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SOUTH-EAST ASIA ADVISORY COMMITTEE
ON MEDICAL RESEARCH

SEA/ACMR/9/9.1

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RESEARCH RELATED TO DIARRHOEAL DISEASES

This progress report refers to Agenda Item 9.1 and is concerned with research related to Diarrhoeal Diseases (DD). The report describes in chronological sequence, the actions taken by the Regional Office to promote research in Diarrhoeal Diseases and briefly outlines the current status and health impacts of WHO's research efforts in Diarrhoeal Diseases research.

Section 4 of the report outlines the proposed Plan of Action for promoting research in this area in the years 1983-85. Particular attention of the members of SEA/ACMR is invited to this Section, for their advice.

SOUTH-EAST ASIA REGIONAL RESEARCH PROGRAMME OF CONTROL OF
DIARRHOEAL DISEASES

1. INTRODUCTION

The South-East Asia Advisory Committee on Medical Research (SEA/ACMR) at its first session in January 1976 identified diarrhoeal diseases as a priority research area.

At the third session of the SEA/ACMR in April 1977 a comprehensive position paper^{1/} was presented to the Secretariat. The Committee endorsed the research needs as identified in the paper, and recommended that as a priority, a concerted effort should be made on research related to oral rehydration therapy, epidemiology and etiology of acute diarrhoeas.

As a follow-up of this meeting a Research Study Group (RSG)^{2/} on diarrhoeal diseases was convened in September 1977 in Delhi, which outlined a basis for development of research as related to this meeting of the national Diarrhoeal Diseases Control programme.

In May 1978 the Thirty-first World Health Assembly adopted a resolution on diarrhoeal diseases control and management in the context of primary health care, which urged Member States to identify diarrhoeal diseases as a major priority area for action, and to apply known effective measures for the management and control of diarrhoeal diseases in the primary health care context; and requested the Director-General to -

- (i) intensify involvement of Member States in the development of a plan of action for an expanded programme of diarrhoeal diseases control and to collaborate with Member States in the development of the Programme at country level, with particular reference to its integration into present or future development activities in health and other fields;
- (ii) promote technical cooperation with and among Member States in programme formulation, implementation and evaluation, and in training health workers at different levels;
- (iii) accord high priority to research activities for the further development of simple, effective and inexpensive methods of treatment, prevention and control of diarrhoeal diseases in areas having varying kinds of health service facilities".

In pursuance of these resolutions, the Organization with active involvement of Member Governments took the initiative to develop a collaborative action plan through upward synthesis from the country and regional levels to the HQ global level.

^{1/} Diarrhoeal Diseases of Children (Doc. SEA/ACMR/77.1/6)

^{2/} Research Study Group Meeting on Diarrhoeal Diseases of Children, New Delhi, 12-16 September 1977 (Doc. SEA/RES/6/Rev. 1)
(SEA/DD/4)

Subsequently in June 1978 the Global ACMR^{3/} provided guidelines for the development of a coordinated programme in diarrhoeal diseases involving WHO/HQ, Regional Office and Member countries.

As per this mechanism Scientific Working Groups (SWGs) were set up (3 for promotion of basic research at the HQ and 1 for operational research support at the regional office level). Accordingly a Scientific Working Group was convened in December 1978 to advise the Regional Director on the development of a regional services and research programme for diarrhoeal diseases control^{4/}

As an outcome of this meeting, the member countries drew up their plans for the diarrhoeal diseases control services programme and related research needs. The final plans developed after that were discussed during a consultative meeting held in New Delhi in June 1979^{5/} and the research priorities elaborated pertaining to the use of ORT, epidemiology and etiological studies.

2. CURRENT STATUS OF DIARRHORAL DISEASE RESEARCH PROGRAMME

The service programme was initiated in Member countries through appointment of Programme Managers and holding periodic meetings of the Scientific Working Group with involvement of National Managers of CDD programmes and invited scientists. These meetings were held to discuss programme development as well as research needs as indicated by the service component during the delivery of the programme. In association with these meetings a review of invited research proposals was also undertaken. Thus far, 3 scientific working groups and associated peer reviews have been held. So far 56 projects have been reviewed with WHO support provided for 22 projects. Of these, 6 have been completed and their results made known to the National CDD Programme Managers for improvement of the service component. Technical support has been provided to the countries to assist the designing of new as well as improvement of submitted research proposals.

These Scientific Working Groups reviewed and revised the research priorities periodically. The current research priorities are given in Annex 1. The list of ongoing projects is presented in Annex 2.

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- 3/ Advisory Committee on Medical Research - Report to the Director-General on its twentieth session held at WHO Headquarters, Geneva, 19-22 June 1978 (Doc. ACMR20/78 Report).
 - 4/ Inter-country Consultative Meeting to develop a regional programme for Diarrhoeal Diseases Services and Research, Rangoon, Burma 18-22 December 1978 (Doc. SEA/RES/12
SEA/DD/6)
 - 5/ Regional Programme on Diarrhoeal Disease Services and Research, Report on an Inter-country Consultative Meeting, New Delhi, 18-23 June 1979 (Doc. SEA/DD/8)

The service programme has provided training for CDD Programme Managers and technical personnel, developed evaluation methodology and monitored procedures and supported ORS production and its distribution through the existing Primary Health Care System.

3. CATALYTIC AND HEALTH IMPACT OF WHO'S RESEARCH EFFORTS ON DIARRHOEAL DISEASES RESEARCH PROGRAMME

The WHO research programme on diarrhoeal diseases is clearly related to the National programmes with active involvement of programme managers, policy makers and scientists, both at the regional and national level, through the National Task Forces where such have been established. More effective utilization of the research results is envisaged by presentation of the available research results to the programme managers simultaneously indicating methods for their operational implementation.

4. PROPOSED PLAN OF ACTION FOR PROMOTING DIARRHOEAL DISEASES RESEARCH FOR CONSIDERATION OF THE SEA/ACMR

The future plans for the diarrhoeal diseases research envisage continuation of the activities based on the priority areas kept under periodic review through the scientific working groups and peer review mechanisms in the Regional Office as well as through the National CDD Managers, scientists concerned and task forces where applicable, in Member countries.

Looking back at the invited research proposals received and expected to cover the priority areas identified by the Scientific Working Group, it was noted that research proposals where multi-disciplinary inputs are required are relatively few. These uncovered research areas as identified by the SWG/CDD are:

- i) Socio-anthropological studies for better understanding of attitudes and practices of mothers in the causation and care of children with diarrhoea.
- ii) Research into nutritional management of acute diarrhoeas, utilizing locally available foods, and
- iii) Evaluation of the impact of different environmental sanitation measures on the diarrhoea morbidity.

As per Guidelines of the SEA/ACMR on HFA/2000 priorities, it is now proposed that during 1983-85, the Regional Office will make concerted efforts to implement commissioned research in these areas with the concurrence of the Member governments in selected institutions in order that multi-disciplinary groups of scientists could develop and implement these more comprehensive operational research activities, rendering practical valid results which in turn will improve the delivery of services.

A brief statement on future activities is given in Annex 3.

REVISED LIST OF
PRIORITIES FOR OPERATIONAL RESEARCH IN DIARRHOEAL DISEASES

- Studies on the best ways of implementing ORT at the primary health care level.
- Research on the impact of different health educational methods on the practices of health workers and behaviour of mothers in the prevention and management of acute diarrhoea.
- Socio-anthropological studies for better understanding of attitudes and practices of mothers in the causation and care of children with diarrhoea.
- Community study of oral rehydration therapy to investigate factors contributing towards failure of ORS to prevent residual death from acute diarrhoea.
- Research into the nutritional management of acute diarrhoea cases taking into account of locally available foods with a view to formulate feasible dietary schedules for diarrhoea patients.
- Studies on epidemiology with special reference to transmission of diarrhoeal pathogens with a view to determine suitable strategies for interruption of transmission. Emphasis should be given to shigellosis, ETEC diarrhoea, cholera, campylobacter and rotavirus diarrhoeas.
- Evaluation of the impact of different environmental sanitation measures on the morbidity of diarrhoeal diseases.
- Evaluation of the effect of the implementation of the components of the Programme's maternal and child health strategy (e.g. breast feeding, weaning food preparations, care of pregnant and lactating mothers) on the morbidity due to diarrhoeal diseases.
- Clinical studies on alternate approaches to case-management, supplementing the basic strategy of ORT, to shorten duration, alternate symptoms and influence the critical fatality rate in hospitalized cases.
- Health aspects of waste recycling in agriculture and aquaculture. These studies should focus on identifying the epidemiological risks associated with waste recycling and methods of reducing these risks with reference to diarrhoeal diseases.

1-8: Identified during II meeting of RSWG/CDD, Bangkok, 1982

9: Identified at the CDD Programme Managers' Meeting, Jogjakarta, 1982

10 & 11 Identified at the Regional Consultation on Environmental Health Research, New Delhi, 1982. Also, 6 and 7 were identified as having on Environmental Health related research components.

11. The occupational health risk of waste (night soil, sewage or refuse) workers and means of preventing the risks. These studies should include detailed behavioural observations to identify the individual most at risks and the specific practices and situations most likely to spread diseases such as diarrhoea.

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ICP File Ref. Technical Unit	Title of Project and Principal Objectives/proposed work	Department, Institute Country, Principal Investigator	Funds in US Dollars			Progress in Brief	Outcome/Expected Outcome		Remarks
			Previous years	1982	1983		Activities generated at country level	Impact on National Health Programme	
ICP RPD 002.101 (BUR) S.No. 47 CDK	<p>Study of Diarrhoeal Diseases in Children in Burma</p> <p><u>OBJECTIVES</u></p> <ol style="list-style-type: none"> To study the feasibility, acceptability and effectiveness of the delivery of oral fluid therapy by mothers at village level. To determine the specific etiologic agents associated with acute diarrhoea in children under five years in a selected rural community. <p><u>Duration of project:</u> 3 years</p> <p><u>Starting Date</u> : 1978</p>	<p>Department of Medical Research Ministry of Health Rangoon BURMA</p> <p><u>Dr Thane Toe</u></p>	<p>9,100 12,800* (1978) 480 (1978) 3,484* (1980)</p>			<p>Study completed; final report received.</p> <p>The epidemiological pattern of acute diarrhoea in children under 5 years of age has been well-described and it was found that a high incidence of diarrhoea occurred in children 1-2 years of age with an average of one episode of diarrhoea per child per year. It has been found that the acceptance of ORAs is higher when administered by mothers than when by health workers.</p>		<p>Source of Funds: ICP/RPD</p>	
ICP RPD 002.101 (SRL) S.No. 48 CBS	<p>Study on the incidence of <u>Yersinia enterocolitica</u>, <u>Vibrio parahaemolyticus</u>, <u>Compylobacter fetus</u> and Rotavirious in childhood Diarrhoeal diseases in Sri Lanka</p> <p><u>OBJECTIVES</u></p> <ol style="list-style-type: none"> To determine whether pathogens described in other countries are actiological agents of diarrhoeal diseases in children in Sri Lanka and to To characterize the clinical feature of diarrhoeal diseases caused by these pathogens. <p><u>Duration of project:</u> 3 years</p> <p><u>Starting date</u> : 1978</p>	<p>Dept of Microbiology University of Sri Lanka Colombo SRI LANKA</p> <p><u>Prof S.N. Arseculeratne</u></p>	<p>12,263* (1978) 1,870* (1979)</p>	<p>700 1,300*</p>		<p>Study completed. Final report awaited. Interim progress report indicated that the incidence of <u>yersinia enterocolitica</u>, <u>vibrio parahaemolyticus</u> and <u>compylobacter jejuni</u> in childhood diarrhoea was low.</p>		<p>Source of funds: ICP/RPD</p>	

*Supplies and equipment

RESEARCH AREA: DIARRHOEAL DISEASES

WHO File Ref. Technical Unit	Title of Project and Principal Objectives/proposed work	Department, Institute Country, Principal Investigator	Funds in US Dollars			Progress in Brief	Outcome/Expected Outcome		Remarks
			Previous years	1982	1983		Activities generated at country level	Impact on National Health Programme	
ICP RPD 002.103 (NEP) S.No. 49 CDS	Diarrhoeal Diseases related Operational Research <u>OBJECTIVES</u> 1. To assess the capability of mothers to prepare home made oral rehydration solution. 2. To determine the effectiveness of home made oral rehydration solution for reducing the incidence of moderate to severe dehydration associated with acute diarrhoea. 3. To determine the feasibility, acceptability and effectiveness of oral rehydration solution therapy delivered by primary health workers or mothers and rural areas. <u>Duration of project:</u> 5 years <u>Starting date</u> : 1979	Director of Health Services Ministry of Health Kathmandu NEPAL <u>Dr Laxman Poudyal</u>	17 000 (40 000)* (1979) 10 782 (1981)	3 817		Progress report received. First part of the study concern- ing the use of salt and sugar solutions made at home using simple available techniques has been completed. Results reveal that the capability of village mothers with adequate training and reason- able supervision could be developed to prepare ORAs with safe limits of Sodium con- centration. The second part of the study aimed at evaluat- ing the acceptability of ORT to community health workers is in progress.		Source of funds: ICP/RPD	
ICP RPD 002.103 (SRL) S.No. 50 CDS	Aetiology of acute diarrhoea in Sri Lanka <u>OBJECTIVE</u> To determine the etiology of acute diarrhoea diseases in Sri Lanka <u>Duration of project:</u> 3 years <u>Starting date</u> : 1980	Epidemiological Division Ministry of Health Colombo SRI LANKA <u>Dr K. Velauthapillai</u>	48 249* (1980) 20 000* (1981)			Progress report for the first part of the study has been received. Results show that E. coli, Salmonellae and Shigella are commonly associated with acute diarrhoea. The second objective of the study to evaluate the signi- ficance of rota virus, ETC and Campylobacter has not been completed due to the late arrival of equipment. This study will be continued.		Source of funds: ICP/RPD	

*Supplies and equipment

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WHO File Ref. Technical Unit	Title of Project and Principal Objectives/proposed work	Department, Institute Country, Principal Investigator	Funds in US Dollars			Progress in Brief	Outcome/Expected Outcome		Remarks
			Previous years	1982	1983		Activities generated at country level	Impact on National Health Programme	
ICP RPD 002.103 (INO) S.No. 70 CDS	<p>Simplified oral therapy with salt and sugar solution using standard plastic scoops in the treatment of Diarrhoeal Diseases</p> <p><u>OBJECTIVES</u></p> <p>To determine the efficacy of a standard sugar and salt solution for treatment of diarrhoea diseases in Indonesia</p> <p><u>Duration of project:</u> 2 years</p> <p><u>Starting Date</u> : 1980</p>	<p>Bagin Kesehatan Anak Sub-Regional Gastroente- rologi F.K. U.I./R.S.C.M. Jalan Salemba 6 Jakarta INDONESIA</p> <p><u>Dr Sunoto</u></p>	6 000 (1981)			<p>Study completed. Final report awaited. Progress report not received.</p>			Source of funds: ICP/RPD.

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WHO File Ref. Technical Unit	Title of Project and Principal Objectives/proposed work	Department, Institute Country, Principal Investigator	Funds in US Dollars		Progress in Brief	Outcome/Expected Outcome		Remarks
			Previous years	1982 1983		Activities generated at country level	Impact on National Health Programme	
ICP RPD 002.101 (IND) D6/72/1-INL SN 142 CDS	Epidemiology of Acute Diarrhoeal Diseases in Bangalore and the Adjoining areas with Special Reference to the 0-5 year age groups. <u>OBJECTIVES</u> 1. To establish the bacterial aetiology and the role of rotavirus in the epidemiology and incidence of acute diarrhoeal diseases in an urban population and a village community with special reference to the 0-5 year age group. 2. To use the results for effective control of diarrhoeal diseases in the hospitals and in village communities. <u>Duration of project:</u> 3 years <u>Starting date:</u> 1981	Department of Microbiology St. John's Medical College Bangalore-560 034 INDIA		3 7-0 6 260*	The study is in progress. First progress report expected by mid 1983.			Source of funds: ICP/PPD
ICP RPD 002.103 (THA) D5/72/1 SN 144 CDS	Epidemiology of Diarrhoeal Diseases in Children in Rural Areas of Thailand <u>OBJECTIVES</u> 1. To determine the annual incidence of paediatric diarrhoea in rural areas. 2. To determine the frequency of isolation of aetiologic agents from acute diarrhoeal cases, and 3. To describe the pattern of diarrhoeal diseases by season, severity, age, sex, social, economic and environmental factors. <u>Duration of project:</u> 2 years <u>Starting date:</u> 1982	Director of Children's Hospital Bangkok THAILAND <u>Dr Pethai Mansowan</u>	40 800 (1981)		Interim progress report received. The inci- dence of diarrhoea in children under five years of age was very low and traditional Enteropathogens have been found in proport- ions similar to that observed in previous studies. Peak of diarrhoeal diseases was shown to occur in February and June. EPI rate was excep- tionally higher than that of Campylobacter associated diseases. Final report is expected in 1983.			Source of funds: ICP/PPD

*Supplies and equipment

WHO Collaborating Technical Unit	Title of Project and Principal Objectives/proposed work	Department, Institute Country, Principal Investigator	Funds in US Dollars			Progress in Brief	Outcome/Expected Outcome		Remarks
			Previous years	1982	1983		Activities generated at country level	Impact on National Health Programme	
ICP RPD 002.24 (THA) S.No. 159 CDK	<p>Study on the feasibility, acceptability and effectiveness of oral rehydration therapy at the peripheral level through PHC</p> <p>OBJECTIVES</p> <ol style="list-style-type: none"> 1. To study the feasibility, acceptability and effectiveness of treatment of diarrhoea with oral rehydration solution at the peripheral level when delivered through primary health care. 2. To compare the effectiveness of mothers and community volunteers in detection and reporting of diarrhoeal cases and the delivery of oral rehydration therapy. 3. To compare the effect of oral rehydration therapy on breast-fed and bottle-fed infants. 4. To study and compare the attitude and effectiveness of community volunteers and mothers in administering oral rehydration therapy. <p><u>Duration of project:</u> 2 years</p> <p><u>Starting Date</u> : 1982</p>	<p>Director Division of General Communicable Diseases Bangkok THAILAND</p> <p><u>Dr Pattaraporn Chamnanrki</u></p>	22 000 (1981)			<p>Study completed. Preliminary results reveal that ORT usage and acceptability by mothers was satisfactory. However, no differences were observed in the effectiveness of ORT for treatment of children with respect to breast-fed and bottle-fed babies.</p>		<p>Source of funds: ICP/RPD</p>	

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WHO File Ref. Technical Unit	Title of Project and Principal Objectives/proposed work	Department, Institute Country, Principal Investigator	Funds in US Dollars			Progress in Brief	Outcome/Expected Outcome		Remarks
			Previous years	1982	1983		Activities generated at country level	Impact on National Health Programme	
D6/72/1-BAN SN 170 CDK	<p>Study on Oral Rehydration Salt Distribution: Operational Aspects</p> <p><u>Objectives:</u></p> <ol style="list-style-type: none"> 1. Assessment of the operational aspects of oral rehydration salt production and distribution 2. Assessment of performance of voluntary village health workers 3. Estimate the point prevalence of diarrhoea and consumer response to oral rehydration salt distribution 	<p>Additional Director General of Health Services Government of Bangladesh 88 Dhanmondi R/A Dhaka 5 BANGLADESH</p> <p><u>Dr A.M. Mustaqul Huq</u></p>						Referred back for revision	
D6/72/1-IND SN 163 CDK	<p>Interaction between nutrition status and diarrhoeal diseases in children under five years of age</p> <p><u>Objectives:</u></p> <ol style="list-style-type: none"> 1. To determine the incidence and pattern of diarrhoeal diseases in children below five years in rural India. 2. To identify the aetiological agents associated with diarrhoeal diseases in rural areas. 3. To determine the pattern of diarrhoeal diseases in relation to season, age, sex, family size, maternal education, socio-economic and environmental variables. 4. To assess the extent of impact of varying grades of under-nutrition on the prevalence and severity of diarrhoea in the natural environment of children 5. To assess the effect of diarrhoeal diseases on the growth and nutritional status of the children. 	<p>Deputy Director (Clinical Division) Jamai-Omania, P.O. Hyderabad INDIA</p> <p><u>Dr Vinodini Reddy</u></p>						Study was not considered by WHO for support. However, the study is being supported by UNICEF through the ICMR	

WHO File Ref. Technical Unit	Title of Project and Principal Objectives/proposed work	Department, Institute Country, Principal Investigator	Funds in US Dollars			Progress in Brief	Outcome/Expected Outcome		Remarks
			Previous years	1982	1983		Activities generated at country level	Impact on National Health Programme	
ICP RPD 002.102 (BUR) S.No. 164 CDK	<p>5. To determine the most effective and efficient PHC intervention programmes for the prevention and control of infant and child diarrhoea.</p> <p>Effect of chlorpromazine in Acute Diarrhoea in Children</p> <p><u>OBJECTIVES</u></p> <p>To compare the clinical effects of Chlorpromazine in acute diarrhoea in children given chlorpromazine with another group of diarrhoea children treated similarly but not given chlorpromazine.</p> <p><u>Duration of project:</u> 2 years <u>Starting date</u> : 1981</p>	<p>Paediatric Ward Infectious Diseases Hos- pital <u>Rangoon</u> BURMA</p> <p><u>Dr Mu Mu Khin</u></p>	1 475* (1981)	1 605		<p>Study completed. Results showed a significant reduction in purging rate among non-cholera cases given Chlorpromazine as well as a significant improvement in cases with shock and severe dehydration. However, no significant difference was observed in the frequency of vomiting.</p>		Source of funds: ICP/RPD	
ICP RPD 002.103 (BUR) S.No. 167 CDK	<p>Appropriate Diets during Acute Diarrhoea in Children</p> <p><u>OBJECTIVES</u></p> <p>1. To ascertain the current practices and beliefs as regards feeding during diarrhoea episodes by a cross-sectional study on children of all age groups admitted to the children's Ward.</p> <p>2. To assess the effect of different feeding and dietary regimes on acute diarrhoea - in order to find out a suitable and acceptable diet for administration during diarrhoeal episodes in children up to two years of age.</p> <p><u>Duration of project:</u> 2 years <u>Starting date:</u> 1981</p>	<p>Consultant Paediatrician Children's Ward North Okkalapa General Hospital, <u>Rangoon</u> BURMA</p> <p><u>Dr Soe Soe Aye</u></p>	5 000 2 000* (1981-82)			<p>Results completed. Results indicated that of three-types of dietary regimen given to diarrhoeal patients, no difference was in terms of duration, frequency and amount of stool loss. However, one of the three diets resulted in significant increase in weight, during acute diarrhoeal episodes.</p>		Source of funds:ICP/RPD This was a pilot study and because of the important observation further support should be provided to carry out a similar study on a larger sample size	

*Supplies and equipment

WHO File Ref. Technical Unit	Title of Project and Principal Objectives/proposed work	Department, Institute Country, Principal Investigator	Funds in US Dollars			Progress in Brief	Outcome/Expected Outcome		Remarks
			Previous years	1982	1983		Activities generated at country level	Impact on National Health Programme	
D6/72/1-NEP S.No. 192 CDK	<p>Study of the impact of oral rehydration therapy among Rural Nepalese Children</p> <p><u>OBJECTIVES</u></p> <p>To assess the impact of oral rehydration therapy delivered through existing basic health services on the mortality among 6 to 12 months old children</p> <p><u>Duration of Project:</u> 2 years</p> <p><u>Starting date</u> : 1982</p>	<p>CHIP Kathmandu NEPAL</p> <p><u>Dr Suniti Acharya</u></p>		26 006		Study in progress.			Source of funds: ICP RPD.
<p>✓ D6/72/1-NEP S.No.193 CDK</p>	<p>Behavioural Study on Acceptability of Sanitary Interventions in Two Population Groups in Rural Nepal</p> <p><u>OBJECTIVES</u></p> <p>To determine the acceptability and extent of community participation regarding the implementation of sanitary intervention measures in a rural population of Nepal Tarai.</p> <p><u>Duration of Project:</u> 2 years</p> <p><u>Starting date:</u> 1982</p>	<p>CHIP Kathmandu NEPAL</p> <p><u>Dr Suniti Acharya</u></p>		27 350		Study in progress.			Source of Funds: ICP RPD.

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WHO File Ref. Technical Unit	Title of Project and Principal Objectives/proposed work	Department, Institute Country, Principal Investigator	Funds in US Dollars			Progress in Brief	Outcomes/Expected Outcome		Remarks
			Previous years	1982	1983		Activities generated at country level	Impact on National Health Programme	
D6/72/1 -IND D6/48/7(2) (SN 233)	<p>Modified oral rehydration fluid using boiled rice water (2% starch solution) in the treatment of Diarrhoea</p> <p><u>OBJECTIVES</u></p> <p>To determine the effectiveness of a modified oral rehydration fluid employing boiled rice water with an appropriate starch content of 2% as a substitute for the conventional 2% glucose solution as a carbohydrate source for management of diarrhoeas.</p> <p><u>Duration of project:</u> 1 year</p> <p><u>Starting date</u> : 1982</p>	<p>Department of Medicine Medical College Hospital <u>Trivandrum-695 001</u> INDIA</p> <p><u>Dr Verghese Roy</u></p>		7 750		<p>Study commenced in December 1982. Preliminary results showed that boiled rice water with adequate electrolyte concentrations seems to provide a promising approach for treatment in management during early phase of acute diarrhoea in children under 5 years of age.</p>			<p>Source of Funds: ICP RPD.</p>

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			Previous years	1982	1983		Activities generated at country level	Impact on National Health Programme	
D6/72/1-IND SN 234 CDK	<p>Isolation and differentiation of Human Rotavirus strains prevalent in India.</p> <p><u>OBJECTIVES</u></p> <p>To isolate rota viruses from diarrhoeic faeces of infants and children, and differentiate rota virus strains on the basis of biochemical, molecular, virological and serological properties in order to understand the epidemiology of rotaviruses in India.</p> <p><u>Duration of project:</u> 3 years</p> <p><u>Starting Date:</u> 1981</p>	<p>Indian Institute of Science <u>Bangalore</u> INDIA</p> <p><u>Prof T. Ramakrishnan</u></p>						Referred to Global SWC Viral Diarrhoeal Diseases.	

Technical Unit	Title of Project and Principal Objectives/proposed work	Department, Institute Country, Principal Investigator	Funds in US Dollars			Activities in Brief	Outcome/Expected Outcome		Remarks
			Previous years	1982	1983		Activities generated at country level	Impact on National Health Programme	
D6/72/1-THA SN 236 CDK	<p>Early Home Oral Rehydration Therapy</p> <p><u>Objectives:</u></p> <ol style="list-style-type: none"> 1. To evaluate the effectiveness of early home oral rehydration therapy in diarrhoeal disease at village level 2. To study appropriate technology of oral rehydration therapy for primary health care 3. To evaluate the effect of ORT to nutritional status of villagers <p><u>Duration of project:</u> 1 year <u>Starting date</u> 1982</p>	<p>Department of Paediatrics Famathibodi Hospital Faculty of Medicine Bangkok THAILAND <u>Dr Wandee Varavithya</u></p>		7 210		<p>Study commenced in 1982. Progress report expected by July 1983</p>			Source of funds: ICP/RPD
D6/72/1-THA SN 237 CDK	<p>Relationship of Socio-economic Status to severity and care of diarrhoeal diseases in infant</p> <p><u>Objectives:</u></p> <ol style="list-style-type: none"> 1. To study the relationship of family socioeconomic status to the occurrence and severity of diarrhoea in infant. 2. To obtain the mother's perception of diarrhoeas including their KAP on the disease and care. 3. To determine the relationship between mother's perception of severity of diarrhoea and physician's diagnosis (interpretation) 4. To determine the process and sources of care utilized <p><u>Duration of project:</u> 1 year <u>Starting date</u> 1982</p>	<p>Dept of Maternal and Child Health Faculty of Public Health Mahidol University Bangkok THAILAND <u>Dr Pensri Phijaisanit</u></p>		2 500		<p>Study commenced in 1982 and interim progress report expected in July 1983</p>			Source of funds: ICP/RPD

WHO File Ref. Technical Unit	Title of Project and Principal Objectives proposed work	Department, Institute Country, Principal Investigator	Funds in US Dollars			Progress in Brief	Outcome/Expected Outcome		Remarks
			Previous years	1982	1983		Activities generated at country level	Impact on National Health Programme	
D6/48/7(2) SN 279 CDK	Impact of the Health Education on "Use of Oral Rehydration mixture in Diarrhoeas" in a rural community of Pondicherry (South India) <u>OBJECTIVES</u> 1. To find out the existing knowledge, attitude and practices about the oral rehydration mixture in diarrhoeas 2. To popularise the use of oral rehydration mixture in diarrhoeas by adopting various methods and medias of health education 3. To evaluate the effect of the health education programme on the knowledge acceptability and use of oral rehydration mixtures in diarrhoeas <u>Duration of project:</u> 18 months <u>Starting date:</u> 1982	Dept of Preventive and Social Medicine Jawaharlal Nehru Institute of Post Graduate Medical Education and Research <u>Pondicherry 605006</u> INDIA <u>Dr R.D. Bansal</u>		4 500		The preparatory phase aimed at the develop- ment of a health education programme has been implemented. The actual study will commence mid 1983 with interim results expect- ed by end of 1983		Source of funds: ICP RPD.	
D6/48/7(2) SN 281 CDK	Incidence of Diarrhoea in Breast-fed and Bottle-fed Infants - Urban Phase <u>OBJECTIVES</u> To study the prevalence and nature of rota virus infection among neonates in Sri Lanka, and the local antibody response to such infection	Department of Microbiology Faculty of Medicine P.O. Box 271 Kinsey Road Colombo-6 <u>SRI LANKA</u> <u>Dr Lalitha N. Mendis</u>						The SWC (1982) referred this project to the Global Scientific Working Group on Viral Diarrhoeas for review	

WHO File Ref. (Technical Unit)	Title of Project and Principal Objectives/proposed work	Department, Institute Country, Principal Investigator	Funds in US Dollars			Progress in Brief	Outcome/Expected Outcome		Remarks
			Previous years	1982	1983		Activities generated at country level	Impact on National Health Programme	
D6/72/1-IND SN 322 CDK	<p>Research Study in Neonatal Rotavirus Infection, JIPMER, Pondicherry, INDIA</p> <p><u>OBJECTIVE</u></p> <p>To establish the role of neonatal Rotavirus infections in the development of immunity to this organism during the first two years of life.</p>	<p>Dept of Pediatrics Jawaharlal Nehru Institute of Post-graduate Medical Education and Research Pondicherry INDIA</p> <p><u>Dr R.K. Furi, MD, DCH</u></p>							Referred to the Global SWG on Viral Diarrhoeal Diseases.

RESEARCH AREA: DIARRHOEAL DISEASES

WHO File Ref. Technical Unit	Title of Project and Principal Objectives/proposed work	Department, Institute Country, Principal Investigator	Funds in US Dollars			Progress in Brief	Outcome/Expected Outcome		Remarks
			Previous years	1982	1983		Activities generated at country level	Impact on National Health Programme	
D6/72/1-IND SN 305 CDK	<p>"Multicentre" Hospital-based control study of the aetiology of diarrhoea in the first three years of life.</p> <p><u>OBJECTIVES</u></p> <p>To compare the relative importance of the enteric pathogens as causative agents of acute diarrhoea among children below age 3 seeking medical attention in different geographic areas</p> <p><u>Duration of project:</u> 2 years</p> <p><u>Starting date</u> 1983</p>	<p>Wellcome Research Unit Christian Medical College Vellore INDIA</p> <p><u>Dr M. Mathan</u></p>		<p>10 000 (CDD/HQ)</p> <p>10 000 (SEAR) pending release</p>		Study in progress.			<p>WHO/HQ and SEARO each contributed US\$ 10,000 to this project. Interim results expected by mid 1983.</p>
D6/72-1-BUR SN 310 CDK	<p>Multi-centre collaborative study on etiological aspects of acute diarrhoea</p> <p><u>OBJECTIVES</u></p> <p>The objective of this study will be to compare the relative importance of the different enteric pathogens as causative agents of acute diarrhoeas most likely to result in mortality or serious complications in children below age 3 in different geographic areas. The study will not provide information on the incidence of diarrhoea within a particular area.</p> <p><u>Duration of project:</u> 2 years</p> <p><u>Starting date</u> : 1983</p>	<p>Department of Medical Research 5, Zafar Shah Road Dagon P.O. Rangoon BURMA</p> <p><u>Dr Khin Maung U</u></p>		<p>6 500 3 500*</p> <p>10 000 (CDD/HQ)</p>	<p>25 000 (CDD/HQ)</p> <p>earmarked</p>	Study in progress.			<p>Study in progress. WHO/HQ provided US\$ 10,000 in addition to the amount provided by SEARO. Interim results expected by mid 1983.</p>

*Supplies and equipment

DIARRHOEAL DISEASES RESEARCH*

<u>Activities</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
Support for on-going research	—————→		
Support for new research proposals (inclusive commissioned research)	—————→		
Scientific Working Group/CDD meetings (every second year)			—
Peer review meetings (every six months)	—	— —	— —
Strengthening of research institutions (supplies & equipment/training)	—————→		

*The funds will be available through Regular budget **and** Voluntary contributions.