance has been placed on one or two methods of control which have appeared most cost-effective and feasible for application. However, neither cost-effectiveness nor feasibility of application - two major criteria for the selection of methods of control have been truly assessed in each programme and compared with those of other available methods. Likewise, other important components of selection criteria, e.g. cost-benefit, impact on environment and long-term projection of costs, benefits, effectiveness, feasibility, etc., have not been assessed for various methods and in different areas.

In recent years, however, economic and technical constraints as well as environmental concern have motivated a greater interest in and a serious consideration of an integrated approach in health programmes. More importantly, the success achieved in the application of this approach in agricultural pest control projects in the form of "Integrated Pest Management" has prompted health administrators to increase efforts for the development and application of integrated control strategies.

Integrated control and a comprehensive approach has already been introduced, on an experimental basis, in health projects dealing with water associated vector-borne* parasitic diseases and is being gradually introduced in antimalaria programmes. The discussion of this subject in this paper therefore relates more to the control of these diseases. The concept is, however, equally valid for application to other parasitic diseases as is discussed hereafter in the paper.

2. DEFINITION

Integrated control or integrated pest management has been defined in different ways by different authors. Several definitions exist in literature, e.g. disease management, systems approach, organized disease control, and the selection integration and implementation of pest control based on predicted economic, ecological, and sociological consequences; 2) but none is unanimously accepted. The FAO Panel of Experts on Integrated Pest Control in 1967 defined it as follows:

* Vector - this term is used in this paper in its broadest sense and includes actual vectors, wild animals, reservoirs and intermediate hosts of human and livestock diseases.

"A pest management system that, in the context of the associated environment and the population dynamics of the pest species, utilizes all suitable techniques and methods in as compatible a manner as possible and maintains the pest population at levels below those causing economic injury." 3)

A simplified definition adopted in this paper for integrated control in health fields is:

"The selection and the application of methods of control to optimize achievement of results."

The three components of this definition can be expressed as follows:

2.1 The selection

Theoretically this will include a review of all the available methods of control and the experience available with their use, and the carrying out of field experiments to determine the feasibility, effectiveness/cost, benefit/cost and benefit/risk of each method, which will form the basis for consideration of the methods in the integrated control strategy. This implies that all the available methods of control should be considered, reviewed and assessed but only those that are most compatible with the selection criteria for each situation will be selected.

2.2 The application

This will include a study of the combination of the selected methods of control and of the local health and socio-cultural and economic system; the design and formulation of the integrated control strategy(ies), determining the extent, intensity and timing of use of each method within the strategy; the planning and implementation of the field application of the selected strategy(ies), the evaluation of results and the subsequent revision and updating of plans and activities.

2.3 The optimization

The optimization may range from more effective control of a disease, or a disease's vector, to better protection of environmental quality and greater safety to man, greater operational and managerial efficiency, securing long-term effects, increasing side benefits, general health and socio-economic improvement. It is achieved through the diligent application of the available technology and of systems analysis in designing the control strategies and in the planning, implementation and evaluation of activities. The major task is to modify the controllable or partially controllable inputs so as to maximize the desirable outputs.

Optimization implies that methods will be selected to most closely meet the selection criteria stated under 2.1, that the control strategy is designed using the selected methods in the extent and timing that most closely fit the local epidemiological, politico-socio-cultural and economic conditions and that the programme and activities are planned and carried out in conformity with the objectives of the project and within the resources made available to the project.

The priority and values attached to each of the factors stated above may vary in each situation or programme and thus integrated control may not necessarily be always more effective or more economical or less harmful to the environment, etc., than the conventional approaches. The emphasis on these factors, however, varies with projects depending on priority areas selected, objectives set out and resources allocated. If protection of human health and of the environment is given higher priority, the greater part of the efforts and resources will be directed to this aspect of the project perhaps at the cost of reduced effectiveness. Inversely, if greater effectiveness is desired, the demand for environmental protection may need to be relaxed or resources increased.

A combination of methods in a control strategy is not always a necessity but a means to optimize achievement of results. Thus in the end, many programmes may depend on only one method of vector control should investigations prove other methods locally unsuitable or ineffective or unjustifiably costly in relation to the results to be achieved.

3. ENVIRONMENTAL ASPECTS OF INTEGRATED CONTROL

Integrated control applied to the control of parasitic diseases may serve as an effective tool in protecting and preserving the environmental quality.

Integrated control acts in three ways to reduce the risk of undesirable impacts of pesticides applied for disease prevention and control in public health programmes: firstly, regulating their use through more scientific planning and closer adaptation of planned activities to the specific epidemiological and environmental conditions and requirements; secondly, by a reduction of the heavy dependence on pesticides application, as is usually the case today, through the introduction of other measures of control safer to man and the environment, e.g. biological control agents and environmental management measures; and thirdly, through optimization in the design of the integrated control strategy and the planning and implementation of activities greater priority may be accorded to environmental safety.

Moreover, integrated control includes adoption of a comprehensive approach that takes benefit of the resources available, to plan where possible strategies and programmes that control more than one disease (see table I). As such the same methods of control selected and designed against one disease may be slightly modified or extended to control other diseases. Consequently, the total cost and effort for disease control will be reduced as will the environmental impact of the methods of control applied.

4. INTEGRATED CONTROL IN HEALTH PROGRAMMES AND IPM IN AGRICULTURE

Integrated control in health programmes and IPM in agriculture or in mosquito pest management may have the same basic principles, though they may have been defined differently or be different in composition and structure and directed towards different objectives. IPM in agriculture includes the three major elements of pest, plant and environment, while integrated control in health also involves man, thus further complicating an already complex process.

In agricultural pest management, the assessment of economic losses or the setting of an economic threshold which is an essential part of the pest management planning process, can be done with an adequately reliable degree of accuracy. In disease control, the process is much more complicated and the results are, at best, only approximations or arbitrary. Measurement of benefits/cost in health projects and sometimes even of the effectiveness/cost and benefit/risk have proved largely impracticable. Similarly, it is more difficult to identify the elements involved in disease management and to predict their interactions and to assess truly their roles and impacts. Thus, the setting up of an economic threshold for a disease is difficult or unrealistic. Much research and field investigation are required and more extensive use may have to be made of mathematical modelling and simulations to identify the elements and their interactions, to analyze and predict the possible impacts and to propose appropriate feasible strategies.

5. APPLICATION OF INTEGRATED CONTROL IN PARASITIC DISEASES CONTROL PROGRAMMES

The principles of integrated control relate to the three components of the definition, i.e. selection, application of methods and optimization of results. Applying this to parasitic disease control programmes implies that the programme objectives should be defined in order of priority. It should be first decided what level of control is desired and how soon this level needs to be achieved; the available methods of control need to be reviewed and those considered feasible for application under local ecological, economic, social, cultural, political and environmental conditions assessed for effectiveness/cost, benefit/cost and benefit/risk, both on a short and long-term basis and selected for the design of the control strategy. Conditions vary from area to area and therefore such an assessment may need to be preceded by a stratification of operational areas not only from the standpoint of ecological variations but perhaps also on a social, cultural, economic, political, etc., basis.

The practical implementation of the steps stated above is often a complex task. As already discussed due to the inadequately sensitive and precise methods of measurement and the paucity of valid ecological information and standards, a realistic assessment of ecological conditions and thus a proper selection of methods of control and their truly balanced integration in a strategy, will be extremely difficult. Thus, less sophisticated and more practical approaches should be adopted to utilize the available knowledge and experience, to develop integrated strategies that produce greatest possible optimization.

5.1 Methods of control of parasitic disease and their environmental impacts

At present there are many methods of control available that can be applied against parasitic diseases. They include measures used against parasites in man, e.g. chemotherapy or chemoprophylaxis and those that are applied against the disease vectors intermediate host or the animal reservoir of a number of the parasitic diseases of man. They also include measures that are applied to reduce or interrupt the contact between man and the vector, parasite or the animal reservoir. While the first group of measures attack directly the disease and its causative agent in man, the second and third groups act indirectly through a reduction or interruption of the transmission of the disease.

The available methods of prevention and control of parasitic diseases have different environmental impact depending on the nature of the measure and on how carefully they are planned and skilfully applied and evaluated. For instance, chemotherapy and its administration in parasitic diseases control programmes should have normally no environmental implication. On the other hand, application of a number of vector prevention and control measures may produce moderate to serious environmental implications depending on how correctly methods and materials are selected for each situation and how carefully they are planned and applied.

5.1.1 Methods of vector control

These measures are aimed at prevention or reduction of vector propagation where and when they play a role in the transmission of the parasitic disease. Major vector-borne parasitic diseases include malaria, filariasis (including onchocerciasis), trypanosomiasis, leishmaniasis and schistosomiasis. The application of vector control methods for the control of vector-borne parasitic diseases should always be combined with the use of anti-parasitic measures to cut short the duration of the campaigns. When effective and safe drugs are not available, e.g. against filariasis (including onchocerciasis), the vector control may need to be planned to be kept up for several years.

5.1.1.1 Chemical control methods. These methods consist mainly of application of pesticides to reduce vector population densities or their longevity.

Pesticides usually act directly to eliminate or reduce vector populations. Sometimes they act indirectly by rendering habitats of vectors unsuitable for their development and survival, e.g. application of herbicides against habitats of snail intermediate hosts of schistosomiasis, mosquito vectors of malaria, etc. Also, chemicals are used to prevent vectors from finding access to man, e.g. application of repellants to skin which prevents certain vectors from feeding on man and transmitting diseases.

The chemical control measures are usually classified depending on their mode of application, and the type of pesticide or of pests against which they are used. Accordingly, the major chemical control measures can be classified as follows:

Residual spraying. This method consists of applying residual compounds, that is, pesticides that have a long period of activity of up to several months when applied on indoor surfaces. This method of application is usually used against parasitic diseases transmitted through domestic vectors, e.g. malaria, Chagas, Filariasis, etc.

Residual spraying of pesticides may also be applied to outdoor surfaces, e.g. for the control of Tse-Tse fly vectors of African trypanosomiasis or certain exophytic species of mosquito vectors, or to water as residual larvicides. However, the outdoor application of pesticides involves the risk of environmental contamination and therefore it has in most cases been largely replaced by other safer compounds and application.

Indoor application of pesticides as practised presently for malaria control has a minimal risk of environmental contamination. Firstly, the chlorinated hydrocarbons, particularly DDT or HCH that are very slowly biodegradable, and to which vector resistance is widespread, are now being largely replaced by more biodegradable compounds. Secondly, it has been estimated that rural houses have an average lifespan of about ten years and thus it will take several years before any pesticide residues can find their way into the open environment. Thirdly, vector resistance to residual pesticides is expanding in area and vector species and, as a consequence, other methods and materials are being developed and applied which will further reduce the extent of residual spraying. The integrated control and its wide application will not only allow the integration of material and methods safer to the environment but also provide for a refinement and correct and safer application of the presently used material and methods.

Application of chemicals to water. This includes pesticides applied for the control of larvae of mosquito vectors of malaria, filariasis and other mosquito-borne diseases, of snail intermediate-host of schistosomiasis and of larvae of black fly (Simulium) vector of onchocerciasis, etc.

At present, the use of pesticides for the control of larvae of mosquito vectors is rather limited, mainly because of the availability of other more effective methods of vector or disease control. However, application of pesticides to water for the control of snails and particularly the

larvae of black flies is one of the most effective methods available for the control of schistosomiasis and onchocerciasis. In the case of the latter, larviciding of the breeding sites of the fly is practically the only effective method of control available against the disease.

The chemicals presently used for application to water are usually biodegradable compounds and therefore they do not produce long-term impact and residue problems in the environment. On the other hand, the compounds used are toxic materials and depending on the concentration and frequency with which they are applied, they may cause short-term moderate to serious environmental deterioration in aquatic plant and animal life. Their wide-scale use therefore needs to be preceded with preliminary field studies and experiments to identify their impacts on the ecosystem on the basis of which their application can be planned and carried out. The application of pesticides to water should be combined with a system of continuous evaluation to monitor their impacts on the environment and to take the necessary follow-up action as required.

Integrated control can be of considerable help in limiting the undesirable environmental impact of pesticides applied to water. Firstly, the selection of chemicals can be done from among those that produce least deterioration of the ecosystem. Secondly, the application technique, dosage and frequency can be planned to produce the greatest environmental safety. Thirdly, application can be made selectively, that is, only to selected spots where the transmission actually takes place or in selected timing when the transmission is most intense. Fourthly, other methods of application of pesticides may be effective against the vector or parasite and could be used with less deleterious effects to the environment and finally, other available methods of control will be studied and included in the control strategy as appropriate.

Application of pesticides to space. This includes the application of pesticides, usually in minute particles, to the space where diseases' vectors are present. Insect vectors are usually eliminated through contact with the pesticides. Similarly to pesticides used for application to water, pesticides presently used in this method are biodegradable and thus little or no long-term effect or impact on the environment is expected from their use. However, the application is usually done to the open environment and, depending on the climatic conditions, the application technique and the equipment used, the greatest part of the chemicals may land on non-target areas. The problem of short-term environmental contamination may be serious with

this method, especially if higher dosages and frequent application are used. This is, however, the aspect in space application of pesticides which is most manageable with integrated control. Introduction of other methods of application or of other methods used against vectors and parasites allows adjustment of the space application dosage and frequency in order to maintain environmental quality.

The application of pesticides to space in the context of integrated control represents perhaps the future's most promising chemical vector control method for wide-scale application. Other methods of application of pesticides are facing increasing technical, operational and logistics problems. Therefore, long-term studies must be designed to review and examine various aspects of this method's environmental impacts and to develop application techniques and equipment that could best preserve the environmental quality without detriment to the effectiveness or economy of the method.

5.1.1.2 Biological control. This method consists of utilization of biological agents that are natural enemies of vectors of parasitic diseases, to achieve their effective control. These agents include invertebrate predators, nematods, protozoa and fungi, bacteria, and vertebrate animals. Many of these agents have been under laboratory and field studies for many years but only a few have reached the stage of operational use. Of these, mosquito larvivorous fish Gambusia, Guppy (Lebistas reticulata) and carp have been used effectively in large-scale operations or field trials. This latter is also a voracious herbivorous fish and has been used for the control of aquatic vegetation.

Also, larvicide formulations based on Bacillus thuringiensis (serotype H-14) are being industrially manufactured and will be marketed shortly. Field trials carried out with these bacterial toxins against mosquito and black fly larvae have been very effective. On the other hand, they are innocuous to most non-target organisms and vertebrates and therefore they appear to be environmentally safe larvicides.

In general the environmental impact of biological agents has not been studied adequately and the data available in respect of many agents are still inadequate for a sound planning of their use in vector/disease control programmes. However, the use of biological agents in health and agricultural pest management programmes is expanding rapidly and with that hopefully the study of their environmental impacts.

5.1.1.3 Environmental management measures. These are measures that through modification and manipulation of environmental factors or their interaction with man prevent and control communicable diseases. They include the physical transformation of land, water and vegetation through drainage, filling, land levelling, etc., as well as the producing of temporary conditions unfavourable to vectors, e.g. water level management, changes of salinity, shading or exposure to sun, vegetation management, etc. They also include modification of human habitations or behaviour to reduce man-vector-parasite contact, e.g. siting of settlements away from vector sources or transmission sites, personal protection and hygiene, installation of sanitary facilities and water supply, zooprophylaxis, etc.

It can be noted that the use of environmental management measures does not involve the introduction of extraneous agents, e.g. chemical or biological contaminants into the environment. They are therefore considered to be among the safest methods available for the control of a large number of parasitic diseases. In fact, some of these measures help to improve the quality of life and the environment.

However, by virtue of their nature some of these measures may introduce certain immediate or potential physical and ecological environmental changes.

At present, environmental management measures are not widely used in parasitic disease control programmes. These measures however offer alternatives for the development of environmentally sound integrated strategies. In view of the fact that most environmental management measures are effective against a number of parasitic diseases their use is especially indicated in integrated control. They provide for a comprehensive approach of controlling a number of diseases with one strategy (see Table I).

5.1.2 Measures applied against parasite in man.

These include chemotherapy and/or chemoprophylaxis used both in mass and individual application. This is the most common method of parasitic disease control and in many instances the most effective one and least contaminative to the environment. The major constraints are (i) unavailability of effective and safe drugs for a number of major parasitic diseases, e.g. trypanosomiasis, filariasis (including onchocerciasis) and a number of intestinal parasites; (ii) the difficulty for their field administration at required timing, dosage and frequency. An adequate and well functioning health infrastructure to administer drugs is usually lacking in most developing countries where parasitic diseases are prevalent. Therefore, the experience with this method of control alone has not been very successful in the past.

On the contrary, chemotherapy must form an important component of the integrated strategy for the control and prevention of many parasitic diseases in health programmes.

5.2 Selection of methods and design of the environmentally-sound integrated control strategies.

From the foregoing it can be seen that several methods are available for the control of parasitic diseases and which can be used to design and apply integrated control strategies against these diseases. It can also be seen that a systematic approach to the selection of the methods and to the design of control strategies will be complicated and often impracticable. Necessary information and data on costs, effectiveness, risks, and benefits are not adequately available and cannot be obtained in respect of many methods of control. Moreover, the current epidemiological assessment criteria, procedures and standards do not lend themselves to the reliable measurement of effectiveness and quantification of health benefits and risks. Similarly, information on environmental impact of the methods of control are scanty and it may take years before adequate data will be available for planning environmentally-sound control strategies.

Under the circumstances a less sophisticated approach needs to be adopted for the selection of methods of control and the design of integrated strategy based largely on the experience available with different measures and their combination in different situations. Complementary field tests can be organized to substantiate the available experience and to confirm the local feasibility of application of these methods, to test various combinations and to adapt the control strategy to the local conditions.

The selection of methods can be based on their known characteristics and in relation to the programme objectives and requirements. For instance, most chemical control methods are known to be highly effective, producing quick results and feasible for application to a wide variety of conditions. They therefore have a prominent place in the integrated control strategy and are indispensable for disease control in many situations, especially in emergency operations dealing with outbreaks of epidemics. However, they need to be applied repeatedly, and their repeated application may produce environmental contamination and lead to vector resistance. Thus, to prolong their useful life and to avoid unnecessary environmental contamination, their use must be carefully planned and restricted to areas and situations where other available methods of control cannot produce similar results.

In the integrated control strategy, they should be given preference over other methods for wider application during the initial years of the programme operation. Planned correctly and applied diligently, the chemical methods of control should succeed in considerably reducing the disease transmission and prevalence within a few years over the project area with the exception perhaps of limited areas where transmission potential is high and reinforcement of the control operations may be necessary to achieve effective control. Thereafter, the application of pesticides may be reduced in area and perhaps in dosage and frequency and replaced by other methods to maintain or further reduce the endemicity at a slower pace. These other measures however, need to be planned simultaneously in the control strategy and developed and introduced gradually so as to ensure timely replacement of pesticides. To deal with emergency situations and occasional outbreaks a reserve of adequate pesticides, staff and equipment should be maintained.

With the exception of the larvicides originated from bacterial toxins, the biological control agents available for operational use, e.g. fish and snail predators, are mostly slow to develop and produce usually moderate effectiveness and control. On the other hand, they are inexpensive and simple to apply and usually they remain effective for long periods of time with little need for follow-up maintenance operations. Their degree of effectiveness depends largely on their being present in sufficient number and density in vector breeding areas and therefore regular monitoring will be essential.

Biological agents can be introduced on a wide scale as from the initial stages of the programme and strengthened and improved progressively both in areas of high transmission potential and where limited control efforts will be sufficient. In these latter areas use of biological agents perhaps, combined with chemotherapy or simple environmental management measures will be adequate and most cost/effective. It is essential that the use of biological agents should be the subject of local field trials to determine and minimize their undesirable environmental impact.

Environmental management measures are characterized frequently by long-term effectiveness and economy, considerable side benefits (saving in land, water, better crops, etc.) and a near absence of serious undesirable environmental impacts. In general, environmental modification measures are feasible for application in any field conditions but for disease control they are most cost/effective in arid and semi arid areas and in urban situations.

Simple environmental management measures should be introduced into every programme of parasitic diseases control, from the early stages followed with more sophisticated measures as the resources allow. These latter should be planned jointly or in close collaboration with the concerned local services, e.g. agriculture, public works, community organizations, etc., and carried out preferably by the competent responsible services with technical supervision from the health services.

The effectiveness of environmental management measures depends largely on their extent of coverage which is a question of staff and financial resources. Their impact on the disease transmission and prevalence therefore may be slow considering the limited resources available to health programmes. However, due to their usually long-term effectiveness their coverage will increase progressively with time even when there is no increase in resources. This will allow a gradual reduction of pesticides application and thus result in saving in efforts and resources which can be diverted to extend the programme to cover new areas.

Chemotherapy and chemoprophylaxis constitute an essential component of the integrated strategies for controlling parasitic diseases where effective, safe and inexpensive drugs are available. Administration schedules and procedures are also important in effective use of drugs and therefore single dose drugs administered orally are preferable and more cost/effective.

Drugs may be used in mass application combined with application of pesticides to affect a sharp reduction in transmission and prevalence of the disease, especially during the epidemic outbreaks. They can be administered routinely to maintain the transmission low and to avoid outbreaks. They can be administered to transient populations to prevent them from contracting infection or to avoid their introducing infection in areas where the disease is not present. In areas of low or medium endemicity administration of drugs combined with the use of biological agents and or environmental management measures may dispense with the use of pesticides for the control of many vector-borne diseases.

5.3 Conclusion

The above shows a practical approach to the immediate application of environmentally-sound integrated control in parasitic disease control programmes. It describes how the available methods of control can be considered for each situation, integrated and field-tested and selected for wide-scale application. The environmentally-sound strategies thus developed need to be planned and applied diligently if the optimization of results is to be ensured. This aspect is beyond the scope of this paper and has therefore not been dealt with.

POSSIBILITIES FOR A COMPREHENSIVE APPROACH
OPERATIONS AGAINST PARASITIC AND OTHER
MOSQUITO-BORNE DISEASES

TABLE I

Disease	Principal vectors	Vector Control														Chemotherapy	
		Chemical						Biological		Environmental Management						Drugs	Admin- istration
		Larviciding		Residual Spraying		Space Spraying & ULV		Fish	Environmental manipulation	Filling	Drainage	Maintenance (corrective operations)	Basic Sanitary Measures				
		Chemical	Appli- cation	Chemical	Appli- cation	Chemical	Appli- cation						Housing Improvement	Water Supply	Excreta Disposal		
Malaria	Anopheles	x	x	x	x	x	x	x (x)	(x)	x (x)	x (x)	x (x)	(x)	-	-	-	(x)
Filariasis	Anopheles Culicine	x	x	x	x	x	x	(x) x	(x)	x (x)	x (x)	x (x)	(x)	-	-	-	(x)
Dengue	Aedes	x	x	x	x	x	x	x (x)	(x)	x (x)	x (x)	x (x)	(x)	-	-	-	(x)
Yellow fever	Aedes	x	x	x	x	x	x	x (x)	(x)	x (x)	x (x)	x (x)	(x)	(x)	x	-	(x)
Encephal.	Culicine Aedes	x	x	x	x	x	x	x (x)	(x)	x (x)	x (x)	x (x)	-	-	-	-	(x)
Leish.	Flebotom. flies	-	-	x	x	x	(x)	-	-	-	-	-	(x)	-	-	-	(x)
American Trypanos. Chagas'	Triatoma bugs	-	-	x	x	(x)	(x)	-	-	-	-	-	x	-	-	-	(x)
Onchocerc.	Simulium fly	x	x (x)	-	-	-	x	-	x	-	-	x (x)	-	-	-	-	(x)
Trypanos.	Tsetse fly	-	-	x	(x)	x	x	-	-	-	-	-	-	-	-	-	(x)
Schisto.	Snails	(x)	x	-	-	-	-	-	(x)	x (x)	x (x)	x (x)	-	x	x (x)	-	(x)
Protozoa & helminthic intestinal infections (soil-borne infections)		-	-	-	-	-	-	-	-	-	(x)	-	(x)	x	x	-	(x)

x = Great (great possibility exists that the same method, material and/or application operations will be effective against all diseases marked with an x).

(x) = Partial (the possibility exists that the same method, material and/or application operations will be partially effective or only on certain occasions, against diseases marked with (x)).

- = (Little or no possibility exists that the same methods, material and/or application operations will be effective against other diseases marked with -.)

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HEALTH AND IRRIGATION DEVELOPMENT*

H. A. RAFATJAH**

CHEN KUO**

ABSTRACT

Often there is a direct relationship between water and land management for increased irrigation and agricultural efficiency on the one hand and disease prevention and control on the other. The nature of activities and methods used are practically the same in both cases and thus health and irrigation/agricultural efficiency can be achieved in one operation and perhaps without a need for much extra effort or cost, that otherwise would be required should each field be dealt with separately. In most cases, all that is required is a mutual understanding and knowledge of the problems and a means for frequent exchanges of views and for co-ordination.

This co-ordination between health and irrigation/agriculture needs to be well planned and carried out. It needs to start from the earliest stages of project development and must remain continuous throughout the life of the project. It will resolve many of the health problems most irrigation projects are facing today.

RESUME

Il existe souvent une relation directe entre, d'une part, l'aménagement des ressources en terres et en eau pour accroître l'irrigation et le rendement de l'agriculture et, d'autre part, la prévention et l'endiguement des maladies. La nature des activités et des méthodes utilisées est pratiquement la même dans les deux cas de sorte qu'on peut obtenir des résultats efficaces simultanément pour la santé et pour l'irrigation et l'agriculture, et cela peut-être sans qu'il soit nécessaire de prévoir l'important surcroît d'efforts

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et de dépenses qui s'imposerait si chacun de ces secteurs était abordé séparément. Tout ce qu'il faut dans la plupart des cas, c'est une compréhension et une connaissance mutuelles des problèmes et un moyen d'assurer de fréquents échanges de vues et une coordination appropriée.

Cette coordination entre le secteur de la santé et celui de l'irrigation et de l'agriculture doit être soigneusement planifiée et menée à bien. Elle doit débiter dès les tout premiers stades d'élaboration des projets et se prolonger sans interruption pendant toute leur durée d'exécution. Cette coordination permettra de résoudre nombre des problèmes de santé que posent adjoûre'hui la plupart des grands travaux d'irrigation.

1. INTRODUCTION

All over the developing world, a large impetus has been directed over the last 20 years towards the impoundment of water and its conveyance to lands newly opened to the cultivation of crops and to animal rearing for food supply and other purposes. In many countries, agricultural development provides the main source of employment and income for the population and greatly contributes towards socio-economic progress. It is unfortunate, however, that the water resources development is very frequently accompanied by the introduction of new diseases and the intensification of those already existing in newly irrigated areas, due mainly to the formation of large bodies of water impounded in reservoirs or flowing in the irrigation canals and drains or used in the field, which favour the breeding and propagation of vectors and intermediate hosts of a number of important communicable diseases to man.

It is possible to effectively reduce the hazard of disease transmission if the required attention is given to the elimination of potential vector habitats during the planning, design and construction phases of an irrigation project and to the prevention or correction of conditions which may favour vector production once the system is in operation. To achieve this, it is essential that the technical staff responsible for the project, from its inception to its completion, and throughout the period of its operation, consult and work in close collaboration with health specialists. These would include planners, designers, constructors, supervisors, managers, operators, etc. The health specialists could advise, guide and assist the project technicians at all times so that provisions required for the prevention and control of diseases are incorporated into the plans, designs and programmes actually being carried out during the execution of the works and the operation of the project.

2. WATER AND HEALTH

To understand more clearly the predominant influence that water exerts on the prevalence and spread of a number of communicable diseases, the problem can be examined among the four major roles that water plays either beneficially improving health or adversely spreading disease.

(a) WATER AS A SOURCE AND VEHICLE OF DISEASE

A number of communicable diseases, known as "water-borne" affecting mainly the gastroenteric system, are caused by micro-organisms that reach the water through human activities and move in it until they are finally ingested by man. Cholera, typhoid, paratyphoid, dysenteries and diarrhoeal diseases are typical of this group of diseases. A safe water supply and a proper disposal system for excreta are effective means for the prevention of such water-borne diseases.

(b) WATER AS THE HABITAT OF DISEASE VECTORS*

A number of communicable diseases known as "vector-borne" are caused by parasitic worms, micro-organisms and viruses that cannot attack man unless there are other organisms in the body of which they develop to the stage that becomes infective to man. These organisms are "vectors" when they play a direct role in the disease transmission (e.g. the Anophele mosquito which transmits malaria) and "intermediate hosts" when the organism does not participate directly in the transmission process (e.g. certain snails involved in transmission of schistosomiasis). The importance of water lies in the fact that the intermediate hosts of diseases are completely or partially aquatic and that all mosquito and certain fly vectors can only develop from the egg stage to adulthood in the presence of water. Man's interference with the environment by producing conditions favourable to the propagation of disease vectors and intermediate hosts, promotes the introduction, spread and intensification of vector-borne diseases. Malaria, schistosomiasis, onchocerciasis, filariasis, yellow fever and a dozen viral diseases are examples of this type of disease.

(c) WATER AS A MAN MADE HEALTH HAZARD

Here water is referred to as the carrier of organic and inorganic deleterious wastes received from such activities as processing factories, mining, exploitation and industrial plants in general. Chemicals and radio-active contaminants discharged into the water as wastes or as pesticides and fertilizers have produced serious problems and there is much concern about their possible physiological and carcinogenic effects.

(d) LACK OF ADEQUATE SUPPLY OF SAFE WATER, A FACTOR FOR PROMOTION OF THE SPREAD OF DISEASE

The lack or shortage of water discourages the adoption of personal cleanliness and hinders community hygiene and sanitation. Such situations promote the spread of the so-called "diseases of filth" which include trachoma, scabies, louse-borne typhus, etc. It is a paradox that in many water resources development projects where water is stored in millions of cubic metres for a variety of purposes, often little or no provision is made for the one hundred litres of safe water that a human being needs daily for keeping himself clean and healthy.

* The term "vector" is used in its broadest sense to represent vectors, animal reservoirs and intermediate hosts of human and animal diseases.

3. MAJOR DISEASES OF IRRIGATION SCHEMES

Of these diseases, malaria, schistosomiasis and diarrhoeal infections are the most serious and widespread water-associated diseases of the irrigation schemes. They cover large areas in tropical, semi-tropical and temperate zones. If already endemic in the areas, suitable ecological conditions created by the irrigation schemes and population concentration can rapidly intensify their transmission and prevalence or facilitate their introduction and establishment via the incoming labour force and increased communication with other areas. They are debilitating diseases, incapacitating the working class and reducing productivity. They affect more seriously the younger generation and cause heavy infant mortality and thus have great socio-economic consequences.

(a) MALARIA

Malaria is still one of the most widespread diseases in the world. Until recently it affected an estimated two-thirds of the population of the world with 2.5 million deaths and 250 million cases per year. Present estimates of the number of cases is 170 million in 116 countries.

The disease is transmitted by species of Anopheline mosquitos which breed, depending on the species, in different types of water collections where protection and food are available. The vector mosquito, through biting, extracts the parasite from a malaria patient, develops it in its body, and later on injects it into a healthy person. Only the female mosquito feeds on human blood and transmits the disease.

Malaria is primarily a disease of rural areas and is very often associated with faulty irrigation, either in design of the system, or coupled with its incorrect operation and maintenance. The faulty agricultural practices and the kind of crops grown have also, in many instances, had a great impact on the propagation of malaria or on its persistence or resurgence.

(b) SCHISTOSOMIASIS

Schistosomiasis or bilharziasis is the second most important and widespread vector-borne disease and may be the most important in water resources development and irrigation schemes. It is estimated that 200 million people suffer from schistosomiasis in 71 countries in tropical and sub-tropical zones. The infection may be fatal but most frequently results in chronic illness and disability.

The disease is contracted by man through contact with water infested with cercaria, the infective free swimming larvae of the parasite. The cercaria penetrates human skin, usually while the victim is in contact with water, and starts development in the human body until maturity. The parasite eggs are released from the infected human body through faeces or urine. In contact with fresh water, the miracidia emerge from the egg shell and swim actively and must enter the body of a suitable snail within a few hours to reproduce and release numerous larvae in the water now called cercaria.

Schistosomiasis is also a disease of rural areas where agricultural practices, poor sanitation, ignorance and poverty combine to produce conditions favouring intense transmission. In irrigated areas, contact with water is unavoidable by farmers and this explains the rapid increase in the disease prevalence in these areas.

(c) OTHER WATER-ASSOCIATED DISEASES

These are transmitted by mosquitos (filariasis, yellow fever, dengue and dengue haemorrhagic fever, equine encephalitis), by flies (onchocerciasis or river blindness, trypanosomiasis or sleeping sickness, leishmaniasis), by contact with infested water (lung and liver flukes, etc.), by contact with contaminated moist soil (hook worm and strongyloidiasis), and by ingestion of contaminated water (cholera, typhoid, bacillary dysentery, infectious hepatitis and ascariasis, guinea worm, etc.).

4. WATER RESOURCES DEVELOPMENT AND VECTOR-BORNE DISEASES

Since the early 1950s a constant and spectacular increase in the number of major projects for the exploitation of water resources has taken place in most developing countries. Afghanistan, Argentina, Brazil, Egypt, Ghana, India, Iran, Ivory Coast, Nigeria, Pakistan, Turkey and Zambia are among the many countries where the utilization of water has reached an unprecedented magnitude. The economic improvement and social progress of these countries largely depend on agricultural extension, industrial expansion and electricity generation. Such development requires large amounts of water that can be controlled and regulated to satisfy the demands.

It has, however, been a frequent occurrence in water resources development projects that soon after they are put into operation major diseases, which were non-existent or only mildly present in the area before the project was initiated, sprout rapidly and reach alarming proportions endangering the health of the whole population of the area. Given below are some of these unhappy examples:

In Lake Akosombo on the Volta River in northern Ghana where schistosomiasis was mild and restricted to small foci before the construction of the dam, this disease spread practically to all the children of school age in four years after the reservoir began to be filled. Over 80 per cent of the population is now infected.

In the Awash Valley in Ethiopia, schistosomiasis was introduced by migrant workers. A few years after the land was opened to irrigation, 60 per cent of the total population was affected by the disease.

The construction of the Aswan High Dam in Upper Egypt has changed the ecology of the course of the Nile and it is predicted that the high rate of schistosomiasis infection, that was limited to the Nile Delta, may spread to all the new reclaimed and irrigated lands.

In the basin of the Indus in Pakistan, where about 14 million hectares are being irrigated, evidence amply proved that areas of low malaria incidence became hyperendemic after the construction of water resources development projects.

In the provinces of Nangarhar and Helmand, Afghanistan, where large river basins were brought into cultivation by irrigation, malaria incidence has been on the increase since these projects were completed. Reports from Helmand show a rise from 0.09 per cent in 1968 to 35.8 per cent in 1976 despite control operations.

Reports from other countries, where malaria, schistosomiasis, filariasis and other vector-borne diseases were of minor health importance, show similar findings from epidemiological studies—the increased gravity and spread of disease resulting from the development of water resources.

5. EFFECT OF IRRIGATION IMPROVEMENT AND MODERNIZATION ON HEALTH

It is seen from the two preceding sections that the increased transmission of vector-borne diseases in irrigated areas is primarily a result of the large number of suitable breeding places created by the irrigation systems through improper design, operation and maintenance practices. On the other hand, measures to eliminate or reduce the breeding areas of vectors inevitably result in improved water management and crop yield. Consequently any improvement and modernization of the irrigation systems would have beneficial effects on health. This is reviewed below under the four broad areas as suggested in Question 36 of the Circular September 1978, Preparation and Submission of Papers for the 11th Congress on Irrigation and Drainage.

(i) IMPROVEMENT IN EXISTING IRRIGATION AND DRAINAGE NETWORKS

This can be achieved by lining of canals, conversion of part or whole of open canal system to closed conduit system, remodelling of hydraulic structures, provision of automatic or remote control, the use of modern types of irrigation, corrective measures of drainage, vegetation clearance, extension of the system, etc.

(a) Lining of canals

Canal lining has many advantages, notably: increased flow velocity, seepage control, erosion control, weed control and reduction of maintenance. The reduction of seepage and vegetation is no doubt beneficial for vector control. The disadvantage of canal lining is of course the high construction cost but should be offset to some extent by the longer life of the system and by the reduced cost of maintenance and rehabilitation. Moreover, as the lined surface is smoother, the required cross section for a given flow will be reduced and hence also the land required for rights-of-way; both are positive factors to cut down costs for new construction. Further, the vector control benefit should also be taken into consideration in the cost analysis.

(b) Conversion of part or whole of open canal system to closed conduit system

The use of closed conduits is the most effective measure for snail control. It will also discourage mosquito breeding. In addition, closed systems have many other advantages, such as reduced water loss due to leakage and evaporation, lower maintenance costs, etc. More importantly, such systems will allow more land to be cultivated with the same system than do open canal systems, which is a significant economic advantage in areas with limited water available for irrigation.

(c) Remodelling of hydraulic structures

As long as structures such as turnouts, drops, culverts, bridges, etc., do not interfere with the swift flow of irrigation and drainage water and do not hold floatage or other debris, or allow seepages, they are not a hazard for vector production. It should be recalled, however, that usually the water flows faster through most of these structures. This causes scouring at the outlet where the hard base of the structure and the soft bed of the channel meet. The depressions thus formed hold water after the flow is cut off and become suitable sites for vector breeding. To prevent this the channel bed should be lined or paved with hard material in the area where this scouring is expected or already has taken place. These should be given due attention in the remodelling of hydraulic structures.

(d) Provision of automatic or remote control

Any device that improves and simplifies the operation of a system and in particular water management, will reduce water losses and therefore will indirectly assist vector control. Automatic siphons have proved their practicality and efficiency. When installed at the tail end of a canal with discharge into the nearest drain they provide a simple means for prevention of overflow in the canal and flushing the drain, which are important measures in vector breeding prevention.

(e) The use of modern types of irrigation

In general, modern types of irrigation are aimed at higher irrigation efficiency and greater economy in water use by reducing the wastage of water and hence the chances for its accumulation and vector breeding. Sprinkler irrigation, if properly carried out, should not result in water pools on the irrigated area which will remain long enough to provide mosquito breeding and snail habitats. It also excludes the need for open canals and drains where vectors may breed and propagate.

(f) Corrective measures of drainage

A properly designed and well maintained drainage system removes excessive surface water and/or lowers the ground-water level to prevent waterlogging (and hence increasing crop production) and to eliminate snail habitats and mosquito breeding places. Using drainage to control malaria has been a time-honoured procedure. Unfortunately, most irrigation schemes have inadequate drainage systems.

It is seldom that a drainage system does not require, besides frequent maintenance, major corrections. Because of their nature, drains are exposed to such weathering and disintegration that full reshaping may be needed to bring them back to their initial efficiency. Where the water table increases with irrigation and seepage from reservoirs, additional drainage facilities need to be constructed to expand the network and increase the discharge capacity.

Open drains are oftentimes inadequately mentioned, because the irrigation authorities normally give higher priority to the maintenance of irrigation canals. As a result, the drainage ditches are usually left in very

deplorable conditions, creating serious problems for snail and mosquito control. From a vector control point of view, a sub-soil system is a good method of drainage as it will not create vector breeding problems by itself. This method should be given due weight in considering corrective action for existing drainage systems and construction of new systems. In particular, its economic advantage resulting from the considerable land area saved for crop production which otherwise would be taken up by open ditches and its vector control benefits should be given due consideration.

(g) Vegetation clearance

Vegetation clearance will not only help keep the canals in good condition and hence maintain the unobstructed flow of water at design capacities but will also contribute considerably towards vector control. It is on the water of weeded margins that many mosquito vectors of diseases breed. Similarly, snails also depend on the protection and food supply provided in the deeper weeded margins for survival. Weeds and other vegetation provide the mosquito larvae and snails with food, shelter from wind, water motion and natural enemies.

(h) Extension of the system

The experience gained in the operation and maintenance of an existing system should be put into good use in the planning and design of extensions so as to avoid from the beginning the repetition of faults and their necessary correction. This is particularly important where vector-borne diseases prevail or potential for their spread in the extension areas exists.

(ii) IMPROVEMENT OF WATER MANAGEMENT

Improvement of water management can be achieved by avoiding over-irrigation, practising intermittent irrigation and by utilizing ground water and return flow for irrigation. Water level fluctuation, channel flushing and salinity manipulation are major water management methods for vector control.

(a) Avoiding over-irrigation

It is a common practice to over-irrigate the land, based on a fallacy that the more water put on the fields, the greater the crop production. This practice constitutes a waste of water which could be used for irrigation of additional land, is harmful to agriculture, encourages weed growth, washes down plant nutrients from the top soil through leaching, damages root systems and raises the water table to an elevation that may injure the whole plant, and reduces soil fertility through concentration of noxious salts which will rise with the ground water. Surplus water on the ground surface represents a potential health problem or increased transmission of vector-borne diseases. Thus any effort to avoid or eliminate over-irrigation for increasing irrigation efficiency and crop production will bring about simultaneously a reduction in transmission of vector-borne diseases.

(b) Intermittent irrigation

The water economy and the efficacy of intermittent irrigation have been amply proven for various kinds of crops, including rice cultivation. The

periodic drying of the cropped fields and feeding ditches can result in the destruction of mosquito larvae and possibly snails by stranding and dessication. In Japan a change from ponding irrigation to intermittent in rice fields resulted in a 50 per cent increase in crop yield while snail population decreased from 200 to less than one per square metre.

(c) Ground water and return flow utilization

The use of ground water as a source for irrigation, by wells and pumps would involve less risks of vector propagation. The expanse of water in an open reservoir, whatever improvement work is undertaken, is an always present threat to health because of its potential suitability for vector breeding. Pumped water being more costly and less available will be more carefully applied. It reduces or prevents waterlogging.

The re-use of irrigation water, either by its application to lower land or by its recirculation to cultivated fields, would prevent the accumulation of surplus water at the lower part of cultivated plots or at the tail end of canals and, therefore, would reduce sources of vector production.

(d) Water level fluctuation

Water level fluctuation is a proven manipulative method for mosquito control. Fluctuation does not destroy directly the vector. The main elements for vector destruction are deprival of protection and food through the control of marginal vegetation growth, and stranding and exposing to an unsuitable environment. A fluctuation of about 0.5 m every 5-20 days by means of automatic siphon spillways effectively controlled the snail population in two small reservoirs in Puerto Rico. The maximum opportunity for water level management is within the multi-reservoir river valley development schemes.

(e) Channel flushing

The idea of channel (or stream) flushing is to upset the stable channel (or stream) conditions under which vector breeding is taking place. Often it dislodges the vector and exposes it to a less suitable environment. The flushing need not be automatic, though experience has favoured automatic devices such as the self-initiating and self-terminating siphons or water gates.

(f) Salinity manipulation

Changing the salinity of the water in coastal lagoons or marshes is a method of controlling mosquito breeding. Vector species can tolerate a certain range of salinity in water beyond which breeding cannot take place. There are instances where the local freshwater species are more dangerous than the salt-water species. Obviously desalination would aggravate this problem in these circumstances. In general, increasing the salinity is less risky than the reverse.

(iii) BETTER WATER CONTROL

This can be achieved by co-ordination of canal operation with crop water requirements. Any effort to improve water control, up-grade

irrigation efficiency and increase water-use economy will reduce water losses and therefore will indirectly assist vector control.

(iv) **ECONOMIC AND FINANCIAL EVALUATION OF THE EFFECTED IMPROVEMENTS**

This will be made primarily on the basis of the increased (irrigation) system efficiency and the augmented crop production; both aspects are within the expertise of the civil/irrigation/agricultural engineers and can be expressed in monetary terms. The health benefits which will result from the effected irrigation improvements and modernization are not as familiar to the engineers, nor are they as easily quantifiable as the irrigation/agricultural gains. Nevertheless, these benefits exist and have an important role in the success or otherwise of the agricultural schemes. Hence they should be taken into due account in the economic and financial evaluation of irrigation up-grading.

The health benefits are usually classified into three major areas for quantification: (a) the value of savings in cost of health care and services; (b) the value of the increase in total output resulting from reduced mortality, disability and debility (investment benefits); and (c) the value of health improvement *per se* (consumption benefits). While (c) is the most important health benefit, it is rather difficult to measure. (b) is somewhat reflected in the agriculture benefits and can be assessed. (a) can be quantified with a fair degree of reliability. Thus (a) and (b) can be included as partial health benefits in the economic and financial evaluation of irrigation improvements. It may be noted that (c), i.e. the consumption benefits, are those arising from the resulting reduction in human pain and suffering. Although the total health benefit is difficult to quantify, the fact remains that good health is a condition of economic and social progress.

It is recognized that a case study on the effect of irrigation improvement and modernization on health (or on the control of water associated, vector-borne diseases) would be very illustrative. However, while sufficient data on the adverse effects of water resources development projects which failed to pay due attention to the prevention and control of vector-borne diseases have been accumulated, no information on the reverse is yet available. A project has recently been formulated in the Sudan (the Blue Nile Health Project) for the prevention and control of water associated diseases in the irrigated schemes following a comprehensive approach. This project has already started operation; it is expected that in two to three years' time, the necessary data would become available for the preparation of a good case study.

4. CONCLUSIONS

It is obvious from the above that improvement and modernization of irrigation systems, as well as up-grading of irrigation and agricultural practices, will in general bring about a reduction in mosquito breeding places and snail habitats. They are therefore beneficial to vector control.

Any modification or manipulation of environmental factors that render the environment less suitable for vector breeding and survival will be useful in providing control of disease vectors. Many of these changes can be

incorporated in the planning and designing of new irrigation schemes and of improvements of the existing systems, often without extra costs.

The improvement and modernization of existing irrigation systems and the implementation of new systems of a higher standard will involve considerable investments. However, their health impacts could be very significant, and thus should be appropriately assessed and quantified and taken into account in their economic feasibility studies.

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WHO'S ACTIVITIES ON THE HEALTH ASPECT OF WATER RESOURCES DEVELOPMENT AND PREVENTION AND CONTROL OF WATER-ASSOCIATED DISEASES*

In developing countries, the development of water resources for irrigation, power, flood control and other uses has been done with little or no attention to their health implications and requirements. As a result, many of such schemes constructed with the aim of social and economic improvement of the populations, has led in practice to the creation of important health problems and often to a reduced productivity and economic development.

Examples of such schemes are numerous in all continents where diseases such as malaria, schistosomiasis, onchocerciasis and diarrhoeal infections are widespread and affect seriously the well-being, productivity and prosperity of the populations involved. A few attempts were made in the past to assess the health impacts in such projects and to organize preventive and control activities. These attempts were, however, often belated, insufficient and fragmentary and limited mostly to epidemiological investigations and sometimes also to recommendations for certain control. The basic preventive approach through provision of health measures and features in the project's plans, designs and operation, was seldom considered or applied.

In 1976, an interagency review was made in the UN system of the experience in examining the health aspects of water resources development projects. The report, which was issued on 19 August 1976, made a review of the health problems of the water resources development, examined the procedures followed for dealing with these problems in the UN system and in the national administrations or bilateral assisting agencies, and put forward a number of institutional, administrative and technical recommendations. The report pointed to a number of deficiencies both procedural and institutional in the project review process in the UN system and in the follow-up actions given to the technical recommendations during the project's development.

Information on the national projects and on those carried out with bilateral aids were scanty.

The review report which was later approved by the ECB contains a number of recommendations for institutional and administrative provisions within UN agencies to strengthen collaboration and expedite project review. It also contains a number of technical recommendations for health impact studies, implementation of health protection measures and evaluation of progress as well as development of training and information systems.

1. INTERNATIONAL COLLABORATION

FAO/WHO Memorandum of Understanding

As a follow-up of the recommendations resulting from the interagency

* By H.A. RAFATJAH and C. KUO, Sanitary Engineers, Equipment Planning and Operations, Division of Vector Biology and Control, WHO, Geneva.

review, the WHO and FAO pursued the interagency consultation and in January 1978 three memoranda of understanding were signed by the two Directors General. Of these, one document dealt with the prevention and control of water-borne and associated diseases in agricultural water development activities. The document provides for interagency collaboration in regular review, exchange of information, training of staff, co-operation with other organizations and governments and for designation of focal points in the two organizations and co-ordination activities at regional and country levels.

It is expected that other organizations involved in the development of water resources, e.g. World Bank, UNEP, UNDP, ICID, etc., or bilateral agencies will join the collaborative efforts with national and government administrations responsible for development of water resources.

WHO/FAO/UNEP Task Force

An interagency Task Force on Environmental Management for Vector Control is being established. As provided in Article 4(1) of the FAO/WHO Memorandum of Understanding, the Task Force will provide for regular consultation and extended collaboration in water resources development projects. It will review progress in international co-operation in the field and will propose research and training projects.

2. TRAINING, INFORMATION AND COMMUNICATION SYSTEMS

Seminars

(a) A seminar on the prevention and control of vector-borne diseases in water resources development projects was held in Egypt and the Sudan in March/April 1978. The principal objective of the Seminar was to bring the attention of the planners, designers and engineers to the health implications of their work and to the need for incorporating features and procedures for the prevention and control of disease transmission and prevalence during the various stages of the water resources development projects. The report of the Seminar (document VBC/EM/78.1) has been well received and provides useful guidelines to the vector control workers as well as the water resources development planners and engineers.

The following seminars, short courses, workshops and study tours have been proposed:

(b) Seminar on Integrated Control of Vector Mosquitos

A series of three seminars to be held at different locations, one in each year, the first one probably in Grand Cayman, Greater Antilles in 1980. The participants will be acquainted with integrated strategies, procedures for planning, organizing and evaluating integrated control programmes based on cost-effectiveness.

(c) Seminar on Water Management for Vector Control in Arid and Semi-Arid Zones

A series of four seminars to be held at different locations, one in each year, the first one probably in a selected country in East Africa in 1981. The participants—design engineers, constructors and health staff will be acquainted with the health problems of water resources development in

arid and semi-arid regions and to provide them with information on appropriate water management methods and procedures beneficial for both health and agriculture.

(d) Short Course on Hydrotechniques

A series of three courses to be held at the Martinovsky Institute, Moscow, USSR, one in each year starting 1980-81. The aim will be to train engineers in methods of environmental management for vector/disease control, which could be incorporated in the design, construction, operation and maintenance of water resources development projects.

(e) Workshop/Study Tour on the Design, Operation and Maintenance of Irrigation Projects as related to Water-Associated Diseases

A series of four workshops/study tours to be held in Bulgaria, one in each year starting 1980. The health, irrigation and agriculture staff will review the design, operation and maintenance of a few selected irrigation schemes in Bulgaria, will study the specific vector/water management problems encountered in their own national projects, and will discuss and exchange views with the Bulgarian engineers and specialists on how such problems could be effectively resolved.

3. MANUALS AND TECHNICAL DOCUMENTS

(a) Manual on environmental management for mosquito control with a Special Emphasis on Malaria Vectors has been compiled and its first manuscript circulated to selected reviewers for comments. It is expected that the final draft will be ready at the end of June 1980 for editing and printing and the printed version will be ready for distribution at the end of 1980 or beginning of 1981. Included in the Manual are treatises on environmental modification, environmental manipulation, reduction of man/vector content, as well as the planning of environmental management activities for mosquito control under different situations.

(b) The Manual on larval control operations in malaria programmes, published in 1973, devoted two chapters (out of four) on naturalistic control and source reduction. It is planned to revise this Manual in 1980 and 1981, to bring it up to date with the latest development in this field, to enlarge the portion on geographical reconnaissance and land surveying.

It is hoped that national vector control programmes and water resources development projects will prepare their own manuals using the WHO manuals.

(c) Technical documents

Several technical papers and documents have been prepared on the health aspects of water resources development for presentation in different international conferences or for training of staff. Some of these are included in the list of references to this document.

4. TECHNICAL CO-OPERATION AND FIELD RESEARCH

(a) BNHP

As a follow-up to the Egypt/Sudan Seminar, the Blue Nile Health Project in the Sudan was formulated and is now in operation. The project

area consisting of the Gezira, Managil and Rahad irrigation schemes with 1.7 million permanent population and 0.5 million transient labour and 2.1 million acres of cultivated irrigated land, is presently plagued with a number of important water-associated diseases, mainly malaria, schistosomiasis and diarrhoeal diseases, which have caused severe health problems and lowered agricultural productivity. The project is designed to prevent and control these diseases through a comprehensive approach using environmental management methods including agriculture and irrigation improvement, biological agents, judicious application of insecticides and molluscides, provision of water supply and sanitation, health education, community participation as well as detection and treatment of cases through an extended system of primary health care and strengthened health services.

The project area is divided into three zones. During the first five years, in the Rahad zone (30 villages and 50,000 population at present), the presently available control measures will be used to prevent transmission of schistosomiasis presently absent and to control malaria and diarrhoea transmission emphasizing permanent measures. In the Gezira-Managil zone (1936 villages and 1.6 million population), the present disease control operation will be strengthened, improved and extended, and the current irrigation and agricultural practices will be reviewed for improvement.

In the study zone (55 villages, 50,000 population), an intensive epidemiological baseline survey will be carried out in 1980 and a comprehensive control strategy will be designed and implemented for field trials thereafter. Field research and pilot studies on different control methods, singly and combined, will also be carried out during the first 5-year period, for evaluation of their cost-benefit, cost-effectiveness and feasibility for application in the area and for the design and subsequent refinement of the comprehensive strategy. As from the sixth year, the strategy will gradually be introduced in all zones, area by area, until the entire project area is covered towards the end of the 10-year project duration.

(b) The project includes a component of field research and pilot study. It provides an excellent opportunity for practical training of vector control workers and the water resources development engineers from other countries, on the health implications of water development projects and the various methods for the prevention and control. Seminars are planned for this purpose.

(c) WHO has participated in health impact studies in several development projects. Recent examples of these are the Rufigi River Development project in Tanzania and of the Kagera River Basin Development project in Ruanda, Burundi and Tanzania.

The **comprehensive approach** for the control of water-associated diseases have many advantages; it is expected that additional projects similar to the one in the Sudan, which is the first of its kind, will be formulated in the near future.

WHO consultant engineers have been provided or planned to advise governments on the planning and application of environmental management methods for vector control (e.g. Solomon Island to advise on the control of mosquito breeding in coastal lagoons).

(d) Expert committee on environmental management for vector control

The first meeting of the above Expert Committee was convened in Geneva in November 1979. At the meeting, the Committee reviewed the known environmental management measures which were used for vector control in the past, assessed the present application of these measures in vector control programmes and development projects, estimated the interaction of these measures with agriculture, irrigation and socio-economic development, established principles for the planning, organization and evaluation of environmental management operations for vector control, and made appropriate proposals in the areas of training, information and research. Its report, which contains the experts' views and recommendations and provides authoritative guidance, is in advanced stage of publication in the WHO Technical Reports Series.

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GENEVA, 29 SEPTEMBER 1981

JOHN EVANS, WASHINGTON, COPY BOSKEY. AS WASHINGTON IS INFESTED WITH MINGFIN, THIS BRIEF REPEAT BRIEF MESSAGE ON VECTOR CONTROL-MEETING ENDING TODAY SHOULD HELP CHEER YOU UP.

AAA JOINT WHO/FAO/UNEP EXPERT PANEL ON ENVIRONMENTAL MANAGEMENT FOR VECTOR CONTROL IS AN OFFSPRING OF WHO/FAO PROJECT REVIEW GROUP WHICH WAS CONCERNED WITH HEALTH ASPECTS OF WATER RESOURCES DEVELOPMENT PROJECTS. PANEL CONCEIVED IN 1973 AND BORN ONLY WHEN THREE PARTICIPATING AGENCIES COMPLETED PROCESS OF SIGNING MEMORANDUM OF UNDERSTANDING EARLY IN 1981. THE "THREE" WOULD LIKE UNICEF, UNDP AND BANK TO JOIN THEM AS NURSING PARTNERS. AT PRESENT, PARTICIPATING AGENCIES CONTRIBUTE DOLLARS TEN THOUSAND EACH ANNUALLY TO MEET CASH COSTS OF ONE ANNUAL MEETING OF PANEL AND OF THREE-PERSON JOINT AGENCY SECRETARIAT ON PAYROLL OF THREE AGENCIES. AGENCIES NOMINATE PANEL MEMBERS WHICH PRESENTLY CONSIST OF ACADEMICS AND GOVERNMENT OFFICIALS (TOTAL OF TEN) MAINLY IN TRAINING, HEALTH AND IRRIGATION AREAS. MOST ACTIVE OF THEM ARE KRUISINGA (NETHERLANDS), BRADLEY (ROSS INSTITUTE, UK), KRUZE (JOHNS HOPKINS, USA) AND MAJEED (SUDAN) OF MAR DEL PLATA FAME. NUMBER OF PANEL MEMBERS WILL BE INCREASED IN FUTURE TO SOME 60 NOMINATED BY PARTICIPATING AGENCIES, TO INCREASE POLITICAL SUPPORT AND LOBBY FOR THE EXISTENCE AND FUTURE WORK OF PANEL.

BBB MAIN PURPOSE THIS EXERCISE IS TO BRING TOGETHER ORGANIZATIONS INVOLVED IN DEVELOPMENT AT ALL LEVELS IN WATER RESOURCE DEVELOPMENT PROJECTS, PARTICULARLY IN TROPICAL AREAS. THE THREE AGENCIES HAVE GIVEN PANEL UNTIL 1983 TO DEMONSTRATE ITS USEFULNESS.

CCC SECRETARIAT HEADED BY H. A. RAFATJAH, CHIEF, EQUIPMENT PLANNING AND OPERATIONS, DIVISION OF VECTOR BIOLOGY AND CONTROL, WHO, AND SOME OF THE PANEL MEMBERS ARE CONVINCED OF THE NEED FOR A HIGH-POWERED PANEL TO INFLUENCE VARIOUS TECHNICAL AND FINANCIAL AGENCIES TO TAKE DUE NOTE OF HEALTH AND ENVIRONMENTAL ASPECTS IN WATER DEVELOPMENT PROJECTS. THEY BELIEVE EXISTING ARRANGEMENTS, INCLUDING FOLLOW-UP MECHANISM FOR WATER CONFERENCE, NOT ADEQUATE TO LOOK AFTER THIS CONCERN.

DDD AS YOU CAN GATHER, A GROUP OF WELL-INTENTIONED INTERNATIONAL CIVIL SERVANTS, WITH THE SUPPORT OF GOVERNMENT AND NON-GOVERNMENT EXPERTS, IS TRYING TO CARVE OUT A ROLE IN AN IMPORTANT AND EXTENSIVE AREA COVERING POLITICAL, TECHNICAL AND OPERATIONAL MATTERS, WHILE AT THE SAME TIME EXTREMELY SHORT OF IDEAS AND FINANCIAL RESOURCES.

EEE I WILL BRIEF YOU IN MORE DETAIL, TO THE EXTENT I UNDERSTAND, WHEN WE MEET IN GENEVA NEXT WEEK AS TO THE WORK PROGRAMME AGREED AT THIS MEETING FOR THE PANEL AND THE SECRETARIAT. NEXT MEETING OF THE PANEL WILL BE HELD IN NAIROBI IN SEPTEMBER 1982 AND THE TOPIC FOR DISCUSSION WILL BE ENVIRONMENTAL MANAGEMENT MEASURES, WITH SPECIAL CONCERN FOR DRAINAGE AND IRRIGATION MATTERS. IN THE MEANTIME, SECRETARIAT WILL UNDERTAKE A NUMBER OF STUDIES, INCLUDING EDUCATION IN ENVIRONMENTAL MANAGEMENT, TRAINING COURSES ON PREVENTION AND CONTROL OF HEALTH IN WATER RESOURCE PROJECTS, PREPARATION OF GUIDELINES, EFFECTIVENESS OF CANAL LINING FOR VECTOR CONTROL, AND YOU NAME IT, FINANCED, HOPEFULLY, WITH BILATERAL FUNDS.

FFF IN DUE COURSE AGENCIES WILL BE CONTACTED TO SELECT STUDIES OF THEIR CHOICE AND HELP IN CONTRIBUTING TO IT PROFESSIONALLY AND FINANCIALLY - WHETHER THEY ARE PARTICIPATING AGENCIES OR NOT.

GGG THE REPORT AND RECOMMENDATIONS OF THIS MEETING WILL BE BROUGHT TO THE ATTENTION OF THE INTER-SECRETARIAT GROUP FOR WATER RESOURCES MEETING ON 9-10 OCTOBER, WHICH IS THE FOLLOW-UP MECHANISM FOR MAR DEL PLATA, AND AT THE HEALTH RESOURCES GROUP MEETING YOU ARE ATTENDING IN GENEVA. A COPY OF THE REPORT AWAITS YOUR ARRIVAL.

HHH CONCLUSION: BASED ON LIMITED EXPOSURE, I FEEL THAT IT WOULD BE USEFUL TO HAVE MORE DETAILED DISCUSSION WITH RAFATJAH WHO SEEMED TO BE THE MOVING FORCE BEHIND THE PANEL AS WELL AS WITH OTHERS, INCLUDING MAHLER. YOU MAY FIND OUT FROM YUDELMAN'S STAFF WHAT THEY THINK OF MR. T. MATHER, WATER RESOURCES, DEVELOPMENT AND MANAGEMENT SERVICES, FAO, WHO IS ON THE SECRETARIAT OF THE PANEL FOR FAO AND BELIEVE GENUINELY CONCERNED WITH LACK OF AGENCY COORDINATION IN THIS AREA. I RAISED QUERIES IN YOUR TELEX - AND MORE, QUESTIONING THE NEED FOR PROMOTING YET ANOTHER MECHANISM FOR COORDINATION. MORE WHEN I SEE YOU. REGARDS, BURNEY+

+++

EG

MR. J. EVANS
MRS. BOSKEY
Jill
1 copy for Geneva
please
1 copy - J. Evans

W. H. Evans
Jill
1 copy for Geneva
please

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Date: **SEPTEMBER 16, 1981**

Telex No.: **28883 IBRD CH**

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D. Evans

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BURNEY, WORLD BANK

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THANKS YOUR SEPTEMBER 15 RE VECTOR CONTROL PANEL MEETING.

HAVE TODAY TELEXED MAHLER AS FOLLOWS QUOTE RE INVITATION TO WORLD BANK TO BE REPRESENTED AT SEPTEMBER 22-29 MEETING OF PANEL OF EXPERTS ON ENVIRONMENTAL MANAGEMENT FOR VECTOR CONTROL, PLEASED TO RESPOND THAT MAHMUD BURNEY, WORLD BANK REPRESENTATIVE TO U.N. ORGANIZATIONS-GENEVA, WILL REPRESENT BANK IN OBSERVER CAPACITY. APPRECIATE INVITATION THAT BANK

~~**PANEL AS PARTICIPATING ORGANIZATION. HOWEVER, BURNEY**~~

WILL RESERVE BANK'S POSITION ON THIS POINT, AND WE SHALL REPLY FURTHER TO IT FOLLOWING PANEL MEETING. UNQUOTE EVANS TELEXING YOU DIRECTLY NUMBER OF QUESTIONS RAISED BY MAHLER LETTER AND ATTACHMENTS, ANSWERS TO WHICH OR YOUR IMPRESSIONS ABOUT WHICH WOULD GUIDE DECISION WHETHER TO JOIN AS PARTICIPATING ORGANIZATION. YOU NEED NOT NECESSARILY POSE THESE QUESTIONS DIRECTLY, BUT THEY WILL GIVE YOU CLUE TO CONCERNS HERE. AGREE WITH YOUR SUGGESTION RE AGENDA ITEMS TO OBSERVE. YOUR SEPTEMBER 2 TO MCDONALD SAYS ARRANGEMENTS MADE FOR DOCUMENTS TO BE SENT TO EVANS. HOWEVER, HAVING RECEIVED NO DOCUMENTATION OTHER THAN THAT ATTACHED TO

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MAHLER LETTER, AM UNABLE TO PROVIDE BRIEFING ON AGENDA ITEMS
HEADED QUOTE PROJECT PROPOSALS UNQUOTE AND QUOTE
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CONCERNING WHAT MAY BE CONSIDERED. IF YOU CAN PICK UP
ANYTHING OR NEED BRIEFING DURING COURSE OF MEETING, EVANS
AND LEE MIGHT BE ABLE TO GIVE ADVICE BY PHONE. MOST
APPRECIATIVE YOUR WILLINGNESS TO BE PLACED IN THIS SOMEWHAT
UNCOMFORTABLE POSITION. REGARDS, BOSKEY

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WHO Vector Control mtg., 9/22-29/81

DRAFTED BY:
SEBoskey:di

CLEARANCES AND COPY DISTRIBUTION:
**cc: Dr. Evans
Dr. Lee
Mr. Boucher**

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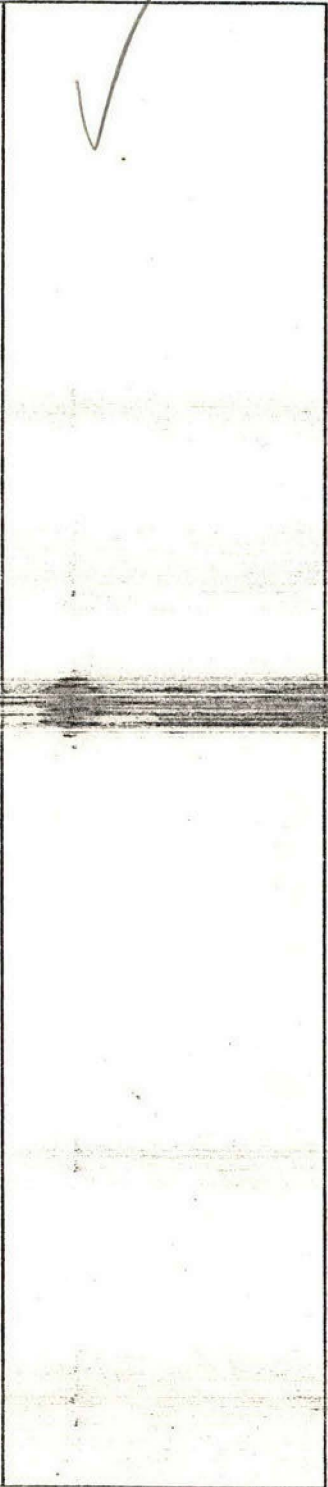
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RESPOND THAT MAHMUD BURNEY, WORLD BANK REPRESENTATIVE TO
U.N. ORGANIZATIONS-GENEVA, WILL REPRESENT BANK IN OBSERVER
CAPACITY. APPRECIATE INVITATION THAT BANK JOIN PANEL AS
PARTICIPATING ORGANIZATION. HOWEVER, BURNEY WILL RESERVE
~~**BANK'S POSITION ON THIS POINT, AND WE SHALL REPLY FURTHER**~~
TO IT FOLLOWING PANEL MEETING. REGARDS, BOSKEY



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MR. MAHRUD BURNEY, WORLD BANK

GENEVA, SWITZERLAND

PLEASE CLARIFY FOLLOWING QUESTIONS AT MEETING OF PANEL OF EXPERTS ON ENVIRONMENTAL MANAGEMENT FOR VECTOR CONTROL. ALPHA. WHAT GAP WOULD THIS SUPRA-AGENCY PANEL FILL THAT COULD NOT BE HANDLED BY EXISTING AGENCIES? OF THE FUNCTIONS LISTED IN THE MEMORANDUM COMMUNICATIONS AND COORDINATION WOULD BE USEFUL BUT COULD BE ACHIEVED BY ANNUAL MEETINGS OF INTERESTED PARTIES WITH MEMBERSHIP ACCORDING TO TOPIC. SKEPTICAL ABOUT THE ADDITION OF PERMANENT SECRETARIAT AND EXECUTIVE FUNCTIONS FOR PANEL. SUCH AS TECHNICAL ADVISORY ROLE, RESEARCH MANAGEMENT, FUND-RAISING AND INSTITUTIONAL DEVELOPMENT. BETA. WHAT IS RELATIONSHIP OF PANEL TO EXISTING ENVIRONMENTAL HEALTH GROUP AT WHO CONCERNED WITH WATER AND SANITATION? GAMMA. WHO WOULD SEEK ADVICE OF PANEL? WOULD GOVERNMENTS OR PROJECT AGENCIES REQUEST ADVICE? DELTA. DELIGHTED THAT YOU ARE REPRESENTING OUR SECTORS. THANKS. EVANS, INTBAFRAD

Vector Control

cc: Mrs. Boskey

Mr. Messenger/Dr. Hamilton

JREvans/rmf

John R. Evans

PHR

RECEIVED

[Handwritten signature]

Dr. Evans

P. call re -

Vector

1961 SEP 15 11 2
COMMUNICATIONS

SEPT 15 1981

IBRD PARIS - UNNUMBERED -

GENEVA, 15 SEPTEMBER 1981

BOSKEY, WASHINGTON. THIS WILL CONFIRM THAT DISCUSSION AT VECTOR CONTROL PANEL WILL BE BROADLY DIVIDED INTO TWO AREAS: (1) PURPOSE, SCOPE, WORK PROGRAMME, INSTITUTIONAL FRAMEWORK AND (2) TECHNICAL DISCUSSION ON ENVIRONMENTAL MANAGEMENT, APPROACH TO HUMAN HEALTH IN PROJECT DEVELOPMENT, ETC. FOCUS IN THIS FIRST MEETING WILL BE ON (1). WHO ANXIOUS BANK ATTENDANCE IN ANY FORM. SUGGEST I OBSERVE ITEMS 4, 8, 9 AND 10 AND PERHAPS 14. HAVE BEEN TOLD THAT DISCUSSION THESE ITEMS WILL TAKE SOME 2-2-1/2 DAYS. WHO UNDERSTANDS BANK ATTENDANCE NO INDICATION OF ITS INTEREST IN JOINING PANEL. PARA

IF YOU STILL WISH ME TO ATTEND, WOULD APPRECIATE BRIEFING ON ITEMS MENTIONED ABOVE. WHEN RESPONDING TO MAHLER'S LETTER OF 28 JULY, PLEASE INDICATE BANK'S INDECISION ON ROLE OF THE PANEL AND UNCERTAINTY NATURE OUR ASSOCIATION WITH IT. REGARDS BURNEY+

John
I don't see how we can provide briefing on #9-10, do you?

ROUTING SLIP		DATE: 9/14
NAME		ROOM NO.
Dr John Evans		
APPROPRIATE DISPOSITION		NOTE AND RETURN
APPROVAL		NOTE AND SEND ON
CLEARANCE	<input checked="" type="checkbox"/>	PER OUR CONVERSATION
COMMENT		PER YOUR REQUEST
FOR ACTION		PREPARE REPLY
INFORMATION		RECOMMENDATION
INITIAL		SIGNATURE
NOTE AND FILE		URGENT
REMARKS: <div style="text-align: center;"> <p>File Env. Health pack (1)</p> </div>		
FROM: Shirley Boskey	ROOM NO.: E-823	EXTENSION: 72173

FILE
VECTOR
CONTROL

Mr. McNamara was a voice in the design of the IDRC staff, August 18, 1978
 Shirley Boskey, Director, IRD meeting of the Group but was not adopted
 as an alternative. A recent IDRC meeting is, however, about to be considered at a
Report of the Chairman of the Ad Hoc Working Group on Rural Potable
Water Supply

If the attached report had not been sent to you by Maurice Strong
 with an invitation to comment, I would not bother you with it at all. As
 a participant in the Group and a (very) amateur psychologist, I would say
 the report is a petulant reaction to the fact that the Group for which the
 report's author served as Chairman was not a success. I am surprised by
 the negative comments about the Bank (and WHO). Mr. Strong characterizes
 them as "candid" -- perhaps so, but unjustified, in large measure based
 on speculation and in some respects inaccurate.

It is true that the Group was not successful. It was started
 by IDRC and UNDP as an inter-agency undertaking to focus governments'
 attention on the importance of assuring adequate supplies of potable
 water to rural populations and to win higher priority and more resources
 for the water supply sector. It adjourned sine die in November 1977 with
 little to show for its 3 1/2 years of life. IDRC has asked for the return
 of its pro rata share of the balance of contributions made to support the
 Group's work. So has the Bank. The other participants in the Group were
 WHO, UNDP, UNICEF and, to a lesser extent, FAO, UNEP and OECD. The start-
 up in 1974 was euphoric but after potential donor governments, while
 endorsing the Group's objective, rejected its first proposal for an inter-
 national program, the Group went downhill. It tried to find and develop
 some kind of "operational" program -- examples of activities in the sector
 which would have more appeal to potential donors than the initial program.
 It spent considerable time, as Mr. Cohen fairly says, discussing organiza-
 tion. Ultimately it set up a Task Force, on which staff of participating
 agencies served in their individual capacities, to make recommendations for
 a more effective approach to collaboration. The Task Force produced an
 elaborate and thoughtful report proposing a new coordinating mechanism to
 consist of an inter-agency steering committee and a professionally staffed
 small service unit to identify projects and bring them to the attention
 of financing agencies. The total cost of the new machinery was estimated
 at some \$1.8 million over a three-year trial period, or \$120,000 a year
 from each of the five organizations assumed likely to participate (IDRC,
 the Bank, WHO, UNDP and UNICEF).

When the report of the Task Force was considered by the Working
 Group, in November 1977, three agencies -- the Bank, WHO and UNICEF -- did
 not accept it. You will remember that just before the Working Group
 meeting, a memo to you from Messrs. Rovani/Baum alerted you to this proposed
 position, on the ground that a new mechanism was not called for and that the
 contribution which the Bank would have to make might be more effectively
 devoted to a strengthening and enlargement of the Cooperative Program. It
 was also their view that the problems of rural water should no longer be
 viewed in isolation, but in the context of the U.N. Water Conference

resolutions. They suggested that it would be feasible to give other interested organizations a voice in the design of the CP work program, plus the opportunity to finance or second additional CP staff. (This suggestion was floated at the meeting of the Group but was not adopted as an alternative. A variant is, however, about to be considered at a meeting sponsored by WHO and UNDP, the subject of the letter to Dr. Mahler which you signed earlier this week.)

Now back to Myer Cohen's report. In large part, it is an accurate recital of the Group's history. It contains numerous slaps at WHO's performance as a member of the Group, and it must be said, as we did say to WHO at the time notwithstanding our CP relationship, that WHO's performance was not commendable. Indeed, if WHO had been adequately discharging its responsibilities as the U.N. sectoral agency in the water supply field, there would have been no reason to launch this particular inter-agency effort to begin with. But the pettishness and pettiness of some of Mr. Cohen's comments are surprising, as is the speculation that WHO and the Bank in effect scuttled the Group because the Task Force proposal was not to their liking.

The report says that members of the Task Force, who had in their personal capacities accepted the Task Force proposal, later rejected it in their representative capacity on the Working Group. The fact is that John Kalbermatten, as a member of the Task Force, tried hard to convince the other members that a new mechanism was not warranted and that it would be more efficient to strengthen the Cooperative Program. It is true that he did not formally register a dissent to the Task Force report. Mr. Cohen adds that "from information which was circulating privately to some members" of the Group "it appears that the Bank and WHO believe that the CP, perhaps with help from other organizations, can do what is needed". But there was no "private" information: that was what Mr. Kalbermatten argued in the Task Force, and the position he (and I) took in the Working Group meeting.

After noting that WHO, the Bank and UNICEF did not accept the recommendation of the Task Force, Mr. Cohen asserts that, of the executive heads of these agencies, only Dr. Mahler was a party "to the so-called decision of the organization. In one case it was doubtful if the head of the organization was informed at all; and in another case the head of the organization was only partially informed, and misinformed, at that." (There follows a critical comment on the actions of Dr. Mahler.) Thus, according to Mr. Cohen and depending upon which of the references was intended to apply to you, we either told you nothing or gave you erroneous information. I have no idea what led Mr. Cohen to suggest this. In any case, the Rovani/Baum memo before the Working Group meeting fully and accurately reported the situation and our proposed position.

Mr. Cohen remarks that Bank staff attached to a "Public Utilities Department" (a title abandoned several years ago, precisely because it did not accurately describe the scope of the Department's work) cannot possibly have the breadth of outlook and experience necessary to cope with the problems of rural potable water supply and sanitation. He speculates that

the "decline of interest" on the part of the Bank may reflect "the skeptical attitudes of the Department of Public Utilities toward activities requiring psychological and sociological understanding". As you know, this view of the Department is neither justified nor shared by those in the international community better informed of its work in village water supply, and of research under way on low-cost technology for water supply and waste disposal. (I am told that you will soon be receiving a note on that research via Warren Baum.) Mr. Cohen goes on to wonder (gratuitously) whether the Bank's structure and organization is appropriate and adequate to deal with problems of integrated rural development. He says that the CP has yet to demonstrate "that it is cooperative in the intellectual sense" as distinguished from cooperation through provision of funds by one party and technical work by the other. And, a last example, Mr. Cohen says, as though it were an indictment of WHO and the Bank, that it was made clear to him that the overall relations between the Bank and WHO were not going to be jeopardized by disagreements on such relatively minor matters as the Working Group.

Mr. Cohen plainly regrets that the Working Group did not directly achieve its objective. It is equally plain that he thinks the Task Force proposal should have been accepted. He gives IDRC and UNDP high marks for supporting the proposal and, as I have said, condemns the other agencies, particularly WHO and the Bank, for not accepting it. (Now, as you know, UNDP and WHO have begun to collaborate on a new effort, in which the Bank has agreed to participate.) I share his regret that so much time and effort had no immediate and useful outcome. I am not sure why it did not. But I am certain that it was not for lack of good will, or because of institutional jealousy -- certainly not on our part. Possibly we should have pulled out of the Group when we saw that little was being or was likely to be accomplished. But we were reluctant to be the single instrument of its death, and kept hoping that there would be a tangible result.

Given the nature of Mr. Cohen's report, I think you will not want to respond to the individual allegations. I attach a suggested acknowledgement to Maurice Strong couched in general terms.

With kind personal regards,

Sincerely,

(Signature)
Robert S. McNamara

Attachment

SEBoskey/rob

Cleared w/& cc: Mr. Rovani
Mr. Kalbermatten

cc: Mr. Baum

FORM NO. 75
(9-78)

THE WORLD BANK

ROUTING SLIP		DATE: <i>Sept. 11</i>	
NAME		ROOM NO.	
<i>Dr. Evans</i>			
APPROPRIATE DISPOSITION		NOTE AND RETURN	
<input type="checkbox"/> APPROVAL		NOTE AND SEND ON	
<input checked="" type="checkbox"/> CLEARANCE <i>please</i>		PER OUR CONVERSATION	
<input type="checkbox"/> COMMENT		PER YOUR REQUEST	
<input type="checkbox"/> FOR ACTION		PREPARE REPLY	
<input type="checkbox"/> INFORMATION		RECOMMENDATION	
<input type="checkbox"/> INITIAL		SIGNATURE	
<input type="checkbox"/> NOTE AND FILE		URGENT	
REMARKS:			
<i>of separate secretariat</i>			
<i>Thanks</i>			
FROM: <i>John Hamilton</i>		ROOM NO.:	EXTENSION:

AUG 18 1978

Dear Maurice:

Thank you for sending me the report prepared by Dr. Myer Cohen in his capacity as Chairman of the Ad Hoc Working Group on Rural Potable Water Supply and Sanitation. It has been read here with interest and some perplexity.

I would say to you only that the position taken by the Bank representatives at the last meeting of the Working Group was taken with my full and prior knowledge and authority. While that particular undertaking in international cooperation did not have an immediately successful outcome although it was given ample time and opportunity to prove itself, I am confident that the will within the system, certainly within the Bank, to engage in cooperative undertakings is far from dead and the prospects for successful cooperation on other occasions far from poor. UNDP and WHO have recently proposed another approach, intended to help carry out decisions taken at the U.N. Water Conference, under which regional and global action would support national objectives. This initiative would build upon existing inter-agency mechanisms and we have agreed to participate in the effort. Other agencies including, I would hope, IDRC, would be invited to join in the exercise.

I regret that the earlier effort was not successful. I assure you this was not for lack of good will on the part of the Bank (or, I believe, on the part of any other participant), and I would hope for better results next time. I know I do not need to insist to you, or to IDRC's Board of Governors, on the Bank's commitment to the cause of safe water supply and adequate sanitation for both rural and urban areas, or to its responsibilities as a member of the U.N. family.

With kind personal regards,

Sincerely,

(Signed) Robert S. McNamara

Robert S. McNamara

Mr. Maurice F. Strong
Chairman
International Development
Research Centre
Box 8500
Ottawa, Canada K1G 3H9

SEBoskey/rob
August 18, 1978

Cleared w/& cc: Mr. Rovani
Mr. Kalbermatten
cc: Mr. Baum

DRAFT
JHamilton:sr

Ms. S. Boskey, IRD

September 11, 1981

John R. Evans, PHN

WHO/FAO: Panel of Experts on Environmental Management for
Vector Control, Geneva, 22-29 September 1981

1. At the meeting in your office on September 10th the following were the main points that express reaction to the WHO/FAO initiative and invitation to IBRD to: (i) send a representative to the first meeting; and (ii) to join the Panel as a Participating Organization.

- (a) The Constituency: Who would seek the advise of the panel. Would governments or project agencies request assistance?
- (b) Role of the Organization:
- What gap would this supra-agency panel fill that cannot be handled by existing agencies?
 - It should avoid executive functions and development *of free standing secretariat by annual meeting of agencies and experts.*
 - Communications/coordination among agencies may be fortified but this should not involve significant financial commitments other than the participating agencies own expenses.
 - What is the relationship ^{to} of the Environmental Water and Sanitation group of the WHO?
- (c) Response to Invitations
- Response is cautious until further assessment can be made. Topic is important but the value of a new initiative is not certain. *Postpone should be watching brief.*
 - Mr. Burney should attend the non-technical meetings (as outlined in his Telex).
 - Dr. Hamilton should attend as technical advisor to Mr. Burney.
 - Both to be observers only, to report and advise and to make no commitment on behalf of IBRD.

Ms. Boskey

- 2 -

September 11, 1981

- (d) Follow-up Action
- Mrs. Boskey telex Mr. Burney to convey reaction and instructions.
 - Dr. Hamilton - (i) telephone Mr. Burney next week to discuss arrangements for background material to be available; and (ii) to plan to attend as above.

WHO:PHN
JDHamilton:sr

Jo. S. Borhey,
Dir. I.R.D.
Director

Chair

Concern about setting

1. Dynamic participation:
2. What gap would this superagency body fill not filled by existing agencies. What would this need. i.e. of 5 functions.
3. ~~If panel what~~

1. Panel - self-supporting from participants

7-10.

Key issues are:

- The Courtney
1. Who would ^{seek} the advice of the panel? would government or private agencies be likely to request assistance
 2. What gap would this superagency panel fill that cannot be handled by existing agencies?
 3. ~~Would what~~ Should avoid executive functions. Communications/coordination ^{among} ~~between~~ agencies. + development of cleared standards may be justified but this should not involve significant financial commitments other than agency participants own expenses. After 2-3 yrs can decide if other funds.
- Observers. Reserve judgement
Overall impression: Skeptical + Timid

What is relation of Environmental WRS group to WHO

JRE (OK)

Met

Distribution

Mr. Raphaeli

9/2 Mr. J. Evans I-9100

Mrs. Boskey

I advised Mr. McDonald that I saw no reason to change an earlier chance (not to attend) but would ask you on your return if you

RECEIVED
1981 SEP -2

Dr J. Evans OR/19/8
N437 JDN

GENEVA, 2 SEPTEMBER 1981
had fresh views on it.

9/3

MAUREEN MCDONALD, WASHINGTON, COPY JOHN EVANS AND BOSKEY. REFERENCE YOUR TELEX 29 AUGUST ON VECTOR CONTROL, WHO ANXIOUS BANK PARTICIPATES 22-29 SEPTEMBER MEETING. MAHLER'S LETTER OF 28 JULY TO BANK EXPLAINS THE SCOPE AND PURPOSE THIS FIRST MEETING OF PANEL OF EXPERTS AND IMPORTANCE OF ITS FUTURE WORK. YOU WILL NOTE FROM PROVISIONAL AGENDA ATTACHED TO WHO LETTER THAT ITEMS 4-10 WILL HELP ESTABLISH THE FUNCTIONS AND FUTURE ROLE OF PANEL. CHEN KUO OF WHO VECTOR BIOLOGY AND CONTROL DIVISION INFORMS ME THAT THE THREE SPONSORING ORGANIZATIONS (WHO, FAO AND UNEP) ANXIOUS FOR BANK AND UNDP TO JOIN THE PANEL.

ARRANGEMENTS HAVE BEEN MADE FOR DOCUMENTS TO BE SENT TO EVANS. NOT KNOWING ANYTHING ABOUT THE SUBJECT OR THE BACKGROUND, I AM HESITANT TO ATTEND. IF EVANS INSISTS THAT I ATTEND, I WILL ONLY ATTEND THOSE PARTS OF THE MEETING THAT WILL DEAL WITH DESIRABILITY OF AGENCY COOPERATION AND MECHANISMS OF COOPERATION IN THIS AREA, PROVIDED REPEAT PROVIDED I HAVE PROPER BRIEFING, INCLUDING BANK'S VIEWS ON THE PURPOSE OF THE PANEL, THE SCOPE OF ITS WORK, ETC. IN OTHER WORDS, BANK'S FRANK AND UNCENSORED REACTION TO WHO'S LETTER OF 28 JULY.
BEST REGARDS. BURNEY+

✓ JRG N437
JAN 8/25
August 24, 1981

Ms. M. McDonald, IRD

James A. Lee, Director, PASEN

UN/WHO/FAO/UNEP Meeting on Vector Control

1. It is unfortunate the Agriculture and Population, Health and Nutrition Departments have indicated they will not take part in the subject meeting. Especially so in light of the recent WHO Fifth Report of the Expert Committee on Vector Biology and Control (Technical Report Series 655, 82 -p.). The report reveals "... that not only has there been an increase in the number of vectors showing resistance to pesticides but that the sizes of the areas where resistance is creating control problems have increased and also that new types of more complicated resistance with more extensive cross-resistances are appearing. Add to this a significant deceleration in the appearance of suitable new chemicals and the increased cost which inevitably accompanies a change of chemical and the outlook for vector control by this means looks bleak indeed."

2. The report goes to some length in considering the impact of resistance of malaria and other diseases in various parts of the world and endorses the conclusions arrived at in the previous report after a similar exercise. - a reduced choice of effective and cheap insecticides and a resurgence of vector-borne disease as the principal outcome.

3. In September this office will be so short-handed that I do not see any practical way we can attend. I would hope that both the AGR and PHN Departments might reconsider their position.

cc: Mr. John Evans, PHN ✓
Mr. Donald Pickering, AGR
Mr. V. Rajagopalan, PAS

JALee:OMc

TO WHOM IT MAY CONCERN

JULY 1, 1981

Staff attending international meetings are reminded that a brief note (no more than one page) on the meeting should be sent to Mr. Munir P. Benjenk promptly after return, for transmission to the President. (See Mr. William Clark's memorandum of April 26, 1977 to all Vice Presidents.)

The note should include reference to the place and the duration of the meeting and, if more than one staff member attended, a statement of the reason for the multiple Bank representation.

International Relations Department

(For information call Ext. 73641)

ROUTING SLIP		DATE: July 11, 1981
NAME		ROOM NO.
Green McDonald		8E814
<i>For meeting on 9/10 w/ Mrs. Besley</i>		
	APPROPRIATE DISPOSITION	NOTE AND RETURN
	APPROVAL	NOTE AND SEND ON
	CLEARANCE	PER OUR CONVERSATION
	COMMENT	PER YOUR REQUEST
	FOR ACTION	PREPARE REPLY
	INFORMATION	RECOMMENDATION
	INITIAL	SIGNATURE
	NOTE AND FILE	URGENT
REMARKS: <u>WHO/FAO/UN/UNEP Panel of Experts on Environmental Management for Vector Control, Geneva, Sept. 22-29, 1981</u> No one will be attending this conference from PHN.		
FROM:	ROOM NO.:	EXTENSION:
John R. Evans	N-437	61571

ROUTING SLIP		DATE: August 6, 1981
NAME		ROOM NO.
Mr. Yudelman		D.823
Dr. Evans IRB		N.437 ✓
Dr. Lee ↑		D.1035
<i>Phadde</i>		
APPROPRIATE DISPOSITION	NOTE AND RETURN	
APPROVAL	NOTE AND SEND ON	
CLEARANCE	PER OUR CONVERSATION	
COMMENT	PER YOUR REQUEST	
FOR ACTION	PREPARE REPLY	
INFORMATION	RECOMMENDATION	
INITIAL	SIGNATURE	
NOTE AND FILE	URGENT	
REMARKS:		
<p>WHO/FAO/UN/UNEP Panel of Experts on Environmental Management for Vector Control, Geneva, Sept. 22-29, 1981</p> <p>Would you please let me know whether or not anyone would be available to attend?</p> <p><i>IRB opinion: Not from PHW JRB.</i></p> <p>Many thanks.</p>		
FROM: Sue Howard for Maureen McDonald	ROOM NO.: E.814	EXTENSION: 73595

(on leave until Aug.10)



Téléphone Central/Exchange: 91 21 11
Direct: 91 35 15

In reply please refer to: EPO V2/372/14

Prière de rappeler la référence:

The President
International Bank for Reconstruction
and Development
1818 H Street N.W.
Washington, D.C. 20433

29 July 1981

Sir,

I have the honour to inform you that a joint World Health Organization/
Food and Agriculture Organization of the United Nations/United Nations
Environment Programme Panel of Experts on Environmental Management for Vector
Control will meet in WHO headquarters, Geneva from 22 to 29 September 1981.

The purpose of the Panel is to promote collaboration among the partici-
pating agencies and other appropriate international and national agencies, in
their programmes and projects relating to natural resources, agricultural and
health development, and in the use of environmental management techniques for
the control of disease vectors and the protection of human health and the
environment.

The first meeting will review the terms of reference and functions of
the joint Panel of Experts and taking due regard of the role of environmental
management procedures for disease and vector control and the approaches to
protecting human health in development projects, will make proposals for the
work of the Panel of Experts. These proposals will take into account some
relevant project proposals requiring urgent implementation. The working
... language of the meeting will be English and the draft agenda is attached.

On behalf of the executive heads of the three Organizations, I have
pleasure in extending an invitation to the International Bank for Reconstruction
and Development to send a representative to attend this meeting. In view of
the close association of International Bank for Reconstruction and Development
in the fields of activity of the joint Panel, I would also like to extend an invitation
... to the International Bank for Reconstruction and Development to join the Panel as
a Participating Organization. I am sending enclosed a copy of the Arrangements
for the Panel agreed upon by the Directors-General of WHO and FAO and the Executive
Director of UNEP which specify the role and functions of the Participating
Organizations.

... ENCLS: (2)

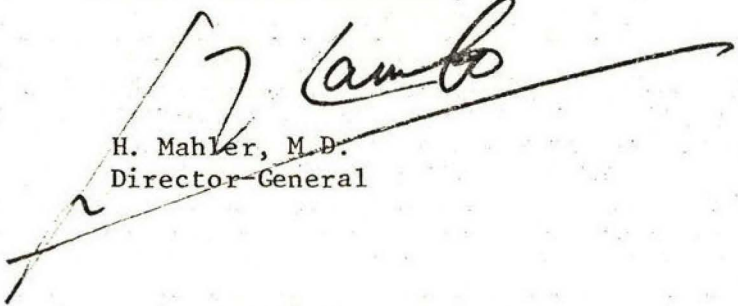
EPO-V2/372/14

Please let me know if International Bank for Reconstruction and Development wish to join the Panel and/or send a representative to the meeting in September. If such representation can be arranged, it would be appreciated if the name, title and address of the nominee could be provided as soon as possible, so that all the necessary information and documentation can be made available before the meeting.

I have the honour to be,

Sir,

Your obedient Servant,



H. Mahler, M.D.
Director-General

FIRST MEETING OF THE WHO/FAO/UNEP JOINT PANEL OF EXPERTS
ON ENVIRONMENTAL MANAGEMENT FOR VECTOR CONTROL

Geneva, 22 - 29 September 1981

Provisional Agenda

1. Opening of the Meeting
2. Election of officers
3. Adoption of Agenda
4. Terms of reference and functions of the joint Panel of Experts
5. Health and environmental implications of development projects and the role of environmental management for disease/vector control.
6. Approaches to protecting human health in development projects
7. Promoting the integration of environmental management measures in disease/vector control programmes
8. Proposed programme of work for the Panel of Experts
9. Project proposals
10. Policy matters
11. Technical discussion
 Environmental management for vector control in rice fields
12. Date and venue of next meeting
13. Other business
14. Adoption of report
15. Closure of meeting

* * * * *

Arrangements between the World Health Organization,
the Food and Agriculture Organization of the United Nations
and the United Nations Environment Programme relating to a joint
Panel of Experts on Environmental Management for Vector control

11 → On 14 October 1980, the World Health Organization (WHO), the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Environment Programme (UNEP) concluded a Memorandum of Understanding Governing WHO/FAO/UNEP Collaboration in the Prevention and Control of Water-Borne and Associated Diseases in Agricultural Water Development Activities.

The purpose of the Memorandum of Understanding is to promote and facilitate collaboration among those responsible for health, water development and the protection of the environment with a view to ensuring the introduction and application of health safeguard measures throughout the planning, design, construction and operational phases of water resources development projects executed in conjunction with Member States of FAO, UNEP and WHO.

In order to provide the necessary expertise, bringing together the various disciplines relevant to their collaboration, in furtherance of the Memorandum of Understanding, WHO, FAO and UNEP (hereinafter referred to as "the Participating Organizations") have agreed to establish a WHO/FAO/UNEP Panel of Experts on Environmental Management for Vector Control, for the objectives and with the functions set out below.

I. OBJECTIVES

The Panel of Experts has been established in order to strengthen collaboration between the Participating Organizations, and to promote collaboration between the latter and other appropriate international and national agencies, in their programmes and projects relating to natural resources, agricultural and health development, and in the use of environmental management techniques for the control of disease vectors and the protection of human health and the environment.

II. FUNCTIONS

1. The Panel of Experts will:

- (1) *Tech Adv. Working Party*
- (a) review the status and progress of environmental management activities within health programmes and in programmes and projects for the development of natural resources and agriculture, with particular reference to water development programmes and projects;
- (b) advise on means of promoting measures for the protection of human health through the application of environmental management for disease vector control in the planning, design, construction and operation of projects for the development of land, water and other natural resources;
- (c) advise on ways of securing continued technical and financial support at national and international levels and on areas where research or field investigations are required, and propose related projects as well as the sites where the latter can be carried out;

(5) *Research management + financing*

*Water - roots
bacteria*

- (d) suggest guidelines for the identification and formulation of health protection measures in water resources development and for the introduction of necessary provisions in project planning, design, construction, operation and maintenance;
- (e) review the status of skilled manpower resources and training facilities for environmental management activities in vector control, and advise on and encourage necessary improvements by such measures as the establishment of training courses, seminars and workshops and the preparation of manuals;
- (f) advise on the collection and dissemination of information on research, progress and innovations in techniques for vector control, including investigations into the feasibility of establishing an international reference centre;
- (g) periodically study the status of interagency coordination and give advice on ways of collaboration at national, regional and global level;
- (h) give advice on any other matters relevant to the strategies and activities to be carried out in the context of the objectives set out in Section I above.

2. At the beginning of each year, the Panel of Experts will propose, for the consideration and approval of the Participating Organizations, its plan of work for the year concerned.

3. The Executive Head of any of the Participating Organizations may seek the advice of the Panel of Experts, or of individual members, on matters coming within its competence.

4. The Panel of Experts will periodically review its own functions and performance and propose to the Participating Organizations any necessary changes to enhance its effectiveness.

III. MEMBERS OF THE PANEL OF EXPERTS

1. The members of the Panel of Experts will be scientists of high international standing in the fields of health, agriculture, the environment or other relevant disciplines. They may be designated from among the current members of relevant WHO, FAO and UNEP panels of experts or from among other experts.

2. The Participating Organizations will, from time to time, decide upon the total number of the members of the Panel of Experts, which will not exceed [sixty]. The Participating Organizations will, in consultation with each other, designate an equal number of members. The length of the terms of office of the members will be agreed between the members and the Organization designating them.

*unfunded
des.*

Communicable

Co-ordinating

IV. PARTICIPATION OF OTHER ORGANIZATIONS

Any other organization in the United Nations system that has expressed its interest in participating in the present Arrangements will, if all the current Participating Organizations agree, be invited to participate. Subject to its acceptance of these Arrangements, such organization will become a Participating Organization, having the same rights and obligations as the other Participating Organizations, with effect from the beginning of the year following that in which it accepted these Arrangements.

V. SECRETARIAT

1. The Secretary of the WHO Expert Committee on Vector Biology and Control dealing with environmental management of vector control will be the Secretary of the Panel of Experts. Each of the other Participating Organizations will assign a staff member to collaborate with the Secretary.

2. The Secretary will be responsible for carrying out, in consultation with the Participating Organizations, all the administrative tasks required in connection with the work of the Panel of Experts. In particular, the Secretary will:

- (a) maintain liaison between the Participating Organizations and the Chairman and members of the Panel of Experts, and
- (b) make the necessary preparations for, and assist in, the meetings of the Panel of Experts.

VI. MEETINGS OF THE PANEL OF EXPERTS

1. Regular meetings of the Panel of Experts will take place once a year and will consist of selected members of the Panel. The convening of additional meetings may be proposed by a meeting of the Panel of Experts or by the Secretary. The meetings of the Panel will be convened by the Secretary acting on behalf of the Executive Heads of the Participating Organizations.

2. The members of the Panel of Experts who will be invited to participate in a meeting will be selected by the Participating Organizations taking into account the nature of the subjects to be discussed and the specialities of the members of the Panel.

3. The Participating Organizations may invite other international organizations and national organizations or agencies to be represented at meetings of the Panel of Experts in an observer capacity.

VII. CONSULTANTS

The Participating Organizations may, where necessary, request specialists of high standing to undertake research, to prepare a study or to perform similar work relating to a specific subject to be discussed at a meeting of the Panel of Experts, and invite them to attend the meeting.

*It is
whose budget*

VIII. CHAIRMAN OF THE PANEL OF EXPERTS

The Chairman of the Panel of Experts will be elected by the members attending each regular meeting of the Panel. He will hold this position until the next regular meeting. A chairman may be reelected for not more than one succeeding term.

IX. BUDGET AND FINANCING

say } The Participating Organizations will contribute, in equal shares, to the cost of the meetings and other activities of the Panel of Experts in accordance with a budget drawn up and approved by them jointly at the beginning of each year. Funds to meet additional administrative costs, as well as the costs of any project to be carried out in connection with the activities of the Panel, will be sought from donor agencies.

X. DURATION OF THE PANEL OF EXPERTS

1. The Panel of Experts is established for an initial period of three years following the date of acceptance of these Arrangements by WHO, FAO and UNEP.
2. Six months prior to the expiration of that period, the Participating Organizations will jointly review the functions and performance of the Panel of Experts and take a decision with respect to its continuation.

*File = Env. Dept
Vector Control*

R E P O R T

DECLASSIFIED

FEB 19 2015

WBG ARCHIVES

to

Dr. W. David Hopper
President,
International Development
Research Centre.

from

Myer Cohen *New York (and Capt)*
Senior Consultant,
International Development
Research Centre; and

Chairman,
Ad Hoc Working Group on
Rural Potable Water Supply
and Sanitation.

Myer Cohen

2 December, 1977.

I.

The absence of safe drinking water and of adequate sanitary conditions in rural areas are established facts. It is not necessary to produce reams of statistics and figures in support of this assertion. However, in contrast to the simplicity and clarity of this categorical statement stand the complexity and elusiveness of the problems which it signifies.

The effects on the health, social and economic lives of persons living in rural areas of the absence of safe drinking water and of sanitary conditions have been fully described, are well documented, and well known. But what can be done to alleviate these conditions and to improve the lives of those affected by them, is one of the most difficult problems found in the area of development efforts. The heart of the problem lies in the fact that the securing of safe drinking water and the establishment of adequate sanitary conditions are matters closely allied to customs and a way of life. They are, therefore, very difficult to modify or change and are especially resistant to influence or pressure from outside the family or community. The basic question being faced is whether external influences can affect personal habits and processes by motivating the individuals concerned, so that they themselves are prepared to take the steps necessary for improving their water supply and their sanitary conditions. It is not suggested that the individuals concerned are expected to do everything themselves; but what is essential is that they understand the reasons for change and that they accept these reasons and are motivated to do what is necessary to bring it about.

It should be clear that the nature of this problem is such that money is not the principal ingredient required. It is equally clear that the normal administrative and bureaucratic machinery in existing governmental or international organizations for providing assistance and facilitating development are not in themselves adequate for coping with problems of this kind. It is widely recognized that the general field of rural development, into which this problem can be said to fall, is one of the most difficult, most stubborn, most intractable of the areas in which those interested in development have been trying to work.

There are many reasons why the field of rural development is so difficult. Among these are the facts that rural development requires a cooperative and an interdisciplinary approach, and that governmental institutions are resistant to cooperation among themselves as well as unfamiliar with how to carry on problems of an interdisciplinary nature. International institutions face the same problems as national governments, only perhaps to an even greater degree. Recognition of these views has led those who are seeking solutions to difficult problems in the development field to try constantly to innovate, or to improvise, or to suggest ways of doing things, outside of the established institutional framework. To be outside the institutional framework does not mean to be opposing it or in conflict with it, but rather to find ways of supplementing it and undertaking activities which, for a variety of reasons, existing institutions find difficult to do.

The problem is well stated in one of the documents produced under the aegis of the Ad Hoc Working Group on Rural Drinking Water Supply and Sanitation^{*/} whose origin, composition and objectives are described below (p. 4) in succeeding paragraphs:

"Rural water supply in the developing countries is afflicted by inertia due to the complexities and magnitude of the problem. Aid by individual Organizations and bilateral assistance for sporadic projects has tended to slow down real progress, postponing the tough decisions that countries have to take. A collective approach through joint action by the concerned Organizations in technical cooperation with countries may lead to more positive results, by generating local capabilities of the developing countries concerned and improving the effectiveness of external assistance. The mechanism for joint action will be of value to the extent it can gain credibility with Governments as a visible symbol of a joint approach, and demonstrate its catalytic influence on country level operations."

^{*/} Report of Task Force (Second Session) to the Ad Hoc Working Group on Rural Drinking Water Supply and Sanitation, p.2.

II.

Three and one half years have elapsed since a meeting was convened (in April 1974) in Montreal by the UNDP, the IDRC, and the OECD. This meeting was organized in response to several independent suggestions for the need for such a gathering and as a result of an agreement reached at the meeting of the OECD Planning Group on Science and Technology for Developing Countries held in Paris in February 1974. The Paris meeting had for its consideration a Report entitled "Technology Assessment and Research Priorities for Water Supply and Sanitation in Developing Countries (with special reference to rural populations and small communities)" Prepared by Ian Burton at the request of the Development Assistance Directorate and the Scientific Affairs Directorate of OECD, and financed by the IDRC.

Following a review and discussion of the Burton Report at the Paris OECD meeting, the sponsors of the Montreal meeting, (IDRC, UNDP, OECD), invited the WHO, the World Bank, UNICEF, UNEP, to attend a meeting in Montreal on April 8-11, 1974.

The instrumentality through which these organizations decided to work was an Ad Hoc Working Group. This was essentially a means to facilitate a joint cooperative effort among the organizations involved. Through the Ad Hoc Working Group a series of activities were initiated. First, a Technical Committee was convened in the Fall of 1974 to review the technical aspects of the problems of rural drinking water supply and

sanitation. Its members concluded that technology could not be considered to be a controlling constraint, and agreed that the main improvement of drinking water supply and sanitation in rural areas would come, for the most part, from applying known technology. The application of technology, the Committee considered, could only be achieved through marked improvement in support systems - the economic, institutional and legislative backing needed to carry out national and local programmes. This, in turn, required the development of methods of managing and maintaining services, of techniques of financing, of project evaluation, and of ways of obtaining effective local participation in planning and operating the needed facilities. Parallel to the work of the Technical Committee, the Ad Hoc Working Group established an Institutional Panel whose function it was to examine technical institutions in various parts of the world, to see to what extent any of them were concerned with problems of rural water supply and sanitation, and if so, whether they might be suitable to serve for an expanded international effort in this area. This Institutional Panel found that virtually nothing was being done by existing research institutions on rural drinking water supply and sanitation problems as distinguished from municipal activities; and the Panel recommended that a network of Information Centres be established at local, national, and at the international level to facilitate the exchange of information in this field. In addition, through this network, functions could be carried out including technological investigations in adaptive research programmes, training of personnel, development of techniques and materials to promote community motivation,

creation of a system for the collection, evaluation and dissemination of information, and assisting in the strengthening of national and regional institutions in the field of rural water supply and sanitation. Bearing in mind the existence of an International Reference Centre in The Hague concerned with these problems, it was suggested that discussions be undertaken with the government of the Netherlands concerning the possibility of restructuring and somewhat enlarging this Centre in order to ascertain if it could serve as the international centre for the network. A great deal of time in 1975 was devoted to an examination in depth of this possibility.

The founders of the Ad Hoc Working Group were not clear as to what kind of mechanism or instrumentality might be required to provide a framework for continuing work in this field, but they sensed that something was needed. In this connection, experience has shown the wisdom of proceeding cautiously and pragmatically.

Concern with the kind of instrumentality or mechanism required is one of the obsessions of national and international institutional life. Everyone is always willing and - they think - able, to come forward with proposals for organizational arrangements without knowing the purposes for which the organizational arrangements are required. Meeting after meeting of the Ad Hoc Working Group have been concerned with mechanisms or organizational arrangements, although it was not until very late in the day that there was any idea of the purpose for which these organizational arrangements or mechanisms were proposed. The same situation

obtained at the UN Water Conference in Mar del Plata in the Spring of 1977, when government delegations meeting informally proceeded to concentrate on possible organizational or institutional arrangements without mentioning once the purpose or purposes for which such organizational arrangements might be required.

In the case of the Ad Hoc Working Group on Rural Drinking Water Supply and Sanitation, it was natural that the founders of the Group should wonder whether the experience with the Consultative Group on International Agricultural Research might be relevant. Many of the same people who had helped to found the CGIAR were among the founders of the Ad Hoc Working Group on Rural Drinking Water Supply and Sanitation. However, from the beginning it was doubted that the CGIAR experience would be particularly relevant. Despite the basic differences in the two sets of activities, there are, however, certain characteristics of the consultative group mechanism as such which are relevant.

For example, a forum is needed in which potential donor governments can keep under review the state of the art and specific programme proposals. At the same forum, government representatives from developing countries would have an opportunity of discussing and identifying their needs and their views as to how some of these problems could be dealt with. To the extent that there should be a meeting of minds between the views put forward by developing countries and the interests of donor countries, a consultative group as a forum provides a place where funding of specific activities could be openly discussed and considered. It was with these somewhat general views on a consultative mechanism

that the Ad Hoc Working Group decided early in 1975 to invite governments to attend what would in effect be an enlarged meeting of the Ad Hoc Working Group at WHO Headquarters in Geneva in November of 1975. It was decided to approach eight or nine potential donor governments and to invite twelve governments from developing countries representing different regions to attend this meeting of the Ad Hoc Working Group. At the meeting it was proposed to inform the governments of what the Ad Hoc Working Group had in mind, and to assess with these governments whether they thought the approaches being undertaken by the Ad Hoc Working Group were worthy of further pursuit. The potential donor governments could also indicate whether they felt a mechanism for regular review of these activities would be useful, and whether they might be in a position to consider at a later date financial support for projects or programmes which might come to light in the course of this process.

Seen in perspective, the meeting in November 1975 attended by the members of the Ad Hoc Working Group and some twenty governments, was not without value. While praising the initiative taken by the Ad Hoc Working Group, and urging the Group to continue its activities, the potential donor governments indicated that they were not prepared to enter into an arrangement which would obligate them to annual funding of a new activity. There was also some negative discussion relating to the establishment of any new organizations or institutions, but this was not relevant to the purposes of the meeting, and was more in the nature of an expression of dismay at the continued proliferation of or-

ganizations and institutions in the international field. Other conclusions emerging from the meeting were that the proposals to set up a network of international centres were not properly thought through. It was felt that too much emphasis was placed on the structure or superstructure with inadequate attention to what actual activities would take place at the local level in the developing countries. And, finally, the meeting was not clear on the actual programme of activities which might be carried on to achieve the objectives of the Ad Hoc Working Group.

Parallel to the official meeting with governments, there were two private meetings of the Ad Hoc Working Group, where the fundamental weakness in the very concept of the Ad Hoc Working Group itself became clear. In order to further the work of the Ad Hoc Working Group, a proposal had been prepared and tabled for the creation of an independent interdisciplinary secretariat to work on programme development. This secretariat would be responsible to the Ad Hoc Working Group, appointed by it as well as funded by it, and attached for logistical and administrative support to the WHO in Geneva. In considering these proposals, the WHO was unwilling to agree to the establishment of such a Group if it were to have an independent status.

Why was an independent mechanism required? It was believed that a group independent of any single Agency and responsible to the Group of Agencies constituting the Ad Hoc Working Group, could more easily reflect a plurality of views, as well as being free from following the "party line" of any one Agency. Specifically a programme to promote new initiatives for rural drinking water and sanitation should not have to be encumbered with the

rules and regulations, and protocol requirements of WHO's regional structure.

Another reason why an independent mechanism was required relates to problems involved in launching a new activity or, if not a new activity, an activity requiring special emphasis and a considerable amount of time for the individuals concerned. Each of the Agencies which are members of the Ad Hoc Working Group are fully extended and fully involved with the programmes with which they are dealing on a regular basis. It is doubtful that there is much slack in terms of professional staff in any one of the Agencies. The key to launching new approaches or new emphases, is to get individuals involved who are free from their other regular daily activity. Loaning an individual part time from his regular duties is not likely to be very productive or very satisfactory. Therefore it was believed that by having independent status the new unit or mechanism could recruit individuals who would be able to devote full time to the activity. And, being free from daily responsibility to the established bureaucratic structure in each of the Agencies, would permit the members of an independent interdisciplinary Group to focus full time and attention on the problems with which they are charged.

A question may also be asked as to why it was necessary to propose the establishment of an interdisciplinary secretariat. It was felt that an interdisciplinary Group was necessary in order to reflect the diversity of disciplines involved in coping with problems of rural development in general, and drinking water supply and sanitation in rural areas in particular. None of the individual Agencies which were members of the Ad Hoc Working Group

possessed within itself sufficient interdisciplinary expertise.

The failure by the Ad Hoc Working Group to reach agreement on proposals for an independent interdisciplinary unit was so serious, that it threatened the continued existence and potential usefulness of the Ad Hoc Working Group itself. It was decided, however, to review the situation within a few months to see whether the work of the Group should be continued, and, if so, under what conditions.

Accordingly, the Ad Hoc Working Group agreed to convene early in February of 1976 to assess the situation and to see what further activities might be carried on, or whether in fact the Group should continue. It was decided that WHO would prepare several papers for consideration at the February meeting, one of which was to deal with programme proposals, and a second with organizational matters. Unfortunately the WHO was unable to distribute these papers in advance of the meeting and only managed to bring them to the meeting itself. This made it impossible for those attending the meeting to have had time to examine the papers, consider them and come to the meeting with some idea as to what might be done. This pattern existed with respect to materials which WHO undertook to provide for a meeting, throughout the three and a half years in which the Ad Hoc Working Group met.

As for the contents of these papers which were presented in February 1976, - there has of course now been a chance to examine them. The paper dealing with Programme matters was a listing of activities of a technical assistance character that might be carried on in various countries throughout the world, providing

adequate funding was obtained. The Programme proposals did not reflect any new angles or contain any innovative proposals. As for the paper on Organizational matters, it did not propose any new solution to the proposals which had been under consideration for about a year, which had led to the impasse at the November 1975 meeting.

III.

February 1976 was the low period as far as the Ad Hoc Working Group was concerned, and members seriously questioned whether the Group was serving any useful purpose and should continue. In this somewhat pessimistic framework it was nevertheless decided not to take any formal action to close down the Working Group, and to see if some activities which the Group thought worthwhile might be continued with individual organizations taking the lead. It was decided that WHO would organize one or more Regional Workshops which would provide an opportunity for training of individuals in countries in the region who were concerned with problems of rural drinking water supply and sanitation. Over the next year or so WHO organized a Regional Workshop at Ouagadougou on behalf of the Ad Hoc Working Group, and using the Trust Fund. There was dissatisfaction within the Ad Hoc Working Group with the organization, methodology, and cost of this Regional Workshop, which led to a decision not to hold additional Regional Workshops. However, agreement was reached on funding several local follow-up workshop sessions arising from the Ouagadougou meeting.

IDRC undertook to try to develop the Information side of the programme which now required a new start in view of the somewhat negative reaction at the November 1975 meeting concerning the global network of information centres which had been proposed. Information activities proved throughout as most difficult to conceive and to organize, despite the universal

recognition of their importance. IDRC undertook lengthy discussions with the International Reference Centre at The Hague, but a meeting of minds in the form of specific programme activities did not result. However, IDRC funding of information activities at CEPIS in Lima, Peru was approved. In addition, proposals were developed with the Intermediate Technology Development Group of London for the establishment of an appropriate journal; these proposals remain alive subject to securing necessary financing for the core budget.

The World Bank undertook to make a case by case review of experience in order to try to identify success stories as well as failures and the respective reasons for each.

IV.

At this low ebb in the fortunes of the Ad Hoc Working Group certain relevant developments took place at the international level. At the WHO General Assembly in May 1976 there were continued expressions of impatience on the part of many governments with the lack of real progress in this field, and a directive to the Director-General of WHO to see what could be done to speed up activities.

Next, the Habitat Meeting took place in June 1976 in Vancouver, and there a great deal of attention was paid to the problem of drinking water supply and sanitation. Resolutions were passed which indicated that governments wanted serious attention paid to this field and to see that some breakthrough developed.

Following the Habitat Meeting, the Director-General of WHO addressed a letter on July 1, 1976 to the heads of organizations concerned with the problem of safe rural drinking water supply and sanitation. Indicative of WHO's lack of generosity with respect to the work of the Ad Hoc Working Group, no copy of this letter to the heads of organizations was sent for information purposes to the Chairman of the Ad Hoc Working Group. Nevertheless, it was easy for the Chairman to secure a copy of this letter from a number of the organizations to which it was addressed. The contents of the letter themselves were positive and suggested the possibility of new and affirmative action in this field.

Using the contents of the letter as a starting place, the Chairman took the initiative to arrange to meet with the Director-General of WHO at the end of September in Geneva.

It seemed to the Chairman that, with this initiative being taken by WHO, it should now be possible to breathe some life into the Ad Hoc Working Group, and to find some way that its work could be intensified and could possibly lead to positive results. The discussion with the Director-General of WHO was frank and comprehensive. As a result of this discussion the Director-General of WHO came to the conclusion that what was needed was a Task Force which would try to deal with these problems in practical terms, push aside bureaucratic considerations and get down to the nitty-gritty on how activities could be speeded up.

In the course of the discussions with the Director-General of WHO, the Chairman of the Ad Hoc Working Group made clear to the Director-General that the question of a "lead agency" was one which related essentially to performance rather than to jurisdictional claims. The Chairman pointed out that at least in the eyes of the members of the Ad Hoc Working Group, WHO was not performing satisfactorily as a "lead agency", and that, in fact, the raison d'etre for the Ad Hoc Working Group was the desire on the part of all concerned to see whether by a joint effort some genuine progress could be made in this field.

Following this discussion with the Director-General of WHO, a meeting of the Ad Hoc Working Group took place in October 1976. It was agreed that a Task Force should be set up and that interested organizations should assign individuals to work as part of the Task Force, freeing them from their other activities during the time required for this work.

The WHO proposed Dr. D.V. Subrahmanyam as leader of the

Task Force. After the members of the Ad Hoc Working Group had an opportunity of talking with Dr. Subrahmanyam, they welcomed this offer, and agreed that he should serve as the leader of the Task Force. It was further agreed that the Task Force would assemble initially in Geneva in January 1977.

A preliminary progress report was prepared by the Task Force in January and February and presented to the meeting of the Ad Hoc Working Group at the beginning of March 1977. This meeting had been timed so that the members of the Task Force attending the UN Water Conference in Mar del Plata in mid-March would have the benefit of knowing what proposals the Task Force was considering, as well as the attitude of the Ad Hoc Working Group to these proposals.

The preliminary progress report of the Task Force called attention to the need for a great deal more work, and recommended that an effort be made to set up a new mechanism (not a new organization) which would be suitable for carrying forward intensive work in the field of rural drinking water supply and sanitation.

It was agreed at the meeting of the Ad Hoc Working Group in March 1977 that the Task Force should be reconvened after the Mar del Plata meeting in order to develop proposals for a new mechanism and, of course, to take into consideration the actions of governments at the Mar del Plata meeting.

V.

Community water supply was a subject on which positive resolutions were approved at the Mar del Plata meeting. Both the UN and the World Health Organization were directed by the resolutions to prepare the appropriate action programmes so that the work could be undertaken in countries throughout the world in this important field in the 1980's. Between 1977 and 1980 efforts were to be made to assess the situation in the countries with regard to community water supply so that plans could be drawn up as to what was needed.

The leader of the Task Force decided that the next phase of its work should involve a careful examination and appraisal of each of the organizations in the Ad Hoc Working Group so as to ascertain what their activities were and what their possibilities were in the field of rural drinking water supply and sanitation. In order to accomplish this, he employed an experienced consultant from outside the system, Dr. Rajagopalan, who visited each of the organizations which were members of the Ad Hoc Working Group, and the Chairman, in the month of June. It was agreed that Dr. Rajagopalan's report would be a crucial document for careful consideration by the entire Task Force. When the Task Force reassembled in September 1977, its members were from WHO, the World Bank, UNICEF, UNDP, IDRC, and the Chairman of the Ad Hoc Working Group. It is worth noting that all members of the Task Force were present in their personal capacity and not as representatives of their organizations. It is particularly interesting to observe that the Task Force Report which resulted from this September session was agreed to by all the members of

the Task Force. That is not to say that everyone agreed with everything in the Report, but no one disagreed so strongly with the Report that he felt moved to file a dissenting view. This stands in strong contrast to the positions taken by the same individuals when the Ad Hoc Working Group met to consider the Report of the Task Force in November. Of course, at this latter session the individuals were not serving in their personal capacity but were there to represent the official bureaucratic views of their respective organizations.

The Task Force Report which was considered at the Ad Hoc Working Group meeting in November 1977 proposed that the five organizations which had initially taken the responsibility for forwarding the work of the Group and attempting to do something in the field of rural drinking water supply and sanitation, should constitute a steering committee composed of the principal organizations working in this field. This steering committee would replace the Ad Hoc Working Group which would then be abolished. ✓ The steering committee would establish a service unit which would be interdisciplinary in character, and responsible solely to the steering committee. Both the steering committee and the service unit were to be created to assist, and support National Task Forces to be set up in developing countries. The most important element in the Task Force Report was the prominence in the proposals of the creation of National Task Forces, and the services which outsiders can bring to the functioning of these National Task Forces. These recommendations were lost when three of the five organizations designated to constitute the steering committee, namely WHO, the Bank, and UNICEF, indicated that they

were not prepared to support the recommendations of the Task Force. It should be noted that of these three organizations only in one case, namely WHO, was the head of the organization a party to the so-called decision of the organization. In one case it was doubtful if the head of the organization was informed at all; and in another case the head of the organization was only partially informed, and misinformed, at that. In the case of the organization whose Director-General was fully in the picture, namely WHO, he undertook to prejudge the discussion of the Ad Hoc Working Group and tried to get the heads of other organizations to instruct their representatives at the meeting to virtually reject the Task Force Report without considering it. So much for the three organizations who were unwilling to go along with the Task Force recommendations.

The other two organizations, UNDP and the IDRC, both fully supported the recommendations of the Task Force and urged that they be adopted. In the case of these two organizations, the executive head of one (IDRC) was personally present and participated in the discussion; the other organization, UNDP, while not represented by its Administrator, was represented by a Senior Director who had undertaken consultations throughout the organization and was in a position to speak for the organization.

The Task Force Report stands on its own merits and will not be discussed here in detail. It is, however, worth noting that the Report has been characterized as a competent, professional piece of work.

Under these circumstances it may be asked why the recommendations in the Report were rejected?

VI.

In the rejection of the recommendations of the Task Force at the Ad Hoc Working Group meeting in November, no substantive reasons were given for the position taken by those who opposed the adoption of the Report. Certain points were made, indicating that the Task Force recommendations were considered insufficient, and that the Task Force Report would only benefit a few countries, whereas it was necessary to benefit all of the countries. It was also argued that the Task Force Report did not focus on needy groups. Thirdly, it was argued that a new mechanism in the form of an independent service unit which was proposed by the Task Force was unnecessary and that, instead, the same results or better could be achieved by building on existing collaborative mechanisms. And finally, it was stated that no funding commitments for country operations had been assured by the Task Force Report.

Taking these criticisms individually, it is nonsense to criticize the Task Force Report by saying that it only recommended action in six countries. The Report proposed action in six countries as a starter and as a kind of pilot project to see whether the line proposed was sound. Secondly, to say that the Task Force Report did not focus on needy groups is not correct since the needy groups would be covered in the choice of countries in which the operations proposed by the Task Force would be started. Thirdly, to say that a new mechanism was not needed may be correct, but then the question is asked why the Task Force was specifically instructed to make proposals for a new mechanism? Perhaps the

reason was that the actual mechanism proposed by the Task Force was not the one that some of the organizations, namely WHO and the World Bank, wished. The view that instead of a new mechanisms, the necessary work could be handled by building on existing collaborative mechanisms, remains to be proven.

From information which was circulating privately to some members of the Ad Hoc Working Group, it appears that the World Health Organization and the World Bank believe that their joint cooperative programme with help, perhaps, from time to time from the other organizations, can do what is needed in this important field. It should be noted in this connection, that the department primarily responsible for work in rural drinking water supply and sanitation in the World Bank, is the Public Utilities Department. It is difficult to reconcile the orientation of persons trained for work in public utilities with the kinds of problems to be faced in rural drinking water supply and sanitation programmes. What is in effect proposed by the WHO and the World Bank is that WHO teams which have been working in the past should continue to do so, and if necessary, financing should be provided by the World Bank through the Bank-WHO Cooperative Programme. This is a sad formula for success in this field.

At the conclusion of the Ad Hoc Working Group meeting in November the Working Group adjourned sine die; and it was agreed to freeze the sum of approximately \$75,000 remaining in the Trust Fund. (During the three and a half year period, a total of \$370,000 was contributed to the Trust Fund by WHO, IDRC, UNDP, UNICEF, World Bank, UNEP.) It was further agreed that, should

it be considered desirable, the Ad Hoc Working Group could be reconvened.

VII.

Looking back over three and a half years of work of the Ad Hoc Working Group, how should one assess this effort? It may perhaps be relevant to start by a brief characterization of the performance of each of the organizations constituting the Group. The initiative for forming the Ad Hoc Working Group was IDRC's and UNDP's. Throughout the period of the Ad Hoc Working Group's activities, both of these organizations were fully supportive, positive in their attitudes and eager to see results emerge. In addition to their positive attitudes, these organizations made substantial financial contributions to the work of the Ad Hoc Working Group; the IDRC in particular made the largest financial contribution of any of the organizations to the work of the Group. However, it is not intended that support be measured in financial terms alone, because what was important was moral backing, intelligence, and support and belief in the importance of the task which the Group faced. What was also important was the recognition of the need for a broad-based, joint, cooperative effort among all the organizations who had anything to contribute in this field, including other than United Nations organizations. In this respect both IDRC and UNDP have earned high marks.

The World Bank was one of the original founders of the Ad Hoc Working Group. It may be that the decline of interest on the part of the World Bank increasingly reflected the skeptical attitudes of the Department of Public Utilities toward activities requiring psychological and sociological understanding. Rural Drinking Water Supply problems require the attention of indi-

viduals familiar with rural development. The great need in this area is not for capital in the ordinary sense, but rather for capital in the sense of trained and motivated human beings. Understanding of this type of development is not likely to be present among persons, however well motivated, who are responsible for public utilities. One may also speculate on the internal structure and organization in the World Bank for attacking problems of integrated rural development. Do the subject matter units in the Bank cooperate, or does each group jealously guard "its province" from external incursions? How, also, is an all-pervasive subject like water handled? Are essential differences between rural and urban problems, respectively, reflected in organizational structure? Finally, and paradoxically, a factor affecting the attitude of the Bank has been the close relationship through their cooperative programme between the Bank and the WHO. It was made clear to the Chairman several times that the overall relations between the Bank and WHO were not going to be jeopardized by disagreements on such relatively "small potatoes" as the Ad Hoc Working Group on Rural Drinking Water Supply and Sanitation.

UNICEF's attitude throughout was one of support of the work of the Ad Hoc Working Group. The Working Group in turn, recognized the important contribution being made at the field level on a global basis by UNICEF. The reason for UNICEF's lack of support for the recommendations of the Task Force are somewhat obscure; one could hazard a guess that it is related to the mystique of the overall working relationships between WHO and UNICEF which are much broader based than merely the question of rural drinking

water supply and sanitation.

WHO's attitude toward the Ad Hoc Working Group was from the outset one of lukewarm support and patronizing participation. WHO did not feel they could stay out of the Ad Hoc Working Group, but it is doubtful that they ever saw the Group as anything other than a possible source of additional funds for programmes to be carried out by WHO. WHO, an organization containing many people of outstanding ability and knowledge, has always been an organization whose members found it difficult to work in cooperation with people from other disciplines. In the case of rural drinking water supply and sanitation, the division of Environmental Health, composed of sanitary engineers, has adopted the same attitudes for which doctors are well known, - namely an attitude that laymen cannot understand what doctors are doing in their special art, and the less questions asked the better. There is a long history of lack of cooperation between WHO and other organizations on programmes in which an effort has been made to share responsibility. The so-called cooperative programme of WHO and the World Bank has yet to demonstrate that it is cooperative in the intellectual sense, rather than in the sense that one does the technical work and the other provides the money.

These are the big five of the Ad Hoc Working Group which were mainly responsible for its work and for its funding.

UNEP contributed generously to the Trust Fund but took no active part in the discussions or the work of the Ad Hoc Working Group.

FAO and UN which were late arrivals in the Ad Hoc Working Group, attended the meetings faithfully but made no financial or

intellectual contribution to the work of the Group. UN's interest, and legitimately so, was the relationship of the Ad Hoc Working Group to the follow-up on the Mar del Plata meeting. At the meeting of the Ad Hoc Working Group in November when the Task Force Report was considered, the FAO took a position in support of WHO.

OECD, while unable to send a representative to most of the meetings, was supportive of the objectives of the Group throughout; and, in particular, favourable to the recommendations in the Report of the Task Force.

Finally, as a general point of speculation, why is it that professional men, when meeting for discussion of a professional problem can come forward with a set of recommendations, but when they have to consider these recommendations under the mantle of the organizations for which they work, they are unable to accept them? What is the basis for this disparity of view? It is reasonable to hazard the conclusion that when these men met together in the Task Force in their personal capacity, they met in an unfettered, free, intellectual atmosphere in which a group of persons of good will were genuinely trying to find a solution to a problem or a series of very difficult problems. On the other hand, when the organizations met to consider problems, it was essential to consider the image of the organization, its jurisdictional claims and its battle for funds from the development pie. The tragedy is, that the organizations do not appear capable in this context of realizing the reasons for their existence.

Those reasons are clearly that they have been established to serve people and governments and not to protect their established positions.

VIII.

The Ad Hoc Working Group has now adjourned sine die. Responsibility for providing assistance on a worldwide basis in the field of rural drinking water supply and sanitation now rests with the World Health Organization and the World Bank. They may, if they choose, ask other organizations to assist them. It is certain that UNDP will play a role in this since all agree that the Resident Representative of UNDP is a key figure for working with governments at the country level. The Director-General of WHO has indicated that responsibility as far as the UN is concerned for follow-up on the UN Water Conference at Mar del Plata in the field of community water supply has been assigned to him by the Secretary General of the United Nations. The Director-General of WHO therefore has both an official designation and a moral responsibility for moving forward the work in this important and very complex and difficult field.

Progress in this field is dependent on activity and understanding and support among the people in the Third World countries at the local level. Progress does not depend on international bureaucracy or bilateral programmes. These can be supportive and helpful, but the basis for progress rests with the people themselves. Safe drinking water and sanitation in rural areas are only small elements in the staggering problems of rural development. As a microcosm, the experience of trying to engender a joint cooperative effort by outside elements in this limited field, has shown behaviour patterns which are disappointing. The technical expertise of sanitary engineers, and the financial resources of development bankers, are not only insuf-

ficient, but perhaps not even the most crucial elements in the picture. Educators, sociologists, and psychologists are at least equally important. For these disciplines to be effective requires a setting which encourages independence and intellectual integrity, divorced, as much as possible, from the confines of institutional bureaucracy.

It remains to be seen how the WHO-World Bank Cooperative Programme will proceed, and what they will accomplish.

2 December, 1977.

ad hoc working group on rural potable water supply and sanitation

(WHO . UNDP . WB . UNICEF . UN . FAO . UNEP . OECD . IDRC)

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TASK FORCE
Report of Second Session
Geneva, 5-16 September 1977

Proposals for a Joint Collaborative Mechanism

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SUMMARYThe Problem and Case for Collaborative Approach

Rural water supply in the developing countries is afflicted by inertia due to the complexities and magnitude of the problem. Aid by individual Organizations and bilateral assistance for sporadic projects has tended to slow down real progress, postponing the tough decisions that countries have to take. A collective approach through joint action by the concerned Organizations in technical cooperation with countries may lead to more positive results, by generating local capabilities of the developing countries concerned and improving the effectiveness of external assistance. The mechanism for joint action will be of value to the extent it can gain credibility with Governments as a visible symbol of a joint approach, and demonstrate its catalytic influence on country level operations.

This report examines the problem and puts forward proposals for a joint collaborative mechanism for the Members of the Ad Hoc Working Group (AHWG) to improve the effectiveness of their collaboration with developing countries in the field of rural water supply and sanitation.

The Strategy

The strategy to achieve the objective will revolve round operations at the country level as the base for action. The essential step will be for the Governments to set up action-oriented National Task Forces. The concerned Organizations will collaborate with the National Task Forces through a Steering Committee served by a Service Unit in the preparation of national programmes and their implementation. For this purpose, based on initial collection, analysis and synthesis of data by the Service Unit, the Steering Committee will select a few countries from each of three representative developing regions (with promise of success) as the venues for an initial three year operation. The coordinated participation by multilateral and bilateral Organizations will ensure assistance in selected areas of integrated projects. Thus, external inputs will be channelled to meet assessed needs under planned development, to maximize their effect and impact.

Country-based Operations

National Task Forces or such other groups as may be set up by the selected countries, assisted by Organizations' resources and inputs and Service Unit back-stopping, are expected to review country needs, carry out policy and programme planning, prepare projects and pursue implementation activities under an integrated, staged programme. The Steering Committee will review areas in need of external assistance in consultation with the Governments concerned, and bring this to the notice of potential donor agencies. Through joint involvement of aid-giving agencies, it is hoped that complementary activities could be coordinated for concurrent action over a common time frame, avoiding duplication and overlappings in the external aid. The Service Unit will review, monitor and report on the successive stages of the country activities and provide programme intelligence of importance to the countries and the external agencies alike. The Resident Representative UNDP will be the focal point of coordination at country level on behalf of all the Participating Organizations.

The Steering Committee

A Steering Committee representing five Participating Organizations: UNDP, WB, WHO, UNICEF and IDRC will be established. The Steering Committee may consider expansion of its membership at a future date, if appropriate. A condition of membership will be active participation in the financial and programme aspects of its work. A person of high standing with requisite attainments, preferably from a developing country, will be chosen as Chairman of the Steering Committee, by the Executive Heads of the Participating Organizations. The Steering Committee will invite representatives of interested Governments to participate in its deliberations at least once a year. The Steering Committee will take stock of the results of its first phase of operations planned over a three year period and decide on the manner and method of its subsequent plan of action. With an expanding field for this collaborative action it is expected that a Consultative Group or similar body composed of representatives of Governments will eventually be set up.

The Service Unit

The Steering Committee will establish a Service Unit of four professionals which will gather intelligence from Participating Organizations and the concerned countries, relevant to the country level operations, promote and monitor the operations and report to the Steering Committee. The Service Unit will be located in WHO HQ, Geneva. It will function as an activating, promoting and intelligence unit for all the Participating Organizations, who are expected to furnish the operational resources at country level. In carrying out the information function, the Service Unit will explore and liaise with existing institutions and other resources with expertise and experience, in particular the International Reference Centre for Community Water Supply in The Hague, Netherlands.

Funding

A Trust Fund will be established contributed by the Participating Organizations of the Steering Committee which will provide for part-time remuneration to the Chairman of the Steering Committee, cover the full cost of the Service Unit and its activities, and defray the costs of representatives of developing countries participating in one of the (annual) sessions of the Steering Committee. The contribution required from each of the five Participating Organizations is estimated at about US\$ 127 000 each year for the initial three year programme.

The AHWG

The Ad Hoc Working Group as such will cease to exist, when the new collaborative mechanism is established as proposed.

1. INTRODUCTION

1.1 Background

(1) It is being increasingly recognized that rural water supply and sanitation is a component of multisectoral activity within any country; as a factor of health in Primary Health Care; as an essential adjunct of rural development; as a part of community development and extension services; as the backbone of children's health and care; and as a part of a total water resources programme in water scarcity areas. By its very nature the problem calls for a multipronged approach. This is the reason why individual Organization approach can be inadequate, ineffective and even counter-productive in cases.

(2) Realizing this, the Ad Hoc Working Group on Rural Potable Water Supply and Sanitation (AHWG) set up a Task Force to develop practical programmes of action that could be taken up at country level and propose a modus operandi for collective action by the concerned Organizations. The Task Force submitted an interim report (First Progress Report, Doc. AHWG/TF/77.1) in March 1977 by way of briefing to Members of the AHWG for the UN Water Conference held in Argentina on 15-26 March 1977.

1.2 Terms of Reference

(3) Having considered the interim report at its Fifth Meeting held in New York on 8 March 1977, the AHWG decided that the AHWG Task Force should continue its work, and in the light of developments at the UN Water Conference:-

- (i) define and prepare proposals for the new mechanism, setting forth its basic constitutions, its mode of work, its staffing requirements and financial resources, its location and procedures and time schedules for its establishment, and
- (ii) should be guided by the following basic principles with respect to the new mechanism: that it work through the Participating Organizations; that it be catalytic; that it be supported by resources from within the Organizations; that it obtain the full cooperation of Participating Organizations.

1.3 Mode of Work

(4) In order to fulfil the task set by the AHWG, it was necessary to appraise the role that the Participating Organizations could play. An objective look at each Organization - its constitution, mandate, policies, planning and programming process, implementation procedures, organizational structure, staff expertise, contacts with Governments and other institutions, the nature and extent of its current activities related to this sector, and the constraints under which it operated - was necessary. The Team Leader of the AHWG Task Force felt this appraisal and proposals emanating from such appraisal should be done by an independent consultant of high standing and proven ability. After consultations with members of the Steering Committee of the AHWG, Mr S. Rajagopalan, retired Public Health Engineering Adviser to the Government of India was engaged as the Consultant. Accompanied by the Team Leader of the AHWG Task Force, he visited or had discussions with the Chairman and all the Members of the AHWG and the International Reference Centre for Community Water Supply, and submitted his report (Doc. AHWG/TF/77.2 dated September 1977). This report was considered by the Task Force when it reconvened at WHO/HQ Geneva, 5-16 September 1977. The participants at this second session of the Task Force are listed in Annex 1.

(5) The AHWG Task Force was unanimous in its appreciation of the objectivity, thoroughness and the overall high quality of the work accomplished by the Consultant in such a short time, being fully aware of the complexity of the task. It has incorporated considerable portions of the Consultant's report in its own report to the AHWG, with such modifications as were necessary in the light of its discussions.

2. CASE FOR INTER-AGENCY COLLABORATIVE APPROACH IN RURAL WATER SUPPLY AND SANITATION

2.1 Nature of the Problem

(6) The problem shows wide variance in its nature and content across the developing regions. In countries which have attained near self-sufficiency in institutional infrastructure, technology, manpower expertise and materials, paucity of internal financial resources is the major obstacle to national plans in rural water supply. Several countries with abundant financial resources, on the other hand, are handicapped by serious shortage in manpower skills and expertise and material resources, lack of planning methodologies and delays in the operational phase. A third category of developing countries, those with a low socio-economic development are facing handicaps of shortage in material, manpower and financial resources, and are without proper plan and programmes. In the sphere of rural water supply, political will and commitment of the country Government is basic to programme planning and the allocation of internal resources is necessary to make any headway.

(7) UN Organizations have been created to satisfy specific needs and solve particular problems and are directed by their governing bodies to this end. As a consequence, issues which do not clearly fall within the area of responsibility of one Organization tend to receive insufficient attention or suffer from conflicting approaches taken by the various Organizations. A collaborative approach, however, must derive its justification from the end results attainable thereby at the country level rather than from a mere operational facility accruing to the Organizations, and country Governments must also see the need for it as arising from constitutional deficiencies rather than from defaults in operational performances of the Organizations concerned. The mechanism will be of value to the Participating Organizations only when it can gain credibility by its catalytic influence on country level operations.

(8) There are other handicaps which militate against the effective functioning of the Organizations in the field. Different Ministries are in charge of rural water supply in various countries and any Organization's capacity to promote rural water supply in national planning must spring from its close contact with the appropriate Ministries in each case. An Organization's non-funding character can be a handicap in this respect. Resident Representatives of UNDP and representatives of other Organizations at the country level often lack sufficient knowledge and competence in the field of rural water supply to espouse its cause and gain priority for it, either in the country programming or national planning exercise. Some Organizations lack the mandate to press the case of rural water supply in the overall country planning. Others are investment oriented and must locate additional resources for the country if they are to advise a re-ordering of priorities in favour of a social service. Some Organizations and bilateral donor countries by themselves feel powerless to press the inclusion of rural water supply as part of their projects if Governments of the developing countries are unprepared or disinclined to do so. As a result, the concerned UN and other Organizations in their individual capacity display various degrees of helplessness or disinterest in this important area.

2.2 External Assistance and the Role of the Developing Country

(9) A major impediment to external aid is the ideological block posed by funding concepts governing rural water supplies. For historical, political and economic reasons, developing countries may have to adopt methods of financing different from those established by the industrially developed countries of the globe. Most developing countries elect to provide rural water supplies as a social service. The recognition of this aspect in recent years has helped an increasing flow of international aid to the needy areas. This, however, is not a solution by itself. External aid, big or small, can at best only be a crucial supplement and certainly not supplant country efforts and resources. It has a catalytic role in the initial processes of national planning and programming and identified roles in the implementation stages. Country initiative and action are prerequisites for external aid to bear fruit. However, external aid, even when effectively organized and channelled can only form a marginal contribution to the total country efforts needed to implement its rural water supply programme, let alone rural

sanitation. In its most effective form external aid could help to initiate specific studies with expertise to focus the scope and content of the problem for national perception; to stimulate manpower training and create national expertise; to help explore appropriate technology, to increase use of indigenous materials and labour; to develop institutional and managerial competence; creating the climate for the Government to mobilize all internal resources for a continuing programme. All these preparatory and ancillary measures must be seen to be necessary by the national authority, based on political stimulation and policy commitment as the prerequisite for action. Eventually it is the extent of internal resource mobilization which can maintain the momentum as and when it is built up. When external loans can be, and are given, to supplement local funding resources, it symbolizes the high priority the programme receives both by the lender and the borrower.

(10) Undoubtedly, it is the prerogative of the developing country concerned to set its own policy, priorities and targets in its national planning. Where this process has been completed and national plans are well under implementation, the country itself is able to articulate its preferences on the shape, extent and method of the external aid it needs. But in those countries where national planning is yet to be well formulated, UN and other concerned Organizations have a more comprehensive role to play in helping the country identify its needs and shaping external assistance.

2.3 External 'Grants in Aid' for Rural Water Supply 'Projects'

(11) Countries unprepared with national plans and programmes have been victims of the 'project approach', often through external bilateral aid, well meant but misapplied. Rural water supply projects implemented through external aid, have reportedly fallen into disuse in several instances by lack of recurrent funds, of sustained local awareness and other reasons; and have had to be rehabilitated and kept in operation by repeat aid funds, defeating the very purpose of such aid. It would seem that aid funds for rural water supply have also been diverted to other purposes. Initial acceptance of local contribution, as a condition set for receiving such aid, has also not been kept. Projects with a commitment for 'free water' by the Government concerned have received outright grant aid from certain donors, but such approaches lend themselves to exploitation rather than to serve as lessons for improvement. It would appear that such donor agencies are realizing the failures of their involvement in a 'free aid' philosophy without proper management appraisal.

(12) The non-involvement of the UN Organizations in such cases has not precluded the Governments from securing ad hoc aid (often as free grants) for isolated projects from bilateral agencies. This has operated as a disincentive to programme formulation with a commitment to integrate projects as part of a total plan. It has been counter-productive by postponing sound planning in the hope of securing free grant for ad hoc projects; and has brought about a state of unpreparedness. This is the weakest area in the developing countries where the UN and other Organizations can be of signal help.

(13) The case for collaborative action by the UN and other Organizations interested in the problem is predicated on established premises. Rural water supply in the developing countries is afflicted by inertia born of the complexities and magnitude of the problem; the hunt for 'untied aid' for sporadic projects has done more harm than good; programme planning and resources mobilization has assumed urgency in many countries; in more developed areas, plans are ready to attract external soft loans; in the financially affluent areas, external expertise and manpower skills are in urgent demand; the subject is politically sensitive and Governments would respond to constructive approaches and informed dialogue; the UN Water Conference gives a mandate to the UN Organizations to achieve a breakthrough and help in a speedy implementation; individual Organization approach would be ineffective as each Organization is identified by the Governments, by each Organization's limitations in capacity for help. A collective approach for joint action by the concerned Organizations may evoke a better response at the country level and lead to positive actions, in the hope of a consolidated help from and through the UN family; bilateral donor agencies may also welcome such a step in the hope of securing more satisfying venues for aid and investment.

3. STRATEGY AND PLAN FOR COLLABORATIVE ACTION

(14) The strategy and plan of action discussed in the following paragraphs will require appropriate institutional arrangements which are discussed in Chapter 5. At this stage the nomenclature used in discussing the plan of action - Steering Committee, Service Unit and National Task Forces - merely connotes the instruments to carry out the functions set out.

3.1 The Objectives

(15) The objectives of the proposed collaborative action are broadly to:-

- (i) help stimulate rural water supply policy and programme planning in developing countries as appropriate;
- (ii) help in project formulation and implementation integrated into national planning;
- (iii) assist in internal mobilization of resources; and,
- (iv) maximize effectiveness of international and bilateral assistance to developing countries to improve their national resources and capabilities.

3.2 The Strategy

(16) The strategy should essentially be directed to:

- (i) unified action at the Organizations' level through a representative committee;
- (ii) organized activity at the country level through a committed, action-oriented National Task Force;
- (iii) collection of information and intelligence, activation and monitoring of country programme through a compact multidisciplinary Service Unit or similar institutional instrument;
- (iv) coordinated participation by multilateral and bilateral agencies with assistance in selected areas of integrated projects, implemented to stimulate and sustain on-going programmes;
- (v) channelling external aid to assessed needs under planned development to provide maximum, collective impact, and
- (vi) encouragement and stimulation of manpower and institution building programmes.

3.3 The Mechanism

(17) The mechanism needed to implement the strategy would call for:-

- (i) the establishment of a Steering Committee from among the Participating Organizations to set policy guidelines and provide direction;
- (ii) the setting up of a Service Unit with specific functions to assist the Steering Committee;

- (iii) the promotion of National Task Forces to plan, implement and pursue country level actions and to give shape, dimensions and direction to a rural water supply programme.

(18) The mechanics of operation should provide successive actions to achieve intermediate and final results as planned.

3.4 Action Steps

(19) Activities under the collaborative mechanism would encompass major steps as follows:-

- (i) the Ad Hoc Working Group will give place to a Steering Committee;
- (ii) a professional Service Unit will be set up to assist the Steering Committee;
- (iii) an appropriate number of promising countries will be selected as the venue for the first phase of operations over a three year period;
- (iv) National Task Forces will be set up to spearhead country level actions: policy and programme planning, project preparation and implementation, as part of an on-going programme; collection of country-specific data for the initial phase of operations;
- (v) Organizations' staff resources will assist the National Task Forces at all appropriate stages, through inputs as may be needed;
- (vi) the Steering Committee, through the Service Unit will assist in initiating country level activities, mobilizing Organizations' inputs, reviewing programme contents and project needs, inducting external aid, monitoring progress, reviewing and evaluating results, and decide on its future course of action. It should serve as a focal point for all aid-giving agencies to match external aid against assessed needs, in projects integrated into on-going national programmes, and disseminate information on appropriate technology, training material and institutions, successful techniques, community motivation, on-going research, etc.

4. FUNCTIONS OF THE MECHANISM

(20) The functional tasks of the several units of the collaborative mechanism are described below:-

4.1 Steering Committee

(21) A Steering Committee composed of members from among the Ad Hoc Working Group will replace the latter, to plan and promote joint collaborative action in rural water supply and sanitation for developing countries. It will organize its first phase of operations over a three year period, and on the basis of the experience gained, will recommend its subsequent course of action to the Participating Organizations.

(22) The Steering Committee is not structured to do any independent work on its own. It will operate through the Service Unit and stimulate country level activities to give an

impetus to rural water supply, synthesize and synchronize the operations of different Organizations in point of place, time and purpose, and provide a consolidated list of activities fused into a common project for simultaneous participation by the concerned Organizations to help in national programme implementation. For the Steering Committee to be able to help them collectively, it should receive inputs from each Organization as and when required, by way of analysed and purposeful information on its own country intelligence and programmes, suggestions and consultations, participation through appropriate personnel in country level Task Force functions, programme formulation and project preparation, implementation and evaluation exercises. The Steering Committee is intended to be the activating mechanism but the actions are all functions of the Organizations concerned. To the extent that the Steering Committee is helped by each Organization in its tasks, to that extent can it reduce its call on their collective resources.

(23) The method of collaborative action as envisaged carries a special advantage in that the Steering Committee can secure the interest, involvement, or participation of one or more of the several bilateral aid programmes - which are currently engaged in their own isolated approaches to the problem - to channel their aid into well assessed areas of need of the selected countries, as an integral part of their national plans. Bilateral aid is a major source of funding available to this sector, if pre-investment activities are carried out in an organized manner to attract credibility to the country's capacity and preparedness to absorb external aid to maximum advantage. The Steering Committee's functions will have covered this crucial aspect and paved the way for the developing countries to qualify for an increasing measure of bilateral aid against their improved capabilities.

4.2 Service Unit

(24) The Steering Committee will set up a small technical Service Unit, with secretarial and other assistance on a full-time basis, which will carry out the day to day work on behalf of the Steering Committee.

(25) The Service Unit will collect processed data from the Organizations concerned, analyse and synthesize the details, consult with the Organizations as necessary and prepare a common programme/project intelligence, identifying promising country locations for the first phase of operations, from out of three broad categories into which developing countries will be grouped for the purpose:-

- (i) countries with near self-sufficiency in technology and expertise, in material, manpower and institutional infrastructure and with national plans and programmes under implementation but where funding is the major constraint;
- (ii) countries with adequate financial resources but lacking in programme planning, technology, manpower expertise and skills, material resources and institutional framework; and
- (iii) countries with low socio-economic development, and without policy and programme planning, and resources mobilization.

(26) The Service Unit will obtain the decision of the Steering Committee in the selection of representative countries from each of the three categories, so that the whole spectrum of activities in programme planning and implementation will be reflected.

(27) The Service Unit on behalf of the Steering Committee and in consultation with the Participating Organizations concerned, will establish quick and feasible channels of communication for its work. Communication with Governments will normally be through the UNDP Resident Representative. It will arrange with each of the selected country Governments to set up a National Task Force - a high level Ministerial Committee with a professional work group of nationals - to initiate and carry out appropriate actions in the context of the actual status of rural water supply in the respective national development plans. Such action may range from basic policy and programme planning in one country, to appraisal

studies for investment in another, depending on the progress already achieved in an on-going programme.

(28) The Service Unit on behalf of the Steering Committee will establish contacts with available resources in the information field. In particular, it will explore the possibilities of suitable arrangements with the International Reference Centre, The Hague, in regard to the collection, evaluation and dissemination of information.

4.3 National Task Forces

(29) The National Task Forces will work within a time frame, and will be activated by the Government's policy and preferences on the work to be done. The objective will be to plan the rural water supply programme on a policy commitment, and work out its ingredients identifying areas of action within national resources and areas where external aid would help to strengthen and increase local resources to sustain the programme. The nature, extent and duration of external aid may radically vary as between the countries, depending on their stage of development. The exercises by the National Task Forces will identify these needs in the context of an integrated programme so that external aid will help in its progressive implementation. The staff resources and expertise of UN and other Organizations, in the field and at Headquarters, will assist the National Task Forces and supplement their capabilities in carrying out these activities; the Service Unit will provide back stopping and arrange for consultancy inputs as needed (through UNDP, WHO, WB, FAO, UNICEF, CENRET, IDRC or from outside).

(30) Deriving from Policy and Programme Planning, each National Task Force will prepare identified priority project requests indicating the activities to be carried out with external aid, severally or jointly as appropriate. The project document in each case will identify the 'project area', provide relevant background data, define the actions required to be carried out, specify the extent and capacity of Government participation, indicate the time frame for the work and provide a rough estimate of cost. In this connexion the resources to be called upon will be those of UN Organizations, bilateral programmes and NGO's (Non-Governmental Organizations). Field staff of the Organizations available at or near the country will be requested to provide active assistance in preparing the project documents in the manner required. Short consultancy inputs as may be needed in special cases and to start off the operation, will be arranged by and through the Service Unit resources (Trust Fund).

(31) Project requests for activities which would be self-contained and for those which would be part of composite projects, could be prepared separately for implementation. They could then be passed to the Steering Committee, which would bring them to an appropriate aid Organization for consideration.

(32) Each Organization will follow its own mode of project implementation. The National Task Force concerned will coordinate the several project activities and arrange project deliveries under a regulated time frame for ensuring integrated progress. The Service Unit will keep in close contact with the National Task Forces and the field operations by visits, discussions and correspondence and provide periodical progress reports to the Steering Committee. The Steering Committee will keep the concerned Organizations, including any participating bilateral programmes, informed about the progress and of factors of common interest to them.

4.4 Time Frame for the Programme

(33) The steps in the phases of operations over the three year period would include:-

- (i) initial data collection, programme-intelligence and country selection;
- (ii) setting up of National Task Forces;
- (iii) preparing advance list of project requests (in countries where policy and programme planning has been done) for self-contained activities;

- (iv) preparing project requests for composit activities;
- (v) project implementation;
- (vi) review and evaluation; plans for next phase.

The AHWG Task Force believes that it should be possible to initiate projects in the field within 15 months of the establishment of the Service Unit.

4.5 The Essence of the Country Dimension

(34) The first phase of operations is thus designed to accomplish certain concrete and positive steps in the selected countries in their rural water supply sector. The modality is such that the request for aid in specific activities relevant in the country's stage of development, emanates from the country Governments on their own appraisal of their needs. The project documents are to be processed by the nationals to cover requirements as they see them. They monitor and regulate project implementation with a close participation of the Participating Organizations, and evaluate project deliveries. The completion of the first phase, hopefully, will have given them the tools with which they could pursue an on-going programme as planned by them. It is their initial commitment to the project and their primacy in supervising its implementation that should impart an enduring value to the results. The role of the UN and other Organizations is throughout significant but unobtrusive and ensures substance and quality to the results. Their joint action will enable the countries to secure aid from different Organizations for a variety of activities coordinated for concurrent implementation over a common time frame. It provides the Organizations the opportunity to review the country needs for the Sector in its totality at a given stage and provide the needed help, each in its own sphere but with a knowledge of what the others are providing, and to participate in the shaping and completion of a well integrated project.

4.6 Evolution of the Mechanism

(35) After the initial phase of preparatory activities, it is envisaged that a consultative group comprising developing and developed countries be established to guide and direct the collaborative programme. In the interim, the AHWG Task Force proposes that representatives of Governments, particularly those from developing countries, should participate in the deliberations of the Steering Committee by the method proposed in paragraph (47).

5. OPTIONS FOR THE COLLABORATIVE MECHANISM

5.1 Options considered

(36) Of the several options considered by the AHWG Task Force in this connexion the following options merited deeper consideration:-

1. A Steering Committee with WHO functioning as the Managing Agency for the entire operation.
2. A Steering Committee assisted by an independent Service Unit reporting direct to the Committee.

(37) Option 1: Under Option 1, WHO will take over the responsibility to organize and implement all activities pertaining to the collaborative mechanism and act as the sole Managing Agency for the Steering Committee.

(38) The advantages which could be claimed for Option 1 are that WHO with its accepted mandate and well dispersed manpower resources and expertise at Headquarters, Regional Offices and the countries, is well equipped for the purpose; that it could carry out the functions of a Service Unit through a special cell of its own set up as needed; that it could activate and monitor the work of National Task Forces as necessary; that it could help to mobilize other Organizations' resources and channel their inputs into country level activities; that it

could function as a common Executing Agency for multicomponent rural water supply projects implemented with the participation of all concerned Organizations, regulate and monitor project deliveries under an integrated programme; and that such an arrangement would only complement its bilateral cooperative programme with the WB, FAO and UNICEF and WHO/UNDP projects and strengthen and enlarge its consultation arrangements with bilateral aid programmes.

(39) On the other hand, arguments against Option 1 are: that it is tantamount to entrusting the entire work and responsibility to WHO, to be operated within the limitations of its own internal rules, regulations, procedures, levels of authority and administrative protocols, regional differences and delays, and wide diffusion of its manpower resources without unitary coordination; that it submerges the visibility of the other Organizations as active and interested partners in the collaborative action which has been conceived essentially to provide a visible symbol of their joint concern to assist the developing countries; that WHO's traditional association and protocol liaison with Health Ministries of country Governments would be a handicap in promoting rural water supply as it requires contact, familiarity and influence with other appropriate Ministries in charge of the sector; that rural water supply programmes involve both multidisciplinary and multisectoral activities and WHO could benefit by the visible participation of other Organizations in a conjoint action; that WHO's capacity to promote an operational rural water supply programme is inhibited by its non-funding character; that any activation of country level actions through National Task Forces may not be effective without the necessary stimulation from a unit visibly representing the concerned Organizations with their own independent capacity for help and guidance; that by acting as the sole Organization WHO may not be able to secure the expected inputs from other Organizations and the Governments; and that the collaborative programme may face avoidable delays and difficulties.

(40) Option 2: Under Option 2, the Steering Committee will exercise its functions through a Service Unit established and funded by the Participating Organizations and reporting direct to the Steering Committee. It provides a visible symbol to the developing countries of the joint effort of the Organizations and their active involvement in the operation in all its successive stages. It avoids the disabilities attaching to Option 1 and provides a positive and direct approach to the countries for the Steering Committee. It will make for pragmatism in shaping the policies and procedures by the Steering Committee to suit the actual conditions and needs as encountered in the selected countries during the day to day operation of the Service Unit. It would also give each of the Participating Organizations an intimate insight into the problems as and when they emerge in the operational phase, and provide them an opportunity to seek quick and viable solutions, each within its own area of interest. Its close involvement and knowledge of field operations will enable the Steering Committee to attract the interest of bilateral programmes and institutions and invite their help and participation at appropriate stages. The proposed collaborative action combines several diverse functions under an integrated action programme. There is need for an independent Service Unit to assist the Steering Committee in its functions, to activate and monitor the work of the National Task Forces, and to gather and provide programme intelligence to all concerned at appropriate stages. This option provides freedom for approach and access to the Organizations and the Governments, mobility for action outside of internal Organization procedures, constraints and delays, visibility of each Organization's participation at all levels such as will secure the ready credibility of the Governments concerned. It also creates a sense of closer involvement with the programme which would tend to maximize each Organization's inputs into the programme activities to ensure the success of the joint venture.

(41) The collaborative mechanism decided upon should show the positive collaboration which this new mechanism represents and that the Organizations should express this collaboration to Governments, normally by working through the Resident Representative, the accredited representative of UN cooperation in the field. In this connexion, the RR/UNDP and the representatives of all concerned Agencies in the field should receive authority from the Heads of their respective Organizations to act directly on behalf of the Steering Committee.

5.2 Recommended Option

(42) For the reasons given in paragraphs (38) to (41), the AHWG Task Force recommends the adoption of Option 2.

6. PROPOSALS FOR THE NEW MECHANISM

6.1 The Steering Committee

(43) Role: The role of the Committee will be to:-

- (i) serve as a common focal point for all multilateral and bilateral Organizations interested in rural water supply and sanitation and as a common Inter-Organization mechanism for making effective use of external aid to developing countries;
- (ii) employ the Service Unit to carry out all necessary duties to assist the Committee as required;
- (iii) bring in bilateral agencies into the programme activities at suitable stages to expand areas of assistance for developing countries;
- (iv) establish necessary contact with Governments.

(44) Membership and Representation: A Steering Committee composed of all the nine members of the Ad Hoc Working Group may make it unwieldy, and its work cumbersome. The Committee's standing and credibility with the country Governments must spring from its members' substantial involvement in rural water supply and sanitation in their totality and their contributory capacity for its promotion. The OECD, UN-CENRET, UNEP and FAO have but a marginal role to play in the functions envisaged for the Steering Committee. The World Bank, UNDP, UNICEF and WHO have accredited roles to play and it is rational for them to be in the Steering Committee. Again, rural water supply and sanitation do not pertain merely to engineering, health or investment aspects but carry overtones of sociological, economic and cultural factors calling for research and innovative approach in these spheres, to break present barriers. It may be inexpedient to make the Committee exclusive to the UN family. The inclusion of the IDRC as a fifth member of the Committee will bring a research component into better focus and expand the collaborative mechanism's strength beyond the UN family.

(45) For these reasons, the Steering Committee which will replace the Ad Hoc Working Group will initially have five members: UNDP, WHO, WB, UNICEF and IDRC. This number has been chosen in view of the direct involvement and/or mandate of these five Organizations and for managerial and operating efficiency. However, it is understood that membership may be extended to other Organizations if so desired. A requirement for membership will be active participation, both in the financial and programme aspects of the work.

(46) Chairmanship: A chairman of appropriate senior rank and experience will be selected by the Heads of the Organizations which are members of the Steering Committee. Primary consideration should be given to a candidate from a developing country.

(47) Other Participants: The Committee may invite representatives from other UN and bilateral Organizations, regional institutions and Governments; in particular the Committee should arrange for participation from developing countries. Provision has been made in the Trust Fund for participation of representatives from developing countries.

(48) Venue and Frequency of Meetings: The Committee will normally meet three times a year at times to be decided by consultation among its members and the Chairman. It is further suggested that at least one of these meetings be held in a developing country.

(49) Funding: Travel and other expenses of the members for the Committee for meetings and any tours relating to its work will be met by their parent Organizations. Honorarium of the Chairman is provided for in the Trust Fund.

6.2 The Service Unit

(50) Functions: The functions of the Service Unit are detailed in Annex 2. The modalities of operation as between the Service Unit and the National Task Forces have all been discussed in Sections 3 and 4 of this report.

(51) Composition: The multipurpose functions of the Service Unit dictate a multidisciplinary composition for it. Its size is to be restricted to what is essential to give it a multidisciplinary resource and to what is an adequate minimum for it to work as an effective unit. It need not do what can be done by the Organizations with their own resources. It is this flexibility which should remove constraints attributable to its size as such. In this view, the Service Unit may initially comprise: one senior sanitary engineer of proven abilities; one ground water specialist; one sociologist/health educator; and one economist; with resources to secure consultancy inputs, as and when required, in ancillary fields of expertise, e.g. management, training, information sciences, etc. Secretarial staff and one documentalist/intelligence officer will, in addition, be provided with service facilities, i.e. office, logistic facilities, etc. In view of the important role of women in rural community water supply it is recommended that efforts should be made to recruit a qualified woman member as one of the four members of the Service Unit staff. One of the members of the Service Unit will be designated Unit Leader by the Steering Committee.

(52) The leader of the Service Unit will be selected by the Steering Committee, as also the other members but in consultation with him. The selection will be by secondment by the members of the Committee from within their own Organization as the first choice, so that the service rights of the appointees are protected by the parent Organization. When this is not possible, a suitable expert from outside may be selected by the Committee and one of the members may cover his terms of appointment under its organizational umbrella. The suggested functions and responsibilities of Service Unit staff are outlined in Annex 3.

(53) Location: The location of the Service Unit is important from several standpoints. Its functions as set out earlier consist of a series of steps leading to the collection of technical data and compilation of specific activities into project requests followed by intelligence reports on project implementation and programme monitoring actions.

(54) Much of the inputs for the technical work on behalf of the Organizations at the country level will devolve on WHO field resources as available. The resources in information and expertise at WHO Headquarters will be of signal value to the Service Unit in preparing its initial status reports and action lists for project formulations. The WB/WHO Cooperative Programme, FAO/WHO Collaboration Programme, WHO/UNICEF Programmes and UNDP/WHO projects and documents are sources of valuable data and programme intelligence. It will be of special advantage to the Service Unit and the Steering Committee if the Unit is located in Geneva under the roof of WHO, with the institutional facilities of WHO extended to the Service Unit. The arrangement will provide the Unit ready access to the vast data with WHO; it will facilitate ready consultations and advice to the Unit from WHO; it will provide easy contacts for the Unit with regional staff and exchange of programme and project intelligence; it will facilitate close involvement with the Service Unit and its work by WHO as the leading Technical Agency in the Steering Committee.

(55) Other locations were considered, in particular placing it within a developing country. Notionally it may be catching but the Unit is too small for an independent existence. Handicaps of communication and transportation would pose real difficulties.

(56) The balance of advantage would point to the location of the Service Unit in the WHO/HQ as the most preferable.

(57) Operational Authority: The Service Unit leader will take the initiative to recruit any outside consultant expertise for the collaborative programme activities through the resources available with WHO and other UN and bilateral Organizations, for quick action. He will secure the prior approval of the Committee Chairman in each case. He will also be

given freedom of action and access to seek assistance, consultation and guidance from UN and bilateral Organizations, with prior approval of/intimation to the Committee Chairman.

6.3 Financial Arrangements

(58) The Service Unit, and the post of Chairman of the Steering Committee, will be funded through a Trust Fund contributed by members of the Steering Committee. Contribution to the Trust Fund on an equal pro rata share basis, will be a condition of membership of the Steering Committee.

(59) The Steering Committee will approve the annual budget and authorize the leader of the Service Unit to administer it. Between sessions of the Steering Committee, its Chairman, acting on behalf of the Steering Committee, will be available to the leader of the Service Unit for consultation, should budgetary or financial problems arise.

(60) The Trust Fund account will be maintained by WHO.

(61) It is estimated that the annual contribution to the Trust Fund by each of the five Organizations represented by the Steering Committee will be about US\$ 127 000 over the three year period (see Annex 4).

6.4 National Task Forces

(62) The composition and functions of National Task Forces are detailed in Annex 5. Annex 6 is an illustrative list of activities which could be generated in the countries.

(63) It is to be emphasized that the details of the work proposed for the Service Unit and National Task Forces are only indicative and not exhaustive. The exact pattern of a working arrangement will emerge only when the National Task Forces, Organizations' staff resources and Service Unit back-stop resources are assembled for action and the needs of each country are assessed, based on actual local conditions.

6.5 Rural Sanitation

(64) Rural sanitation has been a hackneyed theme in most rural development and primary health projects. Several sporadic attempts to promote rural sanitation as pilot projects have stayed on in the pilot stage. Demonstration projects have mostly ended as showroom models without a market. While rural water supply is a community project to transfer safety to the individual homes, rural sanitation is an individual home project for community protection as a whole. The latter is the more difficult of the two from several standpoints, the major one being lack of user perception. Its successful planning and execution will depend on basic criteria fulfilment in the economic and sociocultural levels. The projects envisaged under the collaborative programme should provide a variety of suitable venues for an integrated approach to solve this problem taking past experiences into full account.

(65) Simple technology for a sanitary latrine at home has been under evolution over the years to suit different geographical areas, soil variations, ground water disposition and user habits, aiming at the use of indigenous materials to reduce costs. A heavy subsidy to cover the costs of the latrine to each household has been extended by Governments to attract and initiate the user into such programmes, with attempts to secure from him participation in the installation through cash, materials or labour. The measure of success in all such cases is predicated on the degree of drive and perseverance displayed by the Government and the Agency placed in charge. Rural sanitation as a self-contained field programme calls for resources in multidisciplinary manpower teams who could, with better advantage, pursue simultaneous, integrated programmes of rural water supply and sanitation and related facets of rural development. The inability of Governments to deploy such teams over wide areas, in the isolated pursuit of rural sanitation alone has often militated against its success. The failure to provide for follow-up action and evaluation of efforts has also been a major deficiency. There is an urgent need and scope to collate and synthesize the data and experience available in this field from past and current efforts in progress and devise a method and mechanism to include rural sanitation effectively in the proposed collaborative

programme. The initial selection of countries with promise of success may have to give weightage to this factor. The message should be brought home to the Government and the people that without rural sanitation, rural water supply alone may only confer partial safety from epidemiological hazards to the community and the individual.

7. RELATIONSHIP TO OTHER ACTIVITIES

7.1 Urban Water Supply and Wastes Disposal

(66) The issue has been posed as to why the proposed collaborative effort could not include urban water supplies also (and by implication waste water disposal) to achieve an effective thrust on community water supply sector as a whole. The area of concern which brought together Members of the AHWG in the first place, is rural water supply and sanitation. This part of the sector is concededly suffering from studied neglect from all quarters. A joint effort confined to this sphere alone may help to emphasize its importance and hopefully remedy the neglect. It may not attract priority attention if merged as part of a larger issue. Rural water supply has a key role in total rural development, and needs intersectoral support for its advancement. Should the collaborative approach succeed in achieving its objectives, it should pave the way for increasing collaboration to cover larger areas of interest common to the Organizations and the countries alike. The present proposals, however, have to be designed to serve the immediate purpose as set by the AHWG, with the minimum of additional resources to make the collaborative approach purpose-oriented.

7.2 UN Water Conference Resolutions and Follow-up

(67) In brief the UN Water Conference adopted:-

- (i) the Plan of Action for community water supply set forth in Conf. Doc. E/CONF.70/14;
- (ii) the HABITAT targets, to be achieved by 1990;
- (iii) 1980-1990 as the International Drinking Water Supply and Sanitation Decade;
- (iv) a proposal that the period up to 1980 should be used to prepare national plans and programmes to achieve the targets in the following decade;
- (v) that UN Agencies should upon request assist countries in such preparation;
- (vi) that the programmes should be reviewed in 1980 by an appropriate mechanism to be determined by ECOSOC.

(68) The Sixty-third Session of ECOSOC meeting in Geneva in July-August 1977, inter-alia, approved the report (No. E/CONF.70/29) of the UN Water Conference containing the Mar del Plata Plan of Action and the other agreements reached at the Conference and requested the Secretary-General to make the necessary arrangements for an in-depth study of the implications of Conference Resolution II on Community Water Supply and the launching of the International Drinking Water Supply and Sanitation Decade recommended in paragraph 15 of the Action Plan. UN Agencies are asked to assist Governments in intensive and sustained action for implementation of agreements reached at the Conference. The national and regional plans and programmes will be reviewed at a Special Session of the Committee on Natural Resources to decide on any further steps necessary to secure the implementation of the Mar del Plata Action Plan.

(69) WHO and WB have plans to complete, by 1978, a rapid assessment of sector status and needs for countries for which detailed sector study information is not available. Action is already underway.

(70) The collaborative effort now proposed for rural water supply can thus be seen to be fully in step with the recommendations and resolutions of the Water Conference and ECOSOC, for the following reasons:-

- (i) if countries are to attain the targets set, they must give greater attention to rural water supply, as it is this sector of population where the bulk of the population in need lives;
- (ii) this proposed inter-Organization collaborative effort with UNDP's primacy for coordination at country level is in line with UN Water Conference and ECOSOC resolutions;
- (iii) the follow-up by WHO and WB through rapid assessment will yield valuable information for selection of countries for the first phase of operations;
- (iv) the proposed collaborative mechanism is flexible enough to work with Regional Commissions as well as such other bodies (e.g. the proposed Inter-Agency Water Resources Board) as may be set up and should be capable of adapting to new situations. In fact, nothing in the UN Water Conference or ECOSOC resolutions calls for a halt to efforts such as this until all organizational issues on how to deal with water as one entity for all uses are settled in the General Assembly;
- (v) the collaborative mechanism aims at promoting preparation of well thought out national programmes and priority projects and bringing in external resources both from the UN System but more importantly perhaps from bilateral programmes (of the rich countries) - precisely as called for by the UN Water Conference and ECOSOC resolutions.

7.3 Time Schedule to establish the Collaborative Mechanism

(71) In its instructions to the AHWG Task Force, the AHWG included reference to time schedules. Certain assumptions are necessary in attempting to fulfil this directive. Assuming that the Members of the AHWG at the meeting on 2-3 November 1977 find themselves in substantial agreement with the recommendations of the Task Force, a target date for the commencement of work by the Steering Committee and the Service Unit, should be set as 1 May 1978.

(72) To meet this target date the members of the proposed Steering Committee would be expected to pledge their financial contributions and recruitment of key personnel would have to be completed prior to the actual target date. In the event that some of the personnel will be seconded from member Organizations, this time frame is not unreasonable.

Ad Hoc Working Group on Rural Potable Water Supply and Sanitation

TASK FORCE
Second Session

5-16 September 1977, Geneva

List of Participants

Mr Martin Beyer (UNICEF)
Mr Myer Cohen (Chairman AHWG)
Mr David Henry (IDRC)
Mr John Kalbermatten (WB)
Mr Kenneth Luke (UNDP)
Mr S. Rajagopalan (AHWG) - Task Force Consultant
Mr Gunnar Schultzberg (WHO)
Mr D.V. Subrahmanyam (WHO) - Task Force Leader

The above participants served at this meeting in their individual capacities. Their sponsoring Organizations are indicated in brackets.

Functions of the Service Unit

Draw up a collaborative action programme to span a three year period in relation to A and B below.

A. In Relation to Programmes in the Selected Countries

Country Selection

1. Under the guidance of the Steering Committee establish a preliminary list of three or four countries in each of the three categories referred to in the report.
2. Obtain information from the Participating Organizations on their past, present and planned involvement in the rural water supply and sanitation sector and related sectors in the countries suggested.
3. Review the data together with any information available through the 'Rapid Assessment' which is being carried out as a follow-up of the UN Water Conference by the countries with assistance from WHO and the World Bank and from water supply and sanitation sector studies carried out under the WHO/World Bank Cooperative Programme.
4. Discuss the concept of pilot operations with the Governments of countries which appear to be the most promising, bearing in mind the need for an early start of country operations and the overall objective of gaining experience which can be transferred to other countries. Establish the interest on the part of the Governments and their willingness to set up National Task Forces or similarly appropriate mechanisms and to allocate manpower resources to them.
5. Report to the Steering Committee on the countries recommended for the first phase of operations.

Establishment of National Task Forces

6. Assist the Governments in the establishment of the National Task Forces including composition, terms of reference, mode of operation and the identification of need for external assistance for the National Task Force to meet its objectives.
7. Assist the Governments in the securing of assistance to the National Task Forces from within the Participating Organizations and/or from outside.
8. Monitor the work of National Task Forces and keep the Participating Governments and Organizations informed about progress.

Functions Relating to External Aid

9. At the request of Governments and in cases where financing is not already available, consolidate project requests from National Task Forces and identify areas for involvement for Organizations within and outside the UN system.
10. Place the requests before the Steering Committee for consultation and decision.
11. Help to coordinate and synchronize project agreements with the various Governments and Organizations.
12. Follow project implementation and provide status review and project intelligence to the Steering Committee, the Participating Governments and Organizations.

Advisory Services

13. Throughout the operations the multidisciplinary unit should review problems pertaining to the sector and act as a 'think tank' advising the Participating Governments and Organizations.

B. Global Activities

Lessons Learned

14. Lessons learned from the programming activities in the pilot countries which could be of interest for a wider audience, should be documented and conveyed through appropriate media to those who could benefit from the experience.

Information System Development

15. Parallel to the above activities the Service Unit should develop or be instrumental to the development of global information systems including the following fields:-

- (i) training material and institutions;
- (ii) inventory of expertise available for consultantship;
- (iii) appropriate technology;
- (iv) community motivation;
- (v) on-going research.

Suggested Functions and Responsibilities of Service Unit Staff

1. Service Unit Leader

His or her duties and responsibilities will cover: an effective leadership to the Service Unit in its operations, preparing its plan of action, programming its work, deployment of the other staff, establishing liaison with the Agencies and Governments, initiating and pursuing actions at all levels, securing expertise for the National Task Force work, backstop functions in programme and projects development, overall supervision, management and preparation of reviews, analyses and reports on country status, programme intelligence and project initiation and implementation details, and general monitoring of the Committee's collaborative programme, under the overall control of the Steering Committee. He will maintain effective and cordial relations with all the personnel involved in the programme, and provide discerning assistance to the Committee in administering the entire programme. He will be responsible for the budget of the Service Unit and draw his operational powers by delegation by the Committee. In general, he will function as the kingpin of the entire collaborative programme.

2. Service Unit Staff

The disciplines to be covered include:-

- (i) Sanitary Engineer;
- (ii) Economist;
- (iii) Social Scientist/Health Educator;
- (iv) Ground Water Specialist.

3. All the members of the Unit should have high qualifications and standing with extensive practical experience in developing countries and personal insight into their problems of community development and constraints in their rural water supply and sanitation programmes, with all round knowledge and proven competence in the activities of this sector and its intersectoral extensions.

Estimate of Trust Fund Required to Support the Inter-Organizational Collaborative Mechanism

Item			Cost (US\$) for initial phase operations		
			Year 1	Year 2	Year 3
I. SERVICE UNIT	<u>assumed</u>	<u>total</u>			
	<u>grade</u>	<u>m/m</u>			
1. <u>Professional and Service Staff</u>	<u>for</u>	<u>per</u>			
	<u>estimate</u>	<u>annum</u>			
One - Sanitary engineer	(D1/P6)	12	66 500	68 100	69 800
One - Ground water specialist	(P4/P5)	12	61 200	62 500	65 000
One - Economist	(P4/P5)	12	61 200	62 500	65 000
One - Sociologist/Health educator (one of above four to be designated Unit Leader)	(P4/P5)	12	61 200	62 500	65 000
One - Documentalist	(G7)	12	44 600	49 800	55 600
Two - Secretaries	(G4)	24	55 000	59 000	63 200
2. <u>Consultants</u>		12			
Four - 3 m/m each (including salary, per diem, travel, insurance, etc.)			78 000	84 000	90 000
3. <u>Duty Travel of Service Unit Staff</u>			50 000	55 000	60 000
4. <u>Common Services: includes</u>					
- office rental for 7 offices, heating, lighting, telephone, maintenance, stationery (\$1 500 per person per annum)					
- office equipment, furniture (\$10 000 first year only)					
- air mail, telegram, telex, telephone charges (\$5 000 p.a.)			40 000	35 000	40 000
- accounting, processing recruitment, travel, etc. (\$5 000 per annum)					
- documents (duplication, printing, etc.) (\$10 000 per annum) (with \$5 000 increase for the 2nd and 3rd years)					
II. STEERING COMMITTEE					
5. <u>Chairman Support Costs</u> (including travel)			25 000	30 000	35 000
6. <u>Participation of Developing Country Representatives</u>			25 000	30 000	35 000
		Sub-total	567 700	598 400	643 600
III. CONTINGENCIES (5% of sub-total)			28 300	30 100	31 900
		TOTAL	596 000	628 500	675 500
		SHARE FOR EACH OF THE FIVE MEMBERS OF THE STEERING COMMITTEE	119 200	123 700	135 100
		Say:	120 000	125 000	135 000

Note: Members of the Steering Committee providing staff or other resources in kind could be given financial credit and thus would have to deposit only the balance of their share into Trust Fund

Illustrative Composition and Functions of National Task Forces

A. Composition

The following levels of membership are suggested:-

1. Government

High Level Ministerial Committee:

Ministers or Secretaries to Government in charge of Finance, Health, Rural/Community Development, Works and Housing; Members of Parliament/State Legislature interested in the field.

Functional Work Group:

Department Head in charge of Community Water Supply/Rural Water Supply supported by full-time staff; Public Health; Agriculture Extension and Training; Rural Development; (represented by their responsible nominees in charge of actual programme and operations).

Secretarial assistance, logistic support and other service needs.

2. Collaborating Organizations

High Level Resource Unit:

Country representatives of UNDP, WHO, FAO, UNICEF, World Bank (if available) etc.

Local Input Resources:

Field staff of WHO, FAO, UNICEF, ILO (if available).

Casual Input Resources:

Service unit members, consultancy expertise from within the Organizations and from outside.

B. Functions

National Planning

Inventories
Targets
Identification of gaps in resource availabilities.

External Assistance

Identify research projects, studies and investment projects suitable for external assistance.
Formulate requests for submission to the Steering Committee through the Service Unit.
Initiate execution of projects after they have been negotiated through normal Government channels.
Monitor progress of Government and external assisted projects.
Evaluate completed projects.

C. Specific Action Plans

1.
 - (a) Assemble and analyse country data and activities under different Ministries;
 - (b) prepare a national plan;
 - (c) prepare a list of project requests;
 - (d) consult with Ministries on intersectoral possibilities;
 - (e) identify elements and areas for external aid;
 - (f) group activities under separate or composite projects;
 - (g) prepare project requests in comprehensive shape as appropriate;

2.
 - (a) Act on Steering Committee's recommendations to negotiate project documents with identified aid agencies, through normal Government channels;
 - (b) complete project agreement and initiate project implementation;
 - (c) participate in project deliveries through Government inputs;
 - (d) maintain close project monitoring and surveillance;
 - (e) coordinate and integrate project deliveries to lead to progressive action;
 - (f) regulate intermediate and final deliveries to conform to project obligations;
 - (g) prepare interim progress reports for the Government and the Steering Committee.

3.
 - (a) Prepare end evaluation and appraisal report on project completion;
 - (b) consolidate project results in areas of manpower training, institution building, low cost technology, community surveys/studies for motivation, behavioural reactions and local leadership, into an on-going programme to retain and strengthen the initial momentum;
 - (c) initiate and pursue actions for a continuous process of internal resources mobilization for the full programme needs;
 - (d) improve national experience and expertise to generate internal momentum for successive stages of country programme;
 - (e) discover methods to integrate rural water supply into intersectoral advances.

Illustrative List of Country Activities for which External
Assistance could be Generated

A. Studies and Research

General Planning

Inventories
Sector Studies for National Planning
Development and Implementation of Information Systems
Community Motivation
Health Education
Appropriate Technology
Level of Service
Water Quality Standards and Surveillance

Engineering

Feasibility Studies and Preliminary Engineering
Final Designs
Preparation of Manuals:
(i) operation and maintenance;
(ii) design criteria

Institution Building and Manpower Development

Organization and Management Surveys and Assistance in their Implementation
Manpower Surveys
Support towards the Establishment and Running of Training Programmes:
(i) planning;
(ii) operation and maintenance;
(iii) construction supervision;
(iv) management and public relations
Financial Studies:
(i) revenue and tariff systems;
(ii) collection procedures

Water Resources

Ground Water Surveys
Surface Water Surveys
Water Legislation Studies

B. Investments

Construction of Water Supply and Sanitation Facilities

Support to the National Development Programme
Support to Regional Programmes of Identified Groups of Villages
Rehabilitation of Existing Schemes

Support Facilities

Training Institutions
Institutional Facilities
Equipment and Material
Material Production Facilities