

REPORT
ON THE FIRST MEETING OF THE REGIONAL
SCIENTIFIC WORKING GROUP ON DIARRHOEAL
DISEASES RESEARCH

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REPORT ON THE
FIRST MEETING OF THE
REGIONAL SCIENTIFIC WORKING GROUP ON
DIARRHOEAL DISEASES RESEARCH
Alexandria, 19 - 22 August 1980

The views expressed in this report do not necessarily reflect the official policy of the World Health Organisation.

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I INTRODUCTION

The first meeting of the Regional Scientific Working Group on Diarrhoeal Diseases Research was held in Alexandria from 19 to 22 August 1980.

Dr A.H. Taba, Director of the Eastern Mediterranean Region, opened the meeting and welcomed the members of the group. He mentioned that acute diarrhoeal diseases constitute one of the important causes of morbidity and mortality in all countries of the Eastern Mediterranean Region, being responsible for approximately 3/4 million deaths per year among children under the age of 5 years. He then highlighted the main activities of the Organization now being undertaken in collaboration with the countries of the Region in diarrhoeal disease control. Dr Taba stressed the role of research as one of great importance in strengthening the capabilities of national health services in the implementation of diarrhoeal disease control programmes, and hence the importance of this meeting. He indicated that WHO is at present supporting studies on the evaluation of the impact of oral rehydration on morbidity and mortality of children under 36 months of age, studies on the role of various pathogens including Rota virus in the aetiology of gastro-enteritis in young children and on the comparison of various formulae of oral rehydration mixtures. After explaining the main tasks of the group, Dr Taba expressed the hope that it would give special consideration to the highly promising research developments which could substantially contribute in the near future to the improvement of methods for prevention and treatment of diarrhoeal diseases.

The group nominated Dr A.R. El Tom, Professor of Public Health, Faculty of Medicine, Khartoum University, as Chairman, and Dr W.A. Hassouna, Head, Social and Cultural Planning Centre, Institute of National Planning, Cairo, as Rapporteur.

II REVIEW OF THE OBJECTIVES AND ACTIVITIES OF THE DIARRHOEAL DISEASE CONTROL PROGRAMME

The WHO Global Diarrhoeal Disease Control Programme was presented by Dr M. Merson, CDD, WHO Geneva. This programme was initiated at the request of Member States in May 1978 as expressed in resolution WHA31.44. The objective of this programme is to decrease diarrhoeal diseases mortality and morbidity. The programme has two major components. One is a health services delivery component whose activities are directed towards incorporating existing knowledge on the treatment and prevention of diarrhoeal diseases into national health care programmes especially in the context of primary health care. Activities in this component are directed towards the development of plans for national diarrhoeal disease control programmes, management, and technical training and development of adequate supply of oral rehydration salts (ORS).

The second component is a research component; it is concerned with the support of operational research to improve means of applying new and existing knowledge on diarrhoeal disease control and basic research to develop new tools for prevention and treatment. This research is being managed and coordinated by regional and global scientific working groups. Plans are also being made for providing support to strengthen national institutes to undertake research.

Bilateral and multilateral support is being provided to the programme and a number of Governments and agencies have expressed interest in providing support. UNICEF, UNDP and the World Bank have been active supporters and collaborators in the programme.

The Regional Diarrhoeal Disease Control Programme was then presented by Dr F. Partow, Director, Communicable Disease Control. He stated that in spite of the widespread awareness of the problem of diarrhoeal diseases among responsible

authorities in the countries of the Region, this awareness has not been matched by action programmes. This is partly due to inadequate information on the epidemiology and/or available control measures for diarrhoeal diseases, and to the prevailing contributing factors, such as the low standard of environmental sanitation.

A medium-term programme for diarrhoeal disease control for the period 1979 - 1983 had been prepared through consultation with Ministries of Health in the Region as part of the Communicable Disease Medium-Term Programme.

The programme's objective in the Region is to reduce morbidity and mortality from acute diarrhoeal diseases. The target for the near future is to collaborate with countries which have diarrhoeal diseases mortality rates among children under 3 years of age exceeding 20/1000, to implement diarrhoeal disease control programmes on a country-wide basis in which the principal tool will be the use of oral rehydration. This does not by any means ignore the fact that, in the long run, improved environmental sanitation and health education are the key factors in reducing the incidence of diarrhoeal diseases; hence the programme's longer term objective of decreasing diarrhoeal diseases morbidity.

The following activities are being implemented in the Region to achieve the set targets:

- Promotion of oral rehydration in the treatment of acute diarrhoeas, especially in early childhood, in countries of the Region through the organization of national and inter-country seminars on diarrhoeal diseases for policy-making senior public health administrators and paediatricians.
- Collaboration with national health authorities in national Diarrhoeal Disease Control Programme formulations, implementation and evaluation.

- Collaboration with the national health authorities and other international organizations such as UNICEF to achieve adequate supply of oral rehydration salts with special emphasis on local production.
- Collaboration with the national health authorities in staff training and in the promotion of the use of oral rehydration. Efforts are being made towards the development of upgrading of facilities in suitable existing hospitals or centres into rehydration training centres in order to train personnel (both nationals and from other countries) who will in their turn be responsible for training of lower level personnel and primary health workers.
- Dissemination and translation of existing learning materials for the education and training of health personnel and collaboration with national health authorities in the development of new health education materials for the public.
- Development of protocols for operational and epidemiological research related to diarrhoeal diseases and oral rehydration especially in the fields of identification of high risk groups, factors related to fatality, means of delivery of oral rehydration salts and causes of recurrent intractable diarrhoeas.

Dr R. Cook, Regional Adviser, Maternal and Child Health, presented and commented on the recommendations of the Regional Scientific Working Group on Diarrhoeal Disease Control which was held in Amman, 11 - 14 June 1979. He stated that the recommendations of the group should be viewed as the crystallization of the Medium-Term Programme of the Region. Dr M.H. Wahdan, Regional Adviser, Epidemiological Surveillance of Communicable Diseases, indicated to the group progress which has been achieved in the implementation of these recommendations.

III OVERVIEW OF PROGRAMME ACTIVITIES AT COUNTRY LEVEL

The presentations made by participants confirmed the awareness and interest of the countries in the programme. However, in some countries diarrhoeal diseases have not received enough attention as compared with other communicable diseases. Constraints in programme implementation and research activities undertaken by the countries vary. In spite of this variation, programme implementation and utilization seemed to be given more attention without due attention to programme evaluation. It was also clear that research is insufficiently used to solve problems existing within programmes. Activities mentioned at country level included:

- Seminars and workshops for health professionals;
- Preparation of information, education and communication materials to improve programme utilization and for health education purposes;
- Preparation and/or manufacturing of Oral Rehydration Salts (ORS) from local materials;
- Testing various innovations for distribution of ORS and integration of oral rehydration with various existing Maternal and Child Health (MCH) and Primary Health Care (PHC) activities;

In response to the presentations at country level a number of issues were raised by the participants with regard to research, as follows:

1. The need to include research as an integral part of service programmes. Pilot projects as a means for involving medical researchers in closer collaboration with the programme.
2. The need to evaluate and compare various approaches of implementing oral rehydration.
3. More emphasis on studying the beliefs and practices of people and factors that affect programme utilization. The involvement of social and behavioural scientists

in such studies is essential;

4. The need to give more emphasis to environmental interventions and low-cost technology in this area and to delineate the role of the Primary Health Worker.

IV FORMULATION OF A REGIONAL RESEARCH PLAN IN DIARRHOEAL DISEASES, 1980-1983

Figure 1 outlines the areas of research in diarrhoeal diseases recommended for the Region for the period 1980-1983. It includes epidemiological studies and studies related to implementation, utilization and evaluation of national CDD programmes.

1. Epidemiological Studies

The group feels that epidemiological studies should be given particular attention and high priority especially as epidemiology is the essential tool for planning, implementation and evaluation of Diarrhoeal Diseases Programmes, through providing information on the incidence and aetiology of diarrhoeal diseases in different population groups.

The following areas of research were recommended:

1.1 Studies on the epidemiological pattern of diarrhoeal diseases under different ecological and cultural conditions particularly with regard to identification of children at highest risk.

1.2 Studies to identify the relative importance of aetiologic agents of diarrhoea (viral, bacterial and parasitic) in different countries of the Region. These studies should be carried out in conjunction with other related aspects, such as clinical features and sensitivity to anti-microbial agents with the objective of identifying possible correlation which can be used for clinical management.

1.3 Studies on the modes of transmission. Although they need rather sophisticated designs and laboratory support, the group feels that such studies should be under-

taken as they will indicate possible intervention tools. These should be undertaken with the relevant Global Scientific Working Groups.

1.4 Studies directed towards development of simplified and reliable methods of surveillance of diarrhoeal diseases, in time for action, including simplified methods of identifying pathogens.

1.5 The association between malaria and diarrhoea which was recently observed needs further investigation.

2. Studies Related to CDD Programme Implementation

A number of research issues were identified that were felt to be directly related to implementation of national CDD programmes.

2.1 Strategies for Oral Rehydration Therapy

2.1.1 Complete Formula

There is universal agreement that the complete rehydration formula recommended by WHO/UNICEF is ideal for treatment and prevention of clinically apparent dehydration and that priority in all national CDD programmes should be directed towards delivery of the complete formulation to the mothers via the most efficient method throughout the national health services, using all available approaches (e.g. WHO/UNICEF type packets, cottage industry packets, etc.). Studies should be done to determine the alternative approaches to delivery of the complete formulation including studies to determine optimal methods for mixing preparation of the solution. In countries where paediatricians are still questioning the well-established safety of the WHO-recommended composition for use in infants, studies should be done again to demonstrate in a local situation the safety and efficacy of this solution in treatment of infantile diarrhoea.

2.1.2 Early Home Therapy

Studies are needed to determine the safest and most effective way by which

mothers can give oral rehydration therapy at the household level early in diarrhoea. This includes comparative evaluation of the safety and efficacy of liquids readily available in the home (such as rice water, tea, egg albumin water, etc.), with special "Salt and Sugar" solutions made by different methods (e.g. domestic spoons, pinch and scoop, plastic spoons) and the complete formulation.

2.2 Approaches for Post-Diarrhoeal Rehabilitation

Three approaches have been used for post-diarrhoeal (nutritional) rehabilitation: hospitalization, nutrition rehabilitation centres and ambulatory treatment and surveillance. The relative cost-effectiveness of these methods needs to be compared under different situations. Related studies should also be done to determine the best means to ensure that locally available foods are best utilized for feeding during and after a diarrhoeal episode.

2.3 Pharmacological Treatment of Diarrhoea

In many countries anti-diarrhoeal mixtures and antibiotics are routinely distributed and used for treatment of diarrhoea. These should be evaluated for their efficacy and to determine whether a considerable amount of money can be saved to national health budgets by stopping the utilization of those drugs which prove useless.

2.4 Evaluation of Traditional Diarrhoea Remedies

A number of traditional remedies are used in different countries for the treatment of diarrhoea. These should be evaluated for their safety and efficacy.

2.5 Methods and Materials for Training

Research is needed into the attitudes and practices of medical and other health staff related to diarrhoeal disease treatment and prevention. This information

should be used to develop training methodologies and materials for national diarrhoeal disease control programmes and should be used in evaluating their utility and benefit of these methodologies and materials so developed.

2.6 Sewage Treatment

Studies are needed to devise and assess low-cost technologies for treatment of sewage in the countries of the Region. These should include those looking at the dissemination of faecal pathogens through excreta re-use systems.

2.7 Economic Studies

A limited number of economic studies is recommended to be undertaken to demonstrate the potential savings from instituting oral rehydration therapy programmes and the alternative ways by which the delivery of oral rehydration can be linked with other health interventions and programmes such as the Expanded Programme of Immunization (EPI).

3. Studies Related to CDD Programme Utilization

In the area of CDD national programme utilization, two research areas were identified.

3.1 Beliefs and Practices

Information is needed on (a) - the inter-relationship between individual and family behaviour patterns of defaecation, water usage, food preparation, child hygiene and infant feeding practices and the risk of developing diarrhoeal diseases, and, (b) - the beliefs and practices followed in treatment of diarrhoea. This information should be based both on observed and expressed behaviour. The effect of established intervention programmes on diarrhoea-related behaviour should be measured. Standardized research designs should be used.

3.2 Breast-Feeding

The epidemiological characteristics of breast-feeding patterns in the countries of the Region and the impact of breast-feeding promotional programmes need to be measured. Reasons for lactation failures, in particular, need to be determined and ways of preventing and reversing these failures assessed. (It is recognized that this research area may primarily be undertaken by the Scientific Working Group on Breast Feeding being organized in the Region in early 1981).

4. CDD Programme Evaluation

It is recognized that national CDD programmes will be regularly evaluating their impact on diarrhoeal diseases mortality and morbidity and revising programme targets as required. These activities should not be considered "research" but rather as an inherent part of national programmes. However, there are two related research areas that are related to programme evaluation.

4.1 Survey Design

Some research is required to determine the best survey techniques for evaluating national programmes. This should include studies to determine how evaluation of other national health programmes (e.g. EPI) can be linked to evaluation of CDD programmes.

4.2 Environmental Health Impact Studies

It is anticipated that during the coming International Drinking Water Supply and Sanitation Decade, a number of water and sanitation development and improvement projects will be undertaken in the Region. In such circumstances the impact of these projects on diarrhoeal disease morbidity should be assessed, especially when they might provide answers to specific questions.

The group recommends close liaison between diarrhoeal disease control activities including research and the opportunities available within the International Drinking Water Supply and Sanitation Decade.

N.B. ESTABLISHMENT OF PRIORITIES

The group feels that it would be very difficult to test or rank the recommended research areas, as their relative priority depends very much on the status of CDD programme development in the countries of the Region. For example, in countries where oral rehydration has not been implemented in any way as yet, studies to demonstrate its benefit would deserve the highest priority, while in countries where programmes are already being developed, studies of early home therapy and of the usefulness of any drugs presently being used might deserve the highest attention. Similarly, epidemiological studies designed to determine the causes of diarrhoea in a country could only be carried out in countries which have adequate laboratories and manpower.

The group agreed, however, that the highest research priority for a specific country should be those project(s) most directly linked to the formulation of a national CDD programme or to the activities of an on-going programme.

V RESEARCH MANAGEMENT

The group discussed the present procedure for inviting, reviewing and supporting research proposals in the Regional Office and possible future approaches by which the diarrhoeal disease research could be supported. It was agreed that the research funded should be scientifically sound and should meet the needs of national diarrhoeal disease control programmes.

The group agreed on and recommended the following steps:

1. To disseminate information about the research priorities in diarrhoeal diseases to potential institutes and research workers in the Region.
2. To arrange consultant visits to selected institutes within the Region to assess the potential and stimulate interest of investigators to submit research proposals

and review any on-going research. These consultants will also take the opportunity to review the potential of these investigators to undertake research under the Global Scientific Working Groups.

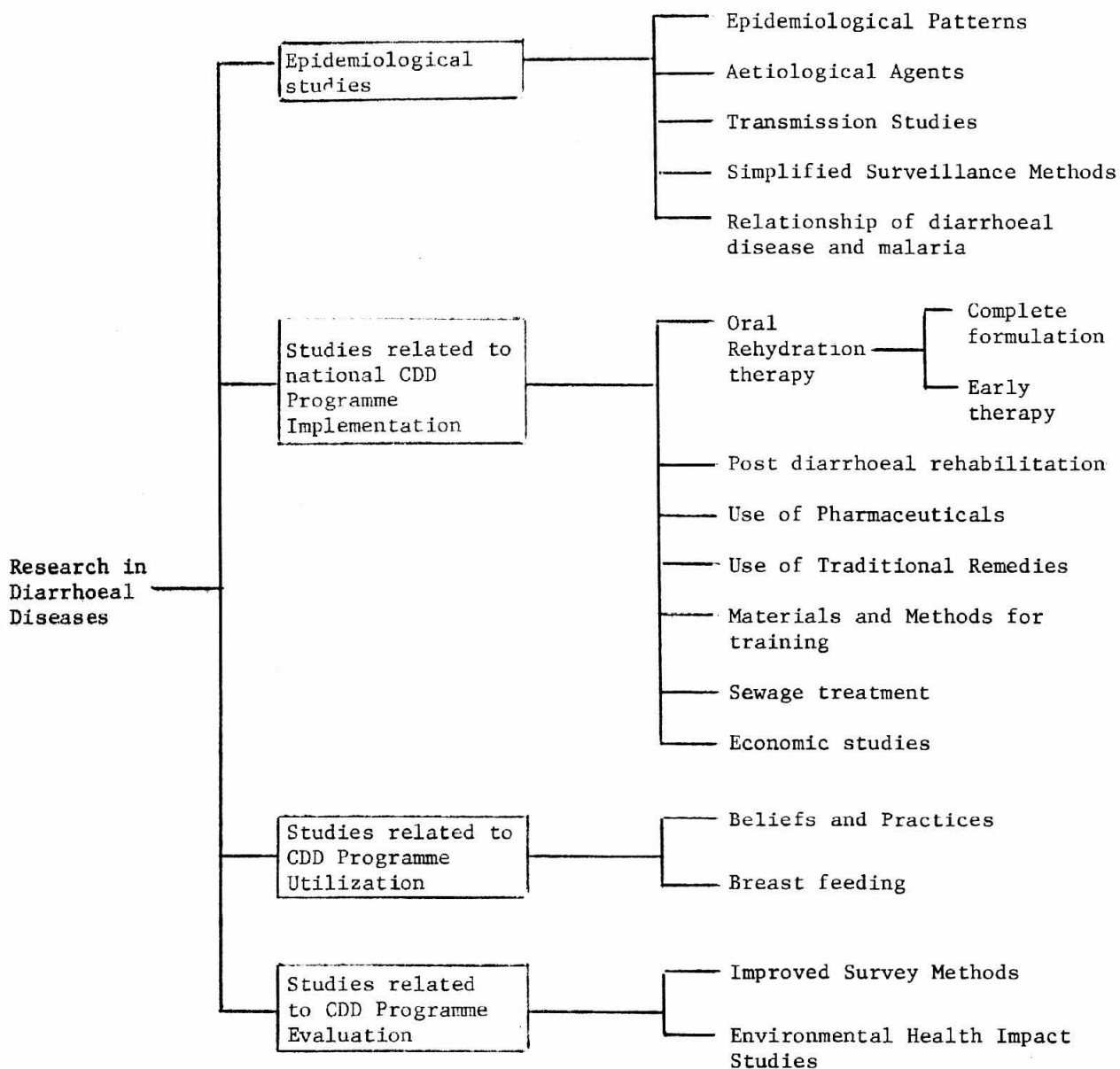
3. For some of the research priority areas, the group recommends to devise a standardized protocol and subsequently distribute it for consideration to investigators in the Region.

Considering the possibility that there is a good chance for extra-budgetary funds being available for Regional Diarrhoeal Diseases Research Activities and in view of the recommendations made by the Global ACMR, the Technical Advisory Group and donors, on the establishment of a suitable peer-review mechanism, it is recommended that consideration be given to establishing a Steering Committee of the Regional Scientific Working Group on Diarrhoeal Diseases which should meet periodically and be responsible for the following functions:

1. Reviewing research proposals and making recommendations for their support based on their relevance, scientific quality and budget;
2. To evaluate the technical and scientific progress of each supported project;
3. To coordinate regional diarrhoeal diseases research with other regional and global scientific working groups in diarrhoeal diseases and other related fields such as Maternal and Child Health and Environmental Health.

The rules of procedure for this Committee should be established as soon as possible.

Figure 1



ANNEX I

ADDRESS BY DR A. H. TABA
DIRECTOR
WHO EASTERN MEDITERRANEAN REGION

at the

FIRST MEETING OF THE
REGIONAL SCIENTIFIC WORKING GROUP
ON DIARRHOEAL DISEASES RESEARCH

19 - 22 August 1980

Dear Colleagues,

It gives me great pleasure to welcome you today as members of the WHO Regional Scientific Working Group on Diarrhoeal Diseases Research and to express my gratitude to you for taking time to prepare for and attend this meeting.

You are all aware of the fact that acute diarrhoeal diseases constitute one of the important causes of morbidity and mortality in all countries of the Eastern Mediterranean Region. They head the list of the great Killers among infants and young children and have the highest incidence rate among acute infections in children under 5 years of age. In spite of the lack of reliable information, there is strong evidence that they are responsible for approximately 3/4 million deaths per year among children under the age of 5 years in this Region and for a minimum average of four attacks of acute diarrhoea per child per year. In addition to this high toll of mortality and morbidity, diarrhoeal diseases are known to be closely associated with malnutrition; together they constitute important contributing factors to the retardation of physical and mental growth in later years of life.

Since its establishment, this Regional Office has collaborated with countries of the Region in investigating outbreaks of diarrhoeal diseases, in epidemiological studies, in the development of facilities (such as laboratory services) necessary for the investigation of diarrhoeal diseases, in research and in actual control measures.

In the past, the main concern was with cholera, in view of the fact that most countries of the Region are subject to importation of this disease from its endemic foci, and that the presence of cholera even in sporadic form, has until very recently brought about psychological and socio-economic problems, largely due to the exaggerated reactions of the neighbouring countries. Interest in the problem of infantile diarrhoea, including the establishment of rehydration units, the investigation of the role of various aetiological agents and organization of training programmes, was expressed at the Regional Committee as early as 1964. In the following years, several national and regional meetings were held on cholera and other diarrhoeal diseases which concentrated mostly on methods of preventing the spread of these diseases between countries.

In 1976, the Eastern Mediterranean Advisory Committee on Biomedical Research gave priority to diarrhoeal diseases research, determined priority areas and sponsored field studies on various aspects such as the feasibility, acceptability and effectiveness of oral rehydration.

Two years ago, in response to the concern of Member States expressed by the Thirty-first World Health Assembly, WHO intensified its efforts to evoke awareness of the diarrhoeal diseases problem and to stimulate concerted action for its control. During the last two years, the Technical Advisory Group on Diarrhoeal Diseases Control and several scientific working groups were established at the global and regional levels for the development of diarrhoeal diseases control programmes.

In all these meetings, research was identified as one of the important needs in strengthening the capabilities of national health services in the implementation of diarrhoeal diseases control programmes in their countries.

This Group, which is meeting today for the first time, has been formed in response to the proposals of the WHO Technical Advisory Group on Diarrhoeal Diseases, the Global ACMR Sub-Committee on Research in Diarrhoeal Diseases and the Regional Scientific Working Group on Diarrhoeal Diseases which met in Amman last year.

In addition to the previously supported studies on feasibility, acceptability and effectiveness of oral rehydration, WHO is at present supporting studies on the evaluation of the impact of oral rehydration on mortality and morbidity in children under 36 months of age (in Gaza), the role of various pathogens, including Rota virus, in the aetiology of gastroenteritis in young children (in Lebanon and Egypt), comparison of various formulae of oral rehydration mixtures (in Egypt) and is at present considering other research proposals.

Your wide experience and knowledge of the situation of diarrhoeal diseases in the Region would enable you to recommend a research component of the Regional Diarrhoeal Diseases Control Programme which is complementary to the action-oriented implementation component of the programme. At the same time it should respond to the operational needs of national programmes and, most important, provide a mechanism for early application of research findings. I am looking forward to seeing a research programme which could enable us here in WHO to collaborate in the design and implementation of national diarrhoeal diseases control programmes and which could help national public health officials in their efforts to control diarrhoeal diseases.

Among other tasks before you is the establishment of priorities for research. I sincerely hope that in doing so you will give special consideration to the highly promising research developments which could substantially contribute in the near future to the improvement of methods for prevention and treatment of diarrhoeal diseases.

I also hope that you can set up a mechanism, both for reviewing and making recommendations for the support of projects proposed for WHO funding, and for periodically evaluating on-going research.

I would like to conclude by thanking you again and by wishing you fruitful discussions.

ANNEX II

AGENDA

1. Opening of the Meeting
2. Nomination of Officers
3. Adoption of the Agenda
4. Review of the objectives and activities of the diarrhoeal disease control programme for the Region
5. Designation of priority areas for research
6. Formulation of a regional research plan for 1980 - 1983
7. Planning for research administration, including:
 - identification of scientists and institutes capable of carrying out research;
 - procedures for research protocols formulations;
 - evaluation of progress.
8. Summary report including the above research plan and its administration.
9. Closing of the Meeting.

ANNEX III

PROGRAMME

Tuesday, 19 August 1980

- | | |
|---------------|--|
| 08.30 - 09.00 | - Registration and administrative arrangements |
| 09.00 - 09.30 | - Opening Address by Dr A.H. Taba,
Regional Director, EMRO |
| | - Nomination of officers |
| | - Adoption of the Agenda |
| 09.30 - 10.00 | - Recess |
| 10.00 - 13.00 | - Review of the objectives and activities of
the diarrhoeal disease control programme for
the Region (participants and EMRO staff) |

Wednesday, 20 August 1980

- | | |
|---------------|---|
| 09.00 - 10.45 | - Designation of priority areas for research
(Dr Merson/Dr Hashmi) |
| 10.45 - 11.00 | - Recess |
| 11.00 - 13.00 | - Formulation of a regional research plan for
1980 - 1983 |

Thursday, 21 August 1980

- | | |
|---------------|--|
| 09.00 - 10.45 | - Planning for research administration, including: <ul style="list-style-type: none">- identification of scientists and institutes
capable of carrying out research; and- procedures for research protocols
formulations, evaluation of progress. |
| 10.45 - 11.00 | - Recess |

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Thursday, 21 August 1980 (cont'd)

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|---------------|--|
| 11.00 - 12.00 | - Above continued |
| 12.00 - 13.00 | - Designation of a steering committee and determination of its functions |

Friday, 22 August 1980

- | | |
|---------------|---|
| 09.00 - 10.45 | - Summary of the report, including the above research plan and its administration |
| 10.45 - 11.00 | - Recess |
| 11.00 - 11.45 | - Above continued - discussion |
| 11.45 - 13.00 | - Closing of the meeting |

ANNEX IV

LIST OF PARTICIPANTS

ADVISERS

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Dr F. Partow	Director, Communicable Disease Control
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Dr M. Wahdan	Regional Adviser, Epidemiological Surveillance of Communicable Diseases and Secretary of the Meeting
Dr M.I. Sheikh	Regional Adviser, Environmental Health (Waste Water Disposal)
Dr J. Hashmi	Regional Adviser, Research Planning and Development
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Mrs H. Ghoneim	Secretary