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EXTERNAL REVIEW OF THE WORLD HEALTH ORGANIZATION'S PROGRAMMES FOR CONTROL OF DIARRHOEAL DISEASES AND ACUTE RESPIRATORY INFECTIONS IN CHILDREN

External Review Group

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EXECUTIVE SUMMARY

An External Review Group (ERG) was commissioned by the third meeting of Interested Parties in July 1993 to evaluate the programmes of WHO's Division for Control of Diarrhoeal Diseases and Respiratory Infections (CDR). The following report of the ERG is based upon an extensive review of a wide-ranging set of documents provided by CDR and others, in-depth reviews of programmes in several countries, and extensive interviews with WHO staff, donors, Regional Office Staff and other collaborators. These activities mainly took place subsequent to the first meeting of the ERG in October 1993.

The ERG noted substantial progress of the CDD programme toward achieving many of its 1995 goals, and believed it reasonable to attribute a large portion of the declining global importance of diarrhoeal deaths in children to the programme. Although the ARI programme is younger, it addresses the most important current causes of death in children under 5 years-of-age, and was also judged highly successful by the ERG. A third programme, the Integrated Approach to the Sick Child, is not yet an operational programme but is a promising new initiative led and coordinated by CDR that deals with integrating the case management of diarrhoeal illnesses, respiratory infections, and selected other diseases and strategies highly important to child survival.

Based on the outstanding performance and successes of the programmes, the high quality of CDR's leadership and staff, and the conviction that current targets for CDD and ARI can not be reached without additional resources, the ERG recommends increases in both core budget and extra budgetary sources. Separate additional resources are advised to permit further development of the Integrated Approach to the Sick Child. The ERG also recommends that WHO carefully and critically review its organizational structure and modes of operation, and make changes as deemed necessary in order to assure that WHO is suitably poised to efficiently respond to current country trends in the delivery of a wide range of child health services at the primary care level. The pursuit of the Integrated Approach to the Sick Child was strongly encouraged, since it is consistent with country trends in integration and offers potentially improved efficiency and care of those diseases responsible for the vast majority of childhood deaths. However, the need for careful and systematic field tests of the Initiative are endorsed, and caution is advised in its implementation in order to assure smooth incorporation within currently effective programmes. It was also recommended that the CDR further strengthen the links between its programmes and medical institutions, expand its collaboration with other initiatives and agencies, and undertake further assistance to countries in developing and implementing strategies designed to enhance in-country sustainability of programmes. Other suggestions designed to enhance the operations of CDR's programmes are offered, including a recommendation for oversight of all programmes by a single, multi-disciplinary Technical Advisory Group.

LIST OF SELECTED ACRONYMS

ADDR	Applied Diarrheal Disease Research Project
AMRO	Regional Office for the Americas (PAHO/WHO)
APO	Associate Professional Officer
ARI	Programme for the Control of Acute Respiratory Infections (CDR/WHO)
CDC	Centers for Disease Control, U.S.A.
CDD	Programme for the Control of Diarrhoeal Diseases (CDR/WHO)
CDR	Division of Diarrhoeal and Acute Respiratory Disease Control (WHO)
EDP	Essential Drugs Programme (WHO)
EMRO	Eastern Mediterrean Regional Office (WHO)
EPI	Expanded Programme on Immunization (WHO)
ERG	External Review Group
FES	Focused Ethnographic Study
FHE	Division of Family Health (WHO)
FPR	Focused Programme Review
ICDDR,B	International Centre for Diarrhoeal Disease Research, Bangladesh
LDC	Least Developed Country
MCH	Maternal and Child Health and Family Planning (FHE/WHO)
MIP	Meeting of Interested Parties
MRC	Management Review Committee
NGO	Nongovernmental Organization
NORAD	Norwegian Agency for Development Cooperation
ODA	Overseas Development Administration, U.K.
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Therapy
PAHO	Pan American Health Organization (AMRO/WHO)
RHF	Recommended Home Fluid
SAREC	Swedish Agency for Research Cooperation with Developing Countries
SCI	Sick Child Initiative (Integrated Management of the Sick Child)
SEARO	Southeast Asian Regional Office (WHO)
SIDA	Swedish International Development Authority
SWG	Scientific Working Group
TAG	Technical Advisory Group
TDR	Special Programme for Research and Training in Tropical Diseases (WHO)
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

INTRODUCTION

The thirteenth Meeting of Interested Parties (MIP)[1], attended by donors to the World Health Organization's Programmes for Control of Diarrhoeal Diseases and Respiratory Infections (WHO/CDR) as well as representatives from developing countries and their governments, agreed that an external review of these programmes should be conducted. The review was to encompass all activities of CDR, including the Programme for the Control of Diarrhoeal Diseases (CDD), the Programme for the Control of Acute Respiratory Infections (ARI), and a newer component of CDR, the "Integrated Approach to the Sick Child," referred to as the Sick Child Initiative (SCI) in this report. The review was thought necessary to ensure that these programmes continued to respond to the needs of developing countries where these diseases accounted for a large proportion of childhood mortality and morbidity. There was also the need to ensure that the donors funds were used effectively in the fight for child health and survival.

CDD had an external review in 1988 but ARI has not been reviewed.

The MIP had requested that:

> The team should consist of five persons, three of these should come from developing countries. There should be an appropriate distribution by geographic area and gender. To avoid conflict of interest, team members should not have formal relationships with the CDR Division (ie. as grant recipients, TAG members, etc.) over the past 5 years.
>
> The team should include members with expertise in:
>
> -public health
> -biomedical research
> -social science/anthropology
> -health economics
>
> Among the team members, there should be persons with knowledge and experience in:
>
> -programme management
> -field experience, especially at the implementation level in developing countries
> -knowledge of WHO and other relevant agencies.

[1] Held July 1-2, 1993

In the work of the review team, special care should be taken to:

-minimize the amount of work and the cost of the evaluation, e.g. by appointing a person who, in consultation with the rest of the group, performs desk studies and compiles the documentation to be used in the analyses

-ensure that local inputs and country perspectives are taken into account, e.g. by arranging seminars in the countries with one or two of the review team as brain storming sessions and/or by bringing developing country representatives together with the evaluation team to provide ideas and inputs for future direction.

The staff of the programme secretariat should not be involved in the production of the team's report.

The Chairperson of the External Review Group (ERG) was:

Dr. Deanna Ashley
Principal Medical Officer
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The principal professional affiliation of the remaining Group members were:

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Terms of Reference

The terms of reference for the ERG established by the thirteenth Meeting of Interested Parties are reproduced in their entirety in Appendix A, along with the ERG's responses to each element. In brief the ERG was asked to :

(1) Review the evolution of the CDR and its inter-relationship to other programmes, institutions, and agencies;

(2) Document and assess the achievements of the CDR over time;

(3) Evaluate the impact of the CDR at the country level;

(4) Assess the research programmes and their relevance to the control of diarrhoeal diseases and acute respiratory infections, as well as to assess the balance between research, development, and implementation activities;

(5) Assess the management structure of the CDR; and

(6) Make recommendations as appropriate for future directions to be taken by the CDR.

Following the MIP discussion of the CDR external review, a note of the conclusions in the form of an addendum to the Terms of Reference was made available to the ERG by John Moye, chairperson of the MIP.

"The Thirteenth Meeting of Interested Parties in Geneva on 1-2 July 1993 welcomed the proposed external review of the Programmes; recommended that it be a forward looking review with clear recommendations for future directions and particular attention given to the organizational structure of the two programmes. The review should be carried out in an effective manner and make minimum administrative demands on the Programme. The proposed composition of the review team would benefit from the inclusion of social science and health management expertise. The costs of the review should be met from ad hoc contributions from CDR donors; Programme funds should not be used. These conclusions of the MIP should be appended to the existing terms of reference for the review; the Working Group Task Force, under the leadership of Dr. Caryn Miller (USA), should be responsible for the implementation of the review; and the review report should be submitted to the 1994 ARI and CDD TAG meeting members for their comments, before being considered by the MIP at their 1994 meeting."

Methodology

The ERG's approach to the review was guided by the Terms of Reference and by input from the Working Group Task Force, chaired by Dr. Caryn Miller (USA). The ERG was urged to ensure that a cross section of countries were visited in order to obtain country level perceptions of strengths, weaknesses, and constraints of the Programmes (especially at the grass-roots level) and to evaluate the progress made in country programme implementation.

A draft report was to be prepared for review by the Technical Advisory Groups (TAGs) of the CDR programmes in April 1994 and the final report issued before the June 1994 MIP.

The Terms of Reference required the ERG to obtain a wide cross section of views from countries, collaborating institutions, members of the MIP, WHO staff at Geneva headquarters (HQ), regional offices, and in developing countries. It was decided that the ERG would undertake field interviews in pairs unless time constraints prevailed.

Site visits and interviews were supplemented with extensive reviews of programme documentation, both historical and current (See Appendix B).

At least one country was selected for in-depth review in each WHO region except Europe. The criteria for selection of countries were: (1) size of the country and state of development of its CDD/ARI programmes and (2) decentralized management of the programmes. The countries selected were the Philippines, Pakistan, Zambia, Tanzania, Guatemala, and Brazil. Tanzania was subsequently excluded because no national programme managers were in place.

Each country visit was coordinated by a person identified by the MIP. The visits and linkages with the each government were usually facilitated by the WHO representative in the country. In each country, government officials involved in the CDD and ARI programmes, researchers, representatives of nongovernment organizations (NGOs), and other collaborators were interviewed. Site visits to communities, health centres and hospitals, along with interviews with field staff and community members were conducted as detailed in Appendix C.

In addition to the in-depth reviews, several ERG members undertook reviews in other countries visited in order to conduct other responsibilities. These countries were: Nigeria, Ghana, Guyana, Bangladesh, Cameroon, and Botswana. The findings from these visits were incorporated, as appropriate, into relevant sections of this report (Copies of these reports are available on request to the chairperson, ERG).

Persons interviewed during country visits are included in documents contained in Appendix C. In addition, ERG members also interviewed a large number of other persons, listed in Appendix D, including representatives from:

(1) Development Agencies - UNICEF, UNDP, the World Bank, the Swedish Agency for Research Cooperation with Developing Countries (SAREC), the U.S. Agency for International Development (USAID), the Swedish International Development Authority (SIDA), the British Overseas Development Administration (ODA), the Development Corporation (Ministry of Foreign Affairs, Italy), and the Norwegian Agency for Development Cooperation (NORAD);

(2) WHO - Headquarters and Regional Offices; and

(3) Other Collaborators - the Centers for Disease Control, the London School of Hygiene and Tropical Medicine, the Johns Hopkins School of Hygiene and Public Health, and the International Centre for Diarrhoeal Disease Research/Bangladesh.

In addition, ERG members also interviewed the chairpersons of the CDD and ARI TAGs.

SUMMARY OF THE EVOLUTION OF THE CDD AND ARI PROGRAMMES

A consultant to the ERG prepared a comprehensive history of the CDD and ARI programmes for the external review. It can be found in Appendix E. Below is a summary of that history, adapted from the consultant's report.

Programme for Control of Diarrhoeal Diseases.

A. Formally established in 1980, the Programme for Control of Diarrhoeal Diseases (CDD) has as its objectives the reduction of diarrhoea-associated mortality, morbidity, and malnutrition in infants and young children in developing countries. Until 1991, the CDD Programme was organized into health services and research components.

B. The health services component emphasized development, implementation, and evaluation of national CDD programmes, in addition to training of health workers. In recent years, preventive strategies and integrated approaches have characterized the health services component. Since its earliest days, the Programme has had five strategies for achieving its objectives in health services: (1) case management with emphasis on oral rehydration; (2) improved maternal and child care practices; (3) improved water supplies, sanitation, and food hygiene; (4) epidemiological surveillance; and (5) health education. Three additional areas were identified as deserving high priority following a systematic review of potential interventions in 1985. These were: (1) improved nutrition (uninterrupted breastfeeding for the first two years and proper weaning); (2) use of safe water; and (3) good personal and domestic hygiene.

The indicators of progress, and the targets, for the CDD Programme have changed over time. Developed in 1991 jointly with UNICEF, the current indicators and the progress through 1992 are:

(1) population with access to ORS - 73 percent (24 percent in 1984);
(Current target is 100 percent by the year 2000.)
(2) cases receiving increased fluids and continued feeding - 19 percent;
(Current target is 80 percent by the year 2000.)
(3) mothers knowing three rules of home-case management - 32 percent;
(Current target is 100 percent by the year 2000.)
(4) cases correctly managed in health facilities - no data available.
(Current target is 80 percent by the year 2000.)

In addition, the ORS use rate has climbed from 12 to 38 percent between 1984 and 1992. The number of countries with operating CDD programmes reached 110 in 1991, and 34 percent of health staff with supervisory responsibilities (24 percent of all health staff) have been trained in correct case management.

C. The research component of the CDD Programme had two foci, biomedical and operational, until the late 1980s. Biomedical research included the development of new and better vaccines, drugs, and treatment algorithms, as well as the study of diarrhoeal disease epidemiology. Operational research sought the best ways to apply the available knowledge and the control strategies. Three global Scientific Working Groups (SWGs) developed research priorities and work plans while three regional SWGs managed the operational research. In 1988, the operational research activities were moved to the health services component of the Programme. In 1990, the SWGs were replaced by Ad hoc review panels that had several advantages over the SWGs, including more timely proposal reviews and lower cost, and broader expertise from which to draw for the reviews. These Ad hoc review panels also advised on priority issues within five research areas: case management, nutrition, hygiene, vaccine evaluation, and descriptive studies.

D. In 1992, the health services and research components of the CDD Programmeee Secretariat were replaced by four research and development working groups entitled, (1) case management in health facilities, (2) case management in the home, (3) prevention of diarrhoea, and (4) national programme management. The working groups ensure that research activities address key issues of implementation programmes. The Secretariat undertakes its responsibilities with the guidance of the Technical Advisory Group, the Management Review Committee, and the Meeting of Interested Parties.

> (1) The Technical Advisory Group - consists of 16 senior national public health administrators and scientists who help to define the objectives and strategies of the Programme;
>
> (2) The Management Review Committee - consists of representatives from UNDP, UNICEF, WHO, and the World Bank, who review the management of the Programme (the MRC now serves both the ARI and CDD Programmes);
>
> (3) Meeting of Interested Parties - consists of representatives from six developing country governments and from agencies that contribute (or are interested in contributing) financial support to the Programme. The Meeting of Interested Parties is held annually to review progress, plans, budget projections, and to recommend policy and pledge financial contributions (the MIP now serves both ARI and CDD Programmes).

E. From 1978-1991 nearly $ U.S. 100 million has been contributed to support the Programme. Contributions rose through 1989 but leveled off in 1990-1991 and declined in 1992-1993. Contributions earmarked for research began to level off and decline in the mid 1980s. On average, 65 percent of programme funds have been devoted to health services and the remaining 35 percent to research, although in 1990-1991 the amount attributed to health services rose to 77 percent. Funds from the WHO regular budget represented about 16 percent of total resources from 1978-1991. The largest country contributors of extrabudgetary funds have been, in alphabetical

order, Australia, Canada, Denmark, Finland, France, Italy, Japan, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom, and the United States. Among international agencies/institutions, contributions from the Arab-Gulf Programme, Ciba-Geigy, the International Development Research Centre, UNICEF, and UNDP have been major.

F. The CDD Programme collaborates with a number of other WHO programmes, including the Expanded Programme for Immunization (EPI), the Maternal and Child Health Unit (MCH) of the Division of Family Health (FHE), the Primary Health Care Programme (PHC) of the Division for Strengthening Health Services (SHS), the Special Programme for Research and Training in Tropical Diseases (TDR), the Essential Drugs Programme (EDP) and national, regional, and sub-regional units. Outside collaborators in the health services arena include: UNICEF, USAID, SIDA, the World Bank, the WHO Collaborating Centre for Environmental And Epidemiological Aspects of Diarrhoea Diseases, and the International League of Red Cross and Red Crescent Societies. Research collaborators include: the ICDDR/B, USAID, and numerous pharmaceutical companies. Sustained, far-reaching collaborations have encompassed virtually every facet of the Programme and have increased dramatically in recent years.

Programme for Control of Acute Respiratory Diseases.

A. From 1978 to 1981, ARI activities were placed within the WHO Tuberculosis Unit. In 1982, the Programme for Control of Acute Respiratory Infections (ARI) was established within the WHO Tuberculosis and Respiratory Infections Unit. The ARI and CDD Programmes were administered jointly by the director of the CDD Programme starting in 1987. In 1990, the Division of Diarrhoeal and Acute Respiratory Disease Control (CDR) was formed. The ARI Programme has as its objectives the reduction of severity and mortality from acute respiratory infections, especially pneumonia, and to reduce the inappropriate use of antimicrobials and other drugs for the treatment of ARI in children. A long term objective is to reduce the severity and complications from acute upper respiratory infections, as well as the incidence of these infections. The ARI Programme focuses on countries where infant mortality rates from ARI are 40 per 1000 or higher (88 countries in 1987).

B. The health services component of the ARI Programme has had three control strategies: case management (central strategy), immunization, and health education. A six point action programme, developed following an International Consultation on ARI in 1991, is as follows:

(1) Training and supervising of health workers;
(2) Ensuring continuous supplies of antibiotics;

(3) Launching education programmes for parents - recognition of symptoms;
(4) Accelerating the development of new vaccines;
(5) Improving childhood immunization rates; and
(6) Enhancing preventive measures - nutrition, clean air indoors.

Targets related to the action programme were set, including programme, training, access, and treatment targets. The number of health workers trained in case management has increased from 10,000 in 1990 to 100,000 in 1992. 47 of the focus countries had developed operational programmes by the end of 1992. Access to primary health care and referral has reached 12 percent. Adequate treatment of childhood pneumonia at health facilities has risen to 20 percent.

C. The research component has shifted priorities since its inception. Current priorities, first elaborated in 1989, are: (1) case management, (2) behavioral research (on early detection and prompt treatment), (3) health systems research (including evaluation of the case management strategy), and (4) prevention. In 1991, the ARI TAG recommended an expansion of work in health systems research and research related to preventive interventions.

D. The Technical Advisory Group for the ARI Programme was established in 1983. The Meeting of Interested Parties for the Prevention and Control of Acute Respiratory Infections in Children met for the first time in 1986. The Management Review Committee and Meeting of Interested Parties reviewed the activities of both the CDD and ARI programmes starting in 1988.

E. Funding for the ARI Programme has increased steadily from 1982. Through 1991, contributions totaled $ U.S. 19 million. The WHO regular budget represents 24 percent of total funding for the programme. About three quarters of the total budget has been attributed to the health services component.

F. ARI Programme collaborators include: the Expanded Programme for Immunization, the Maternal and Child Health Unit of the Division of Family Health, the Action Programme on Essential Drugs, Office of International Cooperation, and the Division of Communicable Diseases. Outside collaborators include USAID, UNICEF, and other bilateral and international development agencies. where collaboration has focused on research, communication, and advocacy. Like the CDD Programme, collaborative efforts by the ARI Programme staff have increased in recent years.

Integration of the Two Programmes.

A. Four reasons were given to justify management integration of the CDD and ARI Programmes. They are:

(1) Both Programmes seek reduction in infant and child mortality through case management;
(2) Many activities needed for successful implementation are common to both Programmes;
(3) Research priorities for clinical, epidemiological, and vaccine-related research were similar;
(4) Integration would lesson the administrative and management costs.

The two programmes maintain a separate financial accounting of contributions and expenditures. Each has its own Technical Advisory Group. In other areas, integration has proceeded in a phased manner. By 1991, the CDD and ARI Programmes shared the same administrative structure and prepared combined ARI/CDD materials.

SUMMARY OF MANAGEMENT ISSUES

A consultant to the ERG prepared a report on the organization and management of the CDD and ARI programmes for the external review. The report can be found in Appendix F. Below is a summary of that report.

A management review of an organizational unit such as the CDR must take into account that this activity operates as part of an agency. In this case, the total structure is the World Health Organization (WHO) with its own set of management policies and procedures under which the CDR must operate and be accounted for in its activities. The management review does not assess WHO management policies and procedures but focuses on whether CDR has in place accepted management systems and how well they function in carrying out planned and actual work activities.

The management review found the CDR to be a well-structured, well-directed and impressive scientific organization with clear programme objectives and a history of solid achievements in carrying out their activities in a variety of countries. The ARI and CDD programmes have been successfully integrated at the Director's level; they share divisional support services at the headquarters level; documents for training, monitoring and evaluation are integrated as appropriate; working groups provide integration at the technical level.

The CDD management systems have been formed and the ARI programme is now being administratively integrated with it. It is considered logical that this integration process continue as it will simplify management. As staff is being reduced due to budget constraints, it is imperative that any possible reduction in management procedures should be made to conserve staff time for scientific and technical endeavors.

CDR is aware of personnel needs, has implemented a number of innovative management techniques to do more with less, and will continue to operate in this manner. As example is the encouragement of specific bi-lateral agreements between LDC and donor countries through WHO/CDR brokership.

The report summarizes how the funds are distributed by programme category and by Region. In discussing the rationale for these distributions, it is evident that a great deal of time and cooperative discussion has taken place with a variety of offices both inside and outside of WHO to reach these decisions and the mechanism being presently used for this purpose is fully supported.

There is obvious concern at CDR that decisions be made based on health priority and need, expressed national interests, national absorption capacity, suitable available personnel, long term financial and development implications and sustainability. The CDR workplans and reports reviewed all bear solid evidence of the intensive efforts made to create, implement and evaluate CDD and ARI activities to make these efforts both meaningful and cost effective.

The balance of research (25%), implementation (65%), and management (10%) appear to be in accordance with good management allocation of resources and presents an acceptable pattern of expenditures. The services allocation of one third to headquarters and two thirds to field appears appropriate given the normative global role played by WHO. The research allocation grants to LDCs versus DCs could be increased which would have the additional benefit of strengthening country research capacity.

The process for research review appears efficient, cost effective and transparent. The report questions whether the processes of soliciting research and communicating research priorities of the programmes are sufficiently open and broad-based to avoid the perception and/or reality of inbredness.

The special research issues of ethical review of protocols, animal use and other human use aspects of protocol implementation, bio-safety and environmental impact reviewed in the report were found to be in order with clear procedures available to insure that CDR research is carried out in accordance with WHO guidelines. The one exception was the process for reviewing the environment impact of CDR field activities.

The Division has strong control of its fiscal matters and has systems in place for responsible fiscal monitoring. The high level of fiscal responsibility taken by the very competent personnel assigned to this monitoring process and the level of input to the process by the Director were reassuring. The systems are compatible with the required financial procedures of WHO. Regular internal and external audits are carried out and reports of these audits are available. Earmarking by donors was discouraged as it interferes with the coherency of the programmes and has the potential to skew activity areas with detrimental consequences for the programme as a whole. Integration of the ARI and CDD accounting systems may be considered; however, although this integration may appear to lessen the accounting workload, a more in depth analyses of the pros and cons needs to be undertaken.

A review of reporting mechanisms has shown there is an adequate system in place and systematically operated. Required reports are made and submitted according to CDR procedures. The only exception noted is the quality and timeliness of country reports. Additional reporting and monitoring requirements should not be imposed by donors; these requirements would add unnecessarily to the management burden and costs of the CDR Division.
The monitoring process at CDR is very systematic and functions in a useful and productive manner. TAGs and MIPs are necessary to assure transparency, provide external guidance, and to give donors an opportunity to provide imput into the programmes.

The CDR under its present leadership structure appears capable of providing the best levels of services possible in a cost-effective manner as it has the necessary planning, reporting, evaluation and management capabilities to systematically prioritize efforts to assist interested countries with their ARI and CDD activities.

FINDINGS AND CONCLUSIONS OF THE EXTERNAL WORKING GROUP

The World Development Report - 1993 estimated the burden of disease in children under 5 years of age using the measure of disability-adjusted life years (DALY). This measure combines healthy years of life lost because of premature mortality with those lost as a result of disability. Based on 1990 data, respiratory infections in children under 5 years ranked number one, its disease burden accounting for 18.5% of the total disease burden in females and 17.6% in males. Diarrhoeal diseases ranked number 3, accounting for 16.2% and 15.7% and males, respectively. This data illustrates the global importance of these diseases and programmes directed towards their control.

The findings and conclusions relating to CDD, ARI and SCI are detailed separately in the following material.

CDD Programme

Detailed findings pertinent to the CDD programme also appear in Appendices C, E, F, and G. The following only addresses selected major findings and issues.

According to WHO reports, one hundred and twenty-nine (129) countries had developed plans of operation by the end of 1991 thus covering 99 percent of the total population of developing countries. By 1991, ninety-two (92) countries have undertaken reviews of their CDD programmes. These were either comprehensive reviews or focused on selective components of the programme using results of household and health facility surveys. Many of these countries have revised their country plans at least once. CDD training activities have become increasingly extensive over the years. At the end of 1992, it was estimated that 34% of health staff with supervisory responsibilities from 126 countries had been trained and 24% of all health staff had been trained in diarrhoea case management. These levels represent 85% and 60% of 1995 targets and suggest that much greater effort is needed in case management training.

The proportion of the population with a regular supply of ORS in their community had increased from 24% to 73% suggesting that the 80% target for 1995 will be achieved and probably surpassed. Oral Rehydration Salts (ORS) and/or Recommended Home Fluid (RHF) use rates have increased from 12% to 38% and are also very close to the 50% target for 1995. By 1992, 32% of mothers knew the three rules for case management in the home, and 19% of diarrhoea cases received increased fluid intake and continued feeding. No data were available for measuring the proportion of cases correctly managed in health facilities.

One major success of the CDD has been its effectiveness in stimulating global efforts to curtail the use of non-essential drugs in diarrhoea, efforts facilitated in many countries by removing such drugs from national drug formularies. (Table 1, Interim Programme Report, 1992 and country reports, Philippines, Pakistan, Zambia)

Annual U5MRs in developing countries have declined (UNICEF, State of the World's Children annual reports), as has the proportion of deaths in children caused by diarrhoeal diseases (State of the World's Children 1993, World Development Report 1993, WHO reports). Thus, the global mortality rate from diarrhoeal diseases has also declined. A major factor related to this decline is a decline in diarrhoeal disease case - fatality ratios (Disease Control Priorities in Developing Countries, Jamison, D.T., et al, Eds. Oxford Medical Pubs., 1993). These changes have occurred concurrently with the global implementation of CDD, and the ERG deems it plausible to credit these changes in large part to the CDD programme, and assertion supported by recent research findings (Appendix H). The more limited global achievements in reducing morbidity indicate a need for greater future efforts involving preventive strategies.

A generally useful instrument to measure the attributable impact of the CDD programme on morbidity and mortality has not yet been developed, thus the precise impact of the CDD programme on achieving global morbidity and mortality goals can not yet be fully documented.

In 1990, the CDD research programme replaced the Scientific Working groups (SWG's) by a cadre of experts who advised on priority issues in each of five broad research areas:

1. Case Management;
2. Hygiene;
3. Vaccine Evaluation;
4. Descriptive studies on severe diarrhoea and diarrhoeal deaths; and
5. Nutrition

As noted earlier, these ad hoc review panels had advantages over the fixed SWG's in that they could draw on scientists from various disciplines with more applied experience. Thus, they were more flexible for reviewing a variety of proposals on a continuing basis through the mail. The new research projects supported during 1990-91 period responded increasingly to the needs of programme implementation. In addition, research was supported to help define and test future interventions for the prevention of diarrhoea, including field trials of vaccines. The most recent change affecting the CDD programme's research activities was a functional reorganization of the former services and research components as mentioned earlier. These were replaced by four (4) research and development working groups which complemented continued support to national programme implementation.

The working groups addressed:

1. Case Management in Health Facilities;
2. Case Management in the Home;
3. Prevention of Diarrhoea; and
4. National Programme Management.

CDD research proposal development workshops have also been a feature of recent years. These are a means for generating good quality research proposals that address priority issues, and they also assist considerably in capacity building by developing research skills needed in developing countries.

One strength of the CDD programme has been its strong relationship with collaborating organizations, such as ACT, CDC, London School of Hygiene and Tropical Medicine, ICCDR,B, IDRC and others. CDD programme staff also facilitate the coordination of diarrhoeal disease related research that is supported by agencies, such as USAID, the Thrasher Fund, the Swedish Development Agency, the International Development Research Centre, the ICDDR,B and the CDC. WHO co-funds some projects undertaken by these agencies and organizations.

Another strength of the Programme has been its flexibility in modifying targets and goals in accord with new information. The shift in focus from ORS to ORT with continued feeding and prevention of dehydration from diarrhoeal diseases is especially notable (Appendix A).

CDD is a well managed WHO programme (Appendices D and F), with high standards of performance, strong leadership, high staff quality, and a focus on strengthening country programmes. One of its major strengths is a firm scientific base for its recommended interventions, and a strong consensus on the effectiveness of ORT within the medical community. There is also a general perception that the programme is understaffed, overworked and under-funded in regard to the magnitude of its mission (Appendix G).

Some donors consider the CDD programme to be too vertical, although integration of CDD with ARI and more recently with other child survival strategies, clearly represents broadening of its horizontal base. The programme has experienced notable success in promoting breast feeding (Interim Programme Report, 1992), an activity that has been favorably impacted by the Baby Friendly Hospital Initiative, a joint UNICEF/WHO activity.

The CDD programme currently receives oversight from the Technical Advisory Group (TAG), the Meeting of Interested Parties (MIP) and the Management Review Committee (MRC), which consume much time and energy of a small overworked staff. Further, the present MIP agenda is often not well focussed, and does not permit sufficient donor input and interaction. The purpose of MIP does not seem totally clear to some. While it serves as a forum for budgetary pledges, such commitments have sometimes proved unreliable. Further, CDD budgets presented to MIP are regarded as a "wish list" with final financial commitment occurring much later and often below its real budgetary needs.

The CDD TAG usefully provides CDD staff with the opportunity to present and analyze the programme and test new ideas with a group of technical experts. This has facilitated and strengthened the programme, and helped to ensure joint specification of targets and indicators with UNICEF. TAG members are sometimes unfamiliar with country programmes, which

may limit their ability to contribute fully to the programme. The transition from SWGs to TAGs removed much of the concern about potential conflicts deriving from vested interests of committee members in the allocation of research funds, although this area requires continuous vigilance.

The CDD Programme is presently largely driven by targets other than those related to prevention at home and community levels. It is recognized, however, that major progress in prevention may require improvements in the provision of safe water, food, and sanitation that go far beyond CDD's resources.

The weakest part of the CDD training programme is in getting health workers to communicate effectively with mothers, with only 1% to 10% of mothers correctly advised (CDD Interim Programme Report, 1992). Extending such training to traditional healers, private practitioners, pharmacists, and midwives could assist in educating and informing mothers, although CDD has undertaken efforts to date only to train pharmacists.

The following observations summarize findings regarding CDD from country visits by ERG members. Additional details appear in Appendix C.

1. Many countries and collaborating centres are moving towards a more integrated approach involving CDD and other health concerns. The technical direction provided by Geneva staff to integrate CDD and ARI approaches is viewed as responsive in this regard, and is deemed strong, responsible, and responsive to country needs.

2. Field observations indicate that interdisciplinary concerns are often not fully addressed. People's perceptions, attitudes, local culture and environmental factors have not been fully integrated into prevention strategies and approaches.

3. The most successful national programmes are those where political will and support from national governments are present. When governments regard CDD as a high priority, basic resources to support the programme are more likely to be forthcoming. Recent outbreaks of cholera have resulted in renewed commitment and support for many countries to their CDD programme. In contrast, national programmes that have not made substantial progress are typically those without political and financial commitments of national governments.

4. Since 1980, many countries have established national operational CDD programmes, although few of them have allocated adequate resources for implementation, monitoring and evaluation. The strong performance of many national programmes has largely been attributed to effective leadership at headquarters, which, in collaboration with WHO Regional offices, seems to have established well-functioning working relationships with National CDD programme managers. The latter consistently indicate that WHO has provided responsive, quality support to national programmes.

5. The Focused Programme Review (FPR) by which external experts work with national counterparts in the review of national CDD programmes constitutes a mechanism capable of reinforcing national capacities and should incorporate national biomedical and social science expertise. As part of the up-grading of capacities, the FPR constitutes a valuable instrument for capacity building.

6. Various training materials developed by headquarters have inspired national programmes to produce locally adapted materials. However, national programmes usually face serious financial problems in making these materials available in sufficient quantity.

7. The CDD Programme has promoted the sustainable production of ORS at national levels in collaboration with local manufacturers. Some countries have achieved considerable success, but ORS production has proved non-sustainable in others as the cost of imported ingredients increased. With structural adjustment underway in many developing countries, many nations may not be able to maintain reasonable levels of supply of ORS. Continuing international assistance in providing ORS within such countries will be needed to ensure availability of ORS supply.

8. Dependence of many developing countries on external support seems to have impaired their ability and perhaps willingness to develop sustainable CDD national programmes. Most countries have found it difficult to maintain activities when external support ceases. Some countries have successfully exploited programme sponsorship by pharmaceutical and other companies at national and district level in solving resource needs.

9. The CDD programme, through its training modules for programme managers and supervisors, has tried to address some of the managerial aspect of programme implementation. However, major weaknesses in health care delivery systems and infrastructure exist in many countries and cannot be addressed by the limited activities of the CDD programme.

10. Many national CDD coordinators are expected to perform other tasks which may distract from implementation, monitoring,and evaluation of the programme.

11. In several countries, high turnover of national staff create problems in continuity that adversely impact the implementation process.

12. Most countries have recognized the virtue of collaborative efforts in building effective and sustainable programmes, especially in countries where CDD programmes are weak. In such countries, WHO and UNICEF representatives play an especially crucial role in developing strategies and setting realistic targets that can only be achieved through collaborative and cooperative efforts.

13. The successful enlistment of cooperation from the private sector may be critically significant to developing sustainable progress, since it may result in presenting to the public at large, more consistent, reinforcing and supporting messages and practices. This would be expected to enhance the credibility of CDD programme elements. Most developing countries need to expand the involvement of the private sector in their national programmes.

ARI Programme

Additional findings regarding ARI appear in appendices C, E, and F. Only major achievements, constraints and problems are detailed below.

The ARI programme is progressively extending its global coverage to 88 target countries that have infant mortality rates over 40 per 1,000 live births. By the end of 1992, 47 of these countries had an operational programme at national or subnational levels, while 62 had developed programme plans. Twenty additional countries with IMRs under 40/1000 live birth also had operational programmes. At the same time, 50% of the target health workers for the year 1995 had been trained in case management with a sharp increment (90,000) from 1990. Indicators of access to a health worker trained in ARI case management remain low with 12% achievement in 1992 compared with a target of 50% for 1995. Adequate treatment of pneumonia was estimated to be 20%, which is half-way towards the 1995 target. The firm commitment of government and a coordinated increase in external support are essential prerequisites for the achievement of the set targets.

The research orientation of ARI is presently strongly focused on issues related to case management of pneumonia and its effectiveness. Behavioral research on determinants of early care seeking is also crucial to the treatment aspect. Focused ethnographic studies have appropriately been given high priority because its techniques facilitate communication between health workers and mothers. Since 1991, the ARI Advisory Group (TAG) has called for an expansion of research on health systems and prevention issues. The programme has cooperated since 1990 with the London School of Hygiene and Tropical Medicine namely the MCH Epidemiology Unit (collaboration for CDD started in 1979). Work is underway on the investigation of 19 risk factors, and findings are soon going to be discussed (March '94). The School considers that all inputs that build up research skills at the local level are investments enhancing the likelihood of sustainability. In the opinion of the school staff, a big gap still exists between programme recommendations and practices in the field; this concern certainly supports the emphasis given to research on how to improve the effectiveness and efficiency of activities at country level. Further concern along this line is expressed by CDR programmemme staff, who perceive little application of research at the country level. However, the management of research activities and funding by ARI programme seems appropriate, and is driven by important programme issues which often lead to commissioned research. Further, the Protocol Development Workshops sponsored by CDR should generally increase local capabilities for operational research, as well as CDD and ARI research specifically.

The ERG found poor communication links between in country researchers and country-level programmes. This poor communication hinders the effect of research on programme implementation. The lack of strong interactions can negatively effect the relevance and effectiveness of health system research on programme implementation.

Most ARI activities at the Regional level are addressed at strengthening the national programmes in 88 target countries but the limited resources permit concentrated efforts in only a much smaller number. Nineteen (19) countries contribute 80% of the global pneumonia mortality in the under 5 age group. Support is mainly provided in the area of planning, training, provision of drugs, supplies, and communication.

Upon request, support is given by Headquarters to national and district levels in the preparation of operational plans. The emphasis on providing planning skills at the district level is responsive to the process of decentralization underway in various countries, and may constitute an important contribution to programme integration and sustainability.

Ensuring the availability and affordability of antibiotics and other drugs recommended by the ARI programme is a major concern. The programme is working with UNICEF and the WHO Essential Drug Programme to improve the availability of drugs for this programme.

One major challenge to the ARI programme is to identify ways to enhance effective communication between health workers and families to ensure that signs and symptoms of danger are recognized, and that care is then promptly sought. Focused ethnographic studies have appropriately been promoted to enhance the effectiveness of such communication. Guidelines for Programme managers are also being prepared to assist in communicating clear messages to care-givers.

ARI staff appear to have been responsive to advice given to it by its TAG. For example, CDR sponsored a meeting held in December 1992 with collaborators from UNICEF and 15 NGOs working in sub-Saharan Africa. A set of recommendations resulted which aimed to increase the effectiveness of collaboration between WHO, UNICEF and NGOs. Increased programme efforts in Africa had been recommended by the TAG.

Detailed comments of ERG members about country programmes in Brazil, Zambia, Pakistan, Guatemala, and the Philippines, can be found in Appendix C. The following attempts to summarize the overall impressions related to ARI programmes.

1. Countries where medical societies have endorsed ARI case-management strategies generally appear to have progressed more quickly in establishing ARI programmess.

2. Many countries have experienced difficulties in assuring adequate supply of essential drugs. The impact of decentralization initiatives on this problem has not yet become fully evident within countries.

3. High turnover of personnel trained in case management is frequently noted, as is assuring the continual effective supervision of trained staff.

4. In general, the diagnostic approaches for detection and classification of respiratory illnesses are not as firmly accepted by academic medical staff and health workers as case management approaches with diarrhoeal diseases. This may result in part from the relative newness of the ARI programme, the lack of extensive documentation in the medical literature of the diagnostic approaches, and the lack of a suitable counterpart to the visibly quick and profound confirmation of effect by improvements in a child's condition seen by caretakers and health staff alike consequent to ORT.

5. Also, not surprisingly, countries with strong political commitment to children's health issues appear to have programmes that progressed more rapidly.

6. Countries with well developed plans, often developed with WHO consultation, also appeared to have programmes that progressed more quickly.

7. Without exception, Government staff involved in ARI programmes highly commended the responsiveness and excellence of the technical support provided by WHO staff.

Sick Child Initiative

Findings pertinent to the Sick Child Initiative (SCI) also appear in appendices C and F. The following comments only address the selected major issues.

The SCI aims to improve the care of the sick child by integrating the case management guidelines and organization of health services for the most prevalent childhood diseases. Through the initiative of CDR, 10 WHO programmes and UNICEF are collaborating in the development of these guidelines. Technical guidelines and training materials from the Initiative will be published jointly by WHO and UNICEF. Many other institutions and individuals assisted in the development of the SCI. Collaboration has facilitated a more integrated approach to programme activities within WHO headquarters and perhaps will strengthen the activities of all participating programmes. However, no clear official mandate from WHO exists as yet for the SCI that will ensure ongoing collaboration, coordination and continuity of activities. Its continued progress now depends heavily on the voluntary involvement of WHO staff outside CDR, which is induced in part by the ability of CDR to financially support such involvement.

The integrated guidelines focus on the sick child up to five years and include four case management charts. These are:

1. How to assess and classify the sick child (aged two months to five years);
2. How to treat the sick child (aged two months to five years);
3. Advice to the mother; and
4. How to assess, classify, and treat the sick young infant.

The first of these charts was tested in Kenya and the Gambia using first level health workers. These studies indicated a need for further research in a number of areas including:

1. Improving the guidelines for identifying severely anemic children with cardiopulmonary decompensation and febrile children who would benefit from antimalarial treatment in low risk areas;
2. Testing of the guidelines for children with measles;
3. Testing of the guidelines in areas where malarias other than *P. falciparum* exist, and;
4. Testing of the guidelines for nutrition interventions and communication with mothers in health facilities. They have led to modifications in the charts which are now being finalized. A training course, relevant instructional materials, and a guide for adapting these materials for each country are being developed. It is expected that the full training course will be field tested late in 1994 and will be available for use by countries in 1995. WHO is interested in collaborating with other agencies and national Ministries of Health in monitoring implementation over the next few years.

Development of guidelines for monitoring and improving health worker performance, for managing drug supplies at health facilities, for interventions aimed at family behavior change, and for an inpatient case management training course have been initiated. Other materials

will be developed once the above materials are completed. These include several evaluation instruments, medical and nursing school curricula, and a programme management course.

Estimates for the cost effectiveness of SCI have been made by the World Bank and WHO. Development of a guide for costing at country level will follow.

The SCI will allow:

1 Greater efficiency in training, supervision, and management of health facilities;
2 Efficient triage of sick children in outpatient settings to ensure urgent referral of severely ill children and competent management of all major illnesses present;
3. Opportunities for important preventive interventions such as immunization, promotion of breastfeeding, and improved infant feeding;
4. Improved communication with mothers and other caretakers.

In addition, a number of WHO staff view integrated approaches like this one as essential to achieving programme targets. These staff also argue that governments weary of vertical programmes will be more receptive to the SCI.

There were, however, a number of concerns expressed about the SCI (Appendices C and G). They include:

1. The content and complexity of the charts may not be easily absorbed by most first level health care workers with limited basic training. The field test in Kenya used a higher level of health care worker than usually found in first level health-care workers in developing countries. Thus, training of some workers may take a lengthy period of time. However, clear guidelines for referrals should help prevent further overburdening the workers.
2. The successful implementation of the programme requires adequate management and supervisory systems. Training needs must be carefully addressed to ensure that the sick child receives the care required.

The following observations summarize findings from country reports by external review group members. See Appendix C for detailed reports.

1. Even in countries where integrated programmes are well underway and widely endorsed, the SCI was welcomed. The SCI could produce more efficient delivery of care to the sick child as well as more efficient evaluation and monitoring. Governments are generally willing to evaluate the SCI and to participate in the development of methods for attributing mortality reductions to programmes.

2. Representatives in one country suggested that vertical training be retained for service providers in secondary and tertiary care health facilities.

3. While the SCI was welcomed, a number of people interviewed expressed some reservations. Some individuals felt that separate training modules for ARI and CDD would still be needed, some felt health care workers and supervisors would be overburdened, and some felt that urgent medical treatment would lead to neglect of less urgent needs.

RECOMMENDATIONS

CDD, ARI and SCI have very similar strategies and constraints. Thus, unless indicated otherwise below, the following recommendations are considered to be applicable to each.

Individual recommendations may have implications in varying degrees for CDR, WHO more generally, donors, WHO collaborators (including UNICEF and other agencies, academic institutions, etc.), advisors of CDR, and countries. The main targets for each recommendation are indicated below in decreasing order of perceived involvement.

Recommendations are based upon a review of a subsample of country programmes, consultant reports on programme evolution and management, review of an extensive array of documents, and interviews with numerous persons as detailed in the appendices. The most important and useful supportive documents are selectively cited for recommendations, as appropriate.

The following recommendations are listed in decreasing order of priority as perceived by the ERG.

1. In view of the outstanding performance and success of the CDD and ARI programmes, as judged by a) comments of the overwhelming majority of interviewees within and outside of WHO (Appendix D), b) the management consultant's report (Appendix F), c) assessments of country programmes by ERG members (Appendix C), d) the ERG's conviction of the likelihood that the CDD programme has contributed to the marked observed reduction in global diarrhoeal mortality, e) the recognition that diarrhoea and pneumonia are the two main causes of children's deaths preventable by low cost interventions (Fig. 5, UNICEF, State of the Worlds Children, 1993) and f) the continuing importance of these childhood diseases for which CDR is responsible, (World Development Report, 1993), the ERG recommends that funding to these programmes be increased. WHO should concomitantly increase its core budget to CDR. The enlarged resources would enable the programmes to consolidate and stabilize current activities and to develop new initiatives.
   Main targets: Donors, CDR, WHO, countries.

2. WHO should give high priority to clarifying organizational responsibilities for programmes involving child health, and should give serious attention to changes that would facilitate collaboration among the relevant units. Collaboration involving breast feeding, water supplies and sanitation, food hygiene, effective communication and delivery of health services at district levels are of special concern. WHO structure needs to adapt more fully to current country trends in delivery of comprehensive child health services.
   Main targets: WHO, donors, CDR, countries.

3. Budgetary and organizational integration of CDD and ARI at headquarters is an appropriate long term goal that is consistent with existing global trends towards delivery of comprehensive child and national health strategies at primary care levels. For the present, the ERG recommends that separate CDD and ARI programmes and budgets be maintained. Special additional temporary supplemental funds should be set aside for pursuit of the Sick Child Initiative (SCI). The ERG recommends that donors require a clear official mandate from WHO insuring ongoing collaboration, coordination, and continuity of SCI activities before the SCI becomes a permanent budgetary item.
Main targets: WHO, donors, CDR.

4. Integration of maternal and child health services at the primary care level is a current global movement with well established momentum. The SCI is timely in this regard and offers potentially improved efficiency and care of those diseases responsible for the vast majority of childhood deaths. (UNICEF, State of the World's Children, 1993 and World Development Report, 1993). However, the Initiative should be field tested carefully with special care to ensure it is simple enough for application by health workers at each level, carefully taking into account differences in local epidemiologic aspects. Thorough assessment at each stage of implementation in accord with the stage of development of a country's programme is needed. It should be implemented in a fashion that does not undermine the current effectiveness of ongoing CDD and ARI programmes within countries.
Main targets: CDR, countries, collaborators, donors.

5. CDR should give strong emphasis to achieving the acceptance, endorsement and incorporation of its diagnostic and treatment modules within medical and other teaching institutions. The training of medical and nursing students should incorporate case management strategies, and include experience in community programmes so as to influence their ways of thinking and perception. As a corollary, increased visibility of the science behind the interventions should be pursued, including increased emphasis on publications in peer reviewed journals, incorporation of material in medical texts and examinations, and presentations at international symposia. These efforts should greatly enhance the prospects of timely implementation and the likelihood of future sustainability within countries. Endorsement of programmes by the private sector may facilitate the procurement of approved drugs for the public sector, and improve rational use of drugs by private sector physicians. Recent efforts to more fully engage academic institutions by CDD are noted, and such efforts should be extended to both ARI and SCI.
Main targets: CDR, countries, collaborators, donors.

6. CDR should expand its base of collaboration with academic institutions in all programme areas. CDR should consider designating collaborating centres for ARI and SCI.
Main targets: CDR, collaborators. donors.

7. The CDR programme should strengthen and extend its collaboration with UNICEF and other organizations, and should seek similar alliances with other agencies in the use of well established training modules. This, along with the activities detailed above, should relieve the programmes of some of the routine repetitive training activities, thus releasing time and resources for the development of new initiatives.
Main targets: Collaborators, CDR, donors.

8. The pioneering use of Focused Ethnographic Studies by CDR is applauded as is the high priority given to such studies. Additional efforts are urged particularly in attempts to resolve the rather generic communication problems between health care workers and mothers, which detrimentally impacts the effectiveness of all CDR programmes.
Main targets: CDR, advisors, donors.

9. The ERG notes and endorses the very high priority given by CDR to the development of suitable methods to measure the impact of CDR programmes on mortality and morbidity. Such methodology is essential in assessing whether morbidity and mortality reduction goals are achieved at country and global levels, and useful in assuring donors of the impact of these programmes. The evaluation of the effectiveness of CDR programme should move towards more emphasis on disease outcome indicators, which should also include the establishment and monitoring of disease incidence trends through surveillance systems.
Main targets: CDR, advisors, collaborators, countries, donors.

10. The current research emphasis on operational issues is deemed appropriate, with tight focus on studies designed to improve case management and programme operation. However, major progress in the future may depend on more prevention related research, which should be given greater emphasis as these programmes continue to mature. Practical, effective strategies for reducing the incidence and severity of infections in children are needed.
Main targets: CDR, advisors, collaborators, donors.

11. Developing countries should intensify efforts to meet targets set for their programmes. With the assistance of CDR there is an urgent need to develop plans to ensure sustainability of programmes within countries. Also, plans need to be made to incorporate and integrate programmes into national primary health care programmes. The national training and research capacities of developing countries should continue to be enhanced and fostered by WHO.
Main targets: Countries, CDR, collaborators, donors.

12. WHO should appoint a single multi-disciplinary Technical Advisory Group for CDR, with expertise sufficient to encompass the full scope of all elements encompassed in the SCI. Field experience should be given special weight in the selection process.

The TAG should meet annually and should provide broad technical direction and assistance in establishing global policies. Continued annual Meetings of Interested Parties (MIP) and the Management Review Group are endorsed.
Main targets: CDR, advisors, donors, WHO.

13. The CDR should review its research strategy to ensure that it can tap the ideas of scientists with innovative approaches. The interests of such researchers might be stimulated by identifying and publishing priority issues that need to be tackled. CDR should also continue to expand its network of biomedical and social scientists who can contribute relevant experience as well as those whc can undertake research on priority issues. CDR should intensify efforts to remain aware of research and programmes conducted by others relevant to its interests, and to seek additional opportunities to involve its staff in collaborative research with others, with special reference to field testing of vaccines and diagnostic procedures.
Main targets: CDR, collaborators, advisors, donors.

14. Donors should, in so far as possible, pledge multiyear support to CDR in the interest of stability in long term programme planning and development. Donors should avoid, to the maximum extent, "earmarking" of contributions which may hamper the flexibility of CDR to meet programme needs. Support given to national institutions that work in collaboration with CDR, such as national research and academic institutions, should be expanded. CDR programmes in developing countries should also be supported through bilateral aid programmes.
Main targets: Donors, CDR, collaborators, countries.

15. Antimicrobial resistance is a critical and common threat to success in managing serious infections in ARI, CDD and in malaria. Country and global monitoring of pathogens and resistances needs to be strengthened and research on alternative treatments, especially treatment of children with severe infections caused by agents resistant to drugs recommended in case management, should be intensified.
Main targets: CDR, WHO, donors, collaborators, advisors, countries.

16. When multi-centre trials are undertaken, CDR should utilize them to broaden institutional linkages, enhance research capacity, and favourably influence national programmes. Protocol development workshops are an especially atractive means of building local capacity, and increased emphasis on them should result in positive effects on programme effectiveness, with spill over benefits to a wide range of health services activities.
Main targets: CDR, countries, collaborators, donors.

17. The ERG notes that the research programmes of CDD and ARI are centrally managed with key decisions about projects and grantees being made by Geneva-based staff. The ERG recommends that CDR seek to increase, where possible, the involvement of staff in the regional offices of WHO in identifying institutions and research scientists. CDR is encouraged to involve WHO staff at regional offices, as possible, in running protocol development workshops and in other research training activities.
Main targets: CDR, WHO, advisors, collaborators, donors.

18. WHO country representatives should be encouraged to work with national scientists in identifying on-going research activities and capacity strengthening activities that are funded from all sources - national, WHO, and other donors. This information might assist the CDR programme in relating its global initiatives to local needs and opportunities.
Main targets: WHO, CDR, countries, donors, collaborators.

APPENDICES

APPENDIX A

TERMS OF REFERENCE
with index to findings of the External Review Group

TABLES 1 TO 3 INDEX THE FINDINGS OF THE EXTERNAL REVIEW ACCORDING TO THE TERMS OF REFERENCE

TABLE 1: EVOLUTION OF THE Programme

No.	TERMS OF REFERENCE	ERG COMMENT
1a	The evolution of the objectives, strategies and targets of the two programmes	Appendix E provides detailed responses.
1b	The interrelationship between the two programmes on the one hand and other WHO programmes on the other.	See text pages E22 and E23
1c	The balance between research and development activities and the implementation activities of the programme including priority area funding for implementation and research over time	Succinct graphs and summaries appear at F53 and F56
1d	The geographical allocation of programme resources and activities	Please refer to table and text, F12
1e	Funding resources of the programme over time	Responses on E31-32, and E36-37
1f	Management structures over time	See text beginning at E10, E20, and F3

TABLE 2: AUDIT OF ACTIVITIES

No.	TERMS OF REFERENCE	ERG COMMENT
2a	The review should document inputs and outputs for each of the following programme activities over time and assess the achievements of the programme - administration - implementation - research and development, including an overview of results	a) The ERG's judgements of the most important achievements of CDR's programmes are implied in the Findings and Recommendations sections of the main report. Inputs and outputs for CDD are located at E43-59 and for ARI at E61-69.
2b	Document the extent to which the targets have been met and/or are on schedule, and assess the reasons for success or failure	b. See E7, E18, Table 7 (E35), and chart 2 (E41). In addition, it is probable that some targets may initially have been set unrealistically high. Further, the relative importance of previously set targets may change as scientific understanding improves (eg. shift from emphasis on ORS to ORT with continued feeding in prevention of dehydration from diarrhoeal diseases).
2c	The review should document and assess the programmes' role at country level including their: a. response to countries' needs b. contribution to development and/or improvement in control of diarrhoeal diseases and acute respiratory infections c. impact, direct or indirect, on diarrhoeal problems and acute respiratory infections d. impact on the overall health system in the country e. management and cost of management assistance at the national level	a-d. See individual country reports (appendix C). In general, both CDD and ARI programme have been judged to be highly responsive to the needs of countries, to have favorably impacted the mortality from these diseases, and assisted in developing infrastructure e. See F5, F6
2d	Document the combined research and implementation approach and lessons learned from this model	The history leading to the current relative emphasis on research and implementation appears in Appendix E. The ERG's conclusions regarding lessons to be learned are reflected in the summary of major findings and its recommendations. See especially recommendations #6, 8, 9, 10, 11, 12, 13 and 17.
2e	Describe the interaction with other WHO programmes at central, regional, and national levels with other bilateral donors/programmes, multilateral institutions and NGOs and assess the effectiveness/adequacy of these interactions.	See especially text beginning at pages E12 and E22
2f	Document the research and development activities and their relevance to the control of acute respiratory and diarrhoeal diseases. a. assess to what extent research has been translated into implementation/policy b. assess the appropriateness of the organizational structure, the commissioning process of the research and development activities, and the peer review process c. assess the promotion of national research and capacity strengthening d. assess the balance of basic and applied research	a. research efforts are highly relevant to programme implementation, largely as a consequence of the "commissioning" process, but also see ERG recommendations #10, 11 and 12 b. see text beginning F15, also ERG recommendations #10, 11 and 12 c. in general, the ERG believes CDR could further enhance its capacity-building opportunities. See ERG recommendation #17 d. See ERG recommendation #10
2g	Assess the management structure: a. the suitability and effectiveness of the management of the divisional structure b. the cost of the management procedures, including the periodic review process c. balance of administrative support costs (including staff and travel) and implementation of research activities	a. Highly favorable assessments are given in Appendix F, a management report prepared by a consultant to the ERG. These assessments are supported by ERG impressions as well b. see text beginning F9 c. see Appendix F. The balance seems appropriate for the tasks that CDR is expected to perform.

TABLE 3: FUTURE DIRECTIONS

No.	TERMS OF REFERENCE	ERG COMMENT
3a	1) Based on the findings, and in view of continuing needs in the control of diarrhoeal diseases and acute respiratory infections, and the comparative advantages of CDR, the review should: 2) Discuss the future directions for the programmes with regard to-- a. their overall objectives, strategies, and targets for service implementation and for research b. their organizational structure and management, including the review mechanisms, steering bodies (TAG, MIP, MRC, etc.) and potential merger of the programmes c. their role within WHO and in relation to other agencies with specific reference to the "Integrated Approach to the Sick Child" concept d. their optimal role in support of the national activities for the control of CDD and ARI e. the balance of activities within the programmes	a. See ERG recommendation #9 b. See ERG recommendation #14 c. See ERG recommendations #2 and #4 d. Especially note ERG recommendations #7 and #16 e. In general, the balance of activities seems appropriate as judged by material in appendices E and F, as well as by independent assessments of the ERG itself.
3b	Make recommendations as appropriate, taking into account resources and time implications	See Recommendations section of the report.

APPENDIX B

LIST OF DOCUMENTS REVIEWED

DOCUMENTS REVIEWED

In addition to the documents listed below, the ERG also reviewed an extensive list of publications co-authored by CDR staff and reviewed selected articles, and reviewed a comprehensive line-listing of research projects supported by CDR and reviewed selected specific projects. Detailed reviews of research projects were also conducted in conjunction with specific country programme visits. Additional documents reviewed during assessments of country programmes appear at the end of each country report.

Management and Historical Documents Reviewed

WHO Programme Documents - CDD

Report on Global Activities, 1978-June 1980. WHO/CDD/80.1 Rev. 1 (1980).
Summary of Programme Activities, January 1980-April 1981. WHO/CDD/81.3 (1981).
Third Programme Report, 1981-1982. WHO/CDD/83.8 (1983).
Interim Programme Report, 1983. WHO/CDD/84.10 (1984).
Fourth Programme Report, 1983-1984. WHO/CDD/85.13 (1985).
Fifth Programme Report, 1984-1985. WHO/CDD/86.16 (1986).
Interim Programme Report, 1986. WHO/CDD/87.26 (1987).
Sixth Programme Report, 1986-1987. WHO/CDD/88.28 (1988).
Interim Programme Report, 1988. WHO/CDD/89.31 (1989).
Seventh Programme Report, 1988-1989. WHO/CDD/90.34 (1990).
Interim Programme Report, 1990. WHO/CDD/91.36 (1991).
Eighth Programme Report, 1990-1991. WHO/CDD/1992.38 (1992).
Interim Programme Report, 1992. WHO/CDD/93.40 (1993).

Advisory Group Documents - CDD

Development of a programme for diarrhoeal diseases control, Report of an Advisory Group. Unpublished document WHO/CDD/78.1 (1978).
Report of a second meeting of the Technical Advisory Group. Unpublished document WHO/CDD/80.2 (1980).
Report of the third meeting of the Technical Advisory Group. Unpublished document WHO/CDD/81.4 (1981).
Report of the fourth meeting of the Technical Advisory Group. Unpublished document WHO/CDD/83.7 (1983).
Report of the fifth meeting of the Technical Advisory Group. Unpublished document WHO/CDD/84.9 (1984).
Report of the sixth meeting of the Technical Advisory Group. Unpublished document WHO/CDD/85.12 (1985).
Report of the seventh meeting of the Technical Advisory Group. Unpublished document WHO/CDD/86.15 (1986).

Report of the eighth meeting of the Technical Advisory Group. Unpublished document WHO/CDD/87.25 (1987).
Report of the ninth meeting of the Technical Advisory Group. Unpublished document WHO/CDD/88.29 (1988).
Report of the tenth meeting of the Technical Advisory Group. Unpublished document WHO/CDD/89.32 (1989).
Report of the eleventh meeting of the Technical Advisory Group. Unpublished document WHO/CDD/90.33 (1990).
Report of the thirteenth meeting of the Technical Advisory Group. Unpublished document WHO/CDD/92.39 (1992).
Report of the fourteenth meeting of the Technical Advisory Group. Unpublished document WHO/CDD/93.42 (1993).
Report of External Review Group. Unpublished document WHO/CDD/MIP/88.10 (1988).

WHO Programme Documents - ARI

Progress and Current Status of the ARI Programme at Global Level, 1983-1984. WHO/RSD/85.17 (1985).
Progress and Current Status of the Programme - Second Report. 198501986. WHO/RSD/86.30 Rev.1 (1986).
1987 Programme Report. WHO/ARI/88.1 (1988).
Fourth Programme Report, 1988-1989. WHO/ARI/90.7 (1990).
Interim Programme Report, 1990. WHO/ARI/91.19 (1991).
Fifth Programme Report, 1990-1991. WHO/ARI/99.22 (1992).
Interim Programme Report, 1992. WHO/ARI/93.25 (1993).
World Health Organization. A programme for controlling acute respiratory infections in children: Memorandum from a WHO meeting. Bulletin of the World Health Organization, 1984, 62: 47-58.

Advisory Group Documents - ARI

WHO Technical Advisory Group on Acute Respiratory Infections. Report of the second meeting. Unpublished document WHO/RSD/85.18 (1985).
WHO Technical Advisory Group on Acute Respiratory Infections. Report of the third meeting. Unpublished document WHO/RSD/87.37 (1987).
Report of the fourth meeting of the Technical Advisory Group. Unpublished document WHO/ARI/89.4 (1989).
Report of the fifth meeting of the Technical Advisory Group. Unpublished document WHO/ARI/90.6 (1990).
Report of the sixth meeting of the Technical Advisory Group. Unpublished document WHO/ARI/91.18 (1991).

Report of the seventh meeting of the Technical Advisory Group. Unpublished document WHO/ARI/92.24 (1992).
Report of the eighth meeting of the Technical Advisory Group. Unpublished document WHO/ARI/93.26 (1993).

Management Review Documents - CDD

Report of the Meeting of the Working Group on Management Structure. Unpublished document CDD/81.3 (1981).
Report of the First Meeting of the Management Review Committee. Unpublished document CDD/MRC/81.8 (1981).
Report of the Second Meeting of the Management Review Committee. Unpublished document CDD/MRC/82.8 (1982).
Report of the Third Meeting of the Management Review Committee. Unpublished document CDD/MRC/83.2).
Report of the Fourth Meeting of the Management Review Committee. Unpublished document CDD/MRC/84.1 (1984).
Report of the Fifth Meeting of the Management Review Committee. Unpublished document CDD/MRC/85.1 (1985).
Report of the Sixth Meeting of the Management Review Committee. Unpublished document CDD/MRC/86.1 (1986).
Report of the Seventh Meeting of the Management Review Committee. Unpublished document CDD/MRC/87.1 (1987).
Report of the Eighth Meeting of the Management Review Committee. Unpublished document CDD/MRC/88.1 (1988).
Report of the Ninth Meeting of the Management Review Committee. Unpublished document CDD/MRC/89.1 (1989).
Report of the Tenth Meeting of the Management Review Committee. Unpublished document CDD/ARI/MRC/90.1 (1990).
Report of the Eleventh Meeting of the Management Review Committee. Unpublished document CDR/MRC/91.1 (1991).
Report of the Twelfth Meeting of the Management Review Committee. Unpublished document CDR/MRC/92.1 (1992).
Report of the Thirteenth Meeting of the Management Review Committee. Unpublished document CDR/MRC/93.1 (1993).
A discussion paper for the preparatory meeting of interested parties on the management structure and financial resources for the Diarrhoeal Diseases Control Programme. Unpublished document (September 1980).

MIP Reports - CDR

Report of the Meeting of Interested Parties. Unpublished document CDD/81.1 (1981).
Report of the second Meeting of Interested Parties. Unpublished document CDD/MIP/81.6 (1981).
Report of the third Meeting of Interested Parties. Unpublished document CDD/MIP/83.5 (1983).
Report of the fourth Meeting of Interested Parties. Unpublished document CDD/MIP/84.9 (1984).
Report of the fifth Meeting of Interested Parties. Unpublished document CDD/MIP/85.8 (1985).
Report of the sixth Meeting of Interested Parties. Unpublished document CDD/MIP/86.9 (1986).
Report of the seventh Meeting of Interested Parties. Unpublished document CDD/MIP/87.8 (1987).
Report of the eighth Meeting of Interested Parties. Unpublished document CDD/MIP/88.13 (1988).
Report of the ninth Meeting of Interested Parties. Unpublished document CDD/ARI/MIP/89.12 (1989).
Report of the tenth Meeting of Interested Parties. Unpublished document CDD/ARI/MIP/90.16 (1990).
Report of the eleventh Meeting of Interested Parties. Unpublished document CDR/MIP/91.11 (1991).
Report of the twelfth Meeting of Interested Parties. Unpublished document CDR/MIP/92.17 (1992).

Technical Documents Reviewed

Programme for the Control of Acute respiratory Infections, Recent Developments, Weekly Epid. Rec., 1993, 68, 353 - 360.
Prevention of Pneumonia: Progress Report on and review of Potential Interventions WHO/ARI Programme, CDR/MIP/93.9.
Guide for Improving Diarrhoea Treatment Practices of Pharmacists and licensed drug sellers. WHO/CDD/93.43.
Household Survey Manual - Diarrhoea Care Management, Morbidity and Mortality. CDD/SER/86.2 Rev.1 (1989).
Health Facility Survey Manual -Diarrhoea Care Management. CDD/SER/90.1.
Guidelines for Cholera Control WHO/CDD/SER/80.4 Rev 2 (1991).
Cholera in 1992. WHO Weekly Epidem. Rec. No. 21, 1993, pp. 149-155.
Shigella Dysenteriae Type 1, WHO, 11 May 1993.

Outpatient Management of Young Children with ARI -Four-day Course; Programme for Control of Acute Respiratory Infections; WHO 1992.
Supervisory Skills Training Course - Programme for Control of Diarrhoea Diseases, WHO Rev. 1990.
CDD Programme Management. A Training Course. (1988).
Strengthening the Teaching of Diarrhoea Diseases in Medical Schools. Programme for Control of Diarrhoeal Diseases. WHO/CDD/93.6.
Diarrhoea Training Unit - Directors Guide and Teaching Materials. WHO, 1988.
Bibliography of Acute Diarrhoeal diseases WHO/CDD/ BIB/90-92.
Diarrhoeal Disease Control Programme - Support of research Projects, WHO 1993.
Guidelines for Management of research Activities - CDD/RES/81.3 Rev. 3 (1991).
Application for Collaborative research Projects - CDD, 29 May 1986.
Disease Control priorities in Developing Countries Edited by Dean T. Jamison, W. Henry Mosley, Anthony R. Measham, Jose Luis Bobadilla; Oxford Medical Publications, 1993.

Other Documents Reviewed

Saving 27,000,000 young children in this decade - goals, strategies and activities to control Diarrhoeal Diseases and Acute Respiratory Infections, UNICEF, Sept. 1993. Unpublished.
Integrated Management of Childhood illness - a new WHO/UNICEF effort to improve child survival, June 1993.
State of the World's Children 1993, UNICEF.
REACH II Lessons Learned on Immunization and Control of Acute Respiratory Infections. Resources for Health (REACH) Project, John Snow Inc., January 1994.
Child Survival - 8th Report to Congress on the USAID programme, US Agency for International Development, December '93.
WHO's Work in Water and Sanitation Hygiene Education - Community Water Supply and Sanitation Unit, Division of Environmental Health, WHO, October 1993.
Draft WHO Ninth General Programme of Work (covering the period 1996 - 2001) EB 93/10, 15 December 1993.
Triennial Review of London School of Hygiene and Tropical Medicine and ODA - Progress and Plans of the Child Epidemiology Programme (Summer 1993).
Ninth Report of WHO Collaborating Centre for Epidemiology and Environmental Aspects of Diarrhoeal Diseases - Department of Epidemiology and Population Sciences, London School of Hygiene and Tropical Medicine 1992.
Diarrheoal and Respiratory Disease Research and Coordination Meeting, (DRDRC) Antigua, Guatemala, August 15 - 20, 1993.
Investing in health, World Development Report 1993; Published for the World Bank by Oxford University Press.
Aspects of PHC Review: EPI/CDD Programme Management, GHANA.

Annual Report (1992) Epidemiology Division, Ministry of Health.
Proposal for the Programme to Control Childhood Acute respiratory Infections (ARI) in Ghana.
National Policy of the programme for the control of Acute Respiratory Infections, MOH, Accra, Ghana.
Nigeria Control of Diarrhoeal Diseases (CDD) Programme 1991 - 1992.
Nigeria Control of Diarrhoeal Diseases (CDD) Programme 1991 - 1995.
Household Survey - Diarrhoeal Disease Morbidity and Home Case Management - Plateau State 17 - 24 August 1992.
CDD Workshop for State-Level Programme managers - Lagos, Nigeria, 4 - 11 November 1992 Report.
CDD Programme Managers' Training Course, Ijebu-Ode, Nigeria, February 1993.
National ARI Programme Plan of Operations 1991 - 1992.
National ARI Review Meeting, Lagos, Nigeria, 25 - 27 November 1992.
Programme for the Control of Acute respiratory Infections - Policy Statement.
Report on Review of National CDD Programmes, Bangladesh. Dr. M. Claeson CDR/CDD, 2 December '91.
Phase I and II focused Programme Review of National CDD Programmes, Cameroon, Dr. J. P. Papart, CDD Consultant, 2 June '92, and Dr. Gottfried Hirnschall, 18 September '92.

4b

APPENDIX C

COUNTRY REPORTS

Brazil
Guatemala
Pakistan
Philippines
Zambia

MEMO TO: Dr. Deanna Ashley
Chairperson, External Review Group
Ministry of Health
Jamaica, WI

FROM: Dr. G. de Virgilio

SUBJECT: **Review of CDR Programmes -- Brazil. An on-site review conducted January 11 - 14, 1994.**

1. SUMMARY

The CDD and ARI programmes in Brazil form part of an integrated Mother & Child Health Programme since 1984. The fight against diarrhoeal diseases and respiratory infections in children are both felt to be of priority as they represent the major causes of death in the age group under 5 years. The programme in defense of child health has progressively gained vast support and recognition from the politicians and the public. In 1990, Brazil signed the World Summit for Children goals and the effect has lead to the States of the Brazilian Federation developing the "Agreement in favor of Childhood" and the creation of a multi-institutional "Group of Defense for Children Rights." The occurrence of the cholera epidemics in 1991 has brought about even more concern and commitment to the control of diarrhoea. Programme implementation is at the state and municipal level, while the federal contribution is more of a normative and advisory one. Results and achievements vary in the different States. This report looks at one of the most successful areas, Ceara State. There has been a decrease in diarrhoea related infant mortality (32% reduction between 1987-1990). This should be examined and disseminated within and without the national borders.

Recommendations are finally given. Most of them are related to the need for a general improvement of the health service structure from the supervision area to the development of human resources and strengthening of the distribution of supplies. The MCH programme, of which CDD and ARI are just two components, appears to rely on sensible and modern strategies and would certainly better achieve the set objectives and targets when certain general impediments of the health service are overcome.

II. INTRODUCTION

Objectives

Two main objectives were set out for the country visit:

1.1 To acquire sufficient information to evaluate the progress and strategy of the CDD/ARI programmes at National Level.

1.2 To evaluate the programmes at a deeper level of analysis in the context of one State (Ceara State, North East Brazil).

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Method of Review

Relevant information and data were collected through review of documents, structured interviews, observations of staff/patient interaction and of programme formal meetings, meetings with various levels of providers, brainstorming sessions, site visits to facilities and informal talks. The visit lasted four days and was fully supported and efficiently organized by the staff of the Health Secretariat of the Ceara State,(Dr. A. M. Calvalcante, Dr. F. O. Andrade) to which the mission is very grateful. Participation of programmems officials from the National Level (Dr. A. Goretti) and PAHO/WHO Office (Dr. M. L. Ponce de Leon) were also arranged. UNICEF Staff from the National level were also expected to be in Fortaleza, but could not attend. The complete list of persons met by the mission is presented in annex A. Persons from the national level were met jointly with State Officials, making it possible to understand the degree and nature of collaboration between these two levels. Field visits were made to a Child Care Training Unit, Paediatric Teaching Hospital and University Research Unit, and numerous urban and rural facilities including an encounter with Community Health Agents. The majority (but not all) of the field visits were conducted in presence of National, State and PAHO/WHO Staff. The visit was concluded by a final evaluation session to provide an initial feed-back on the review exercise. It is worthwhile to note that the participants involved in the review found the opportunity quite beneficial for internal evaluation.

III. BACKGROUND & PROGRAMME OVERVIEW

Size of the problem and national priorities

In Brazil some 200,000 children die in their first year of life as victims of diarrhoea, malnutrition, respiratory infections and other illnesses that immunization could prevent. Half of such deaths occur in the North-East of the country where less than one-third of the population lives and where diarrhoea is responsible for 30% of infant deaths. In this area of the country, the children under 5 years of age run 5 times a higher risk of losing their life for diarrhoea than the same age-group in the south of Brazil.

The comparatively low level of socio-economic conditions of the north-eastern states is one main underlying cause of the problem. From this perspective, the Ministry of Health decided to concentrate efforts to decrease diarrhoea related mortality in the under five age group in Brazil. As far as acute respiratory infections are concerned, they stand as the third cause for death for children under five years in the country. Both diarrhoea and acute respiratory infections are priority concerns at the national level. CDD in particular is considered a high priority in the "Emergency Government Health Plan" of the country.

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Programme Organization

National programmes directed at controlling diarrhoeal (CDD) and respiratory infections (ARI) were initiated in 1982 and 1981 respectively. By 1984 the two programmes were included in the activities of the "Integrated Programme for Children Health Care" (Programmema de Assistencia Integral a Saude da Crinca, PIASC) under the coordination of the present "Coordenacao Materno-infantil" of the Ministry of Health (COMIN). PAISC includes actions on growth monitoring and development, promotion of breast-feeding and immunization. In 1990 the Brazilian Government signed the goals and objectives of the "World Summit for Children" and elaborated a "National Programme for protection of children" in which CDD and ARI, together with the other above mentioned health areas were identified as priorities. Political support at State Level materialized in action plans signed by State Governors (Agreement in favor of Childhood: Pacto pela Infancia). A multi-institutional group was also created (Group of Defense of Children Rights) which includes governmental, non-governmental institutions, and international organizations (Ministry of Health PAHO/WHO, UNICEF, Brazilian Society of Paediatrics, and the Catholic NGO Pastoral da Crianca to name a few). It seems, therefore, that much has been done in recent years at the political/institutional level. The appearance of the cholera epidemics in 1991 acted as a boost to the process of sensitizing the decision-makers in the country. Operationally there was a push to increase service coverage through the network of Community Health Agents (CHA).

In the State of Ceara the integrated programme known as the "Viva Crianca" (Up with the Childhood) has been active since 1987 and has now been implemented in 163 of the 184 municipalities of the State. By December 1993, 87% of the upper level officers have been trained on programme management and 67% of the CHA's in routine activities.

Implementation Strategy

The main strategy emphasized at the national level is to prevent deaths from diarrhoea and has focused on the Oral Rehydration Therapy (ORT). Concomitantly, promotion of breast-feeding and environmental health were supported at the national level. In 1988 the infant mortality related to diarrhoea was 14.4% of the total, almost half compared to the 28.4% recorded in 1979.Since 1990 there has been a shift towards the PAHO/WHO approach to "Correct Management of Diarrhoeal Cases" and consequent updating of national guidelines and training content. The involvement of Universities in training activities represents an effective move in disseminating the programme strategy among the medical profession, using the necessary scientific back up. Another apparently effective measure is the location of training/demonstration units located in the health services (Centros de capacitacao integrados aos servicos). The ARI component of PAISC bases its approach on correct case management at the health facility level, immunization, and education of mothers to recognize early signs of a severe affection to ensure timely treatment.

It is worthwhile to examine how Ceara State has implemented this approach. Operational research has been used, among others, to provide a situation analysis of the state of children's health in the area and to construct relevant plans of operation in close collaboration with lower administrative levels (municipalities). Adaptation of PAHO/WHO technical guidelines to local reality and provision of training to peripheral health workers based on those guidelines has been done. Training is emphasizing practical applications and is in-service oriented. A reduction of 32% in infant mortality has been recorded in the period 1987-1990.

Cholera Programme, Organization and Links with CDD

Cholera epidemics brought about the constitution in 1991 of a National Committee for the Prevention and Control of Cholera. The committee is composed of representativesd of different government sectors, is headed by the National President, and includes one coordinator for each of the six sub-committees: epidemiologic surveillance, treatment, laboratory, environmental health, food safety, health education and communication. The national authority responsible for child health coordinates the sub-committee on treatment, ensuring the standardization of CDD national norms and provision of supplies for treatment.

In Ceara, the programme was introduced in 1992 and is under the coordination of teams at state, regional and municipal levels. They collaborate with the integrated programme of Viva Crianca and follow the guidelines provided by PAHO/WHO as approved by the Ministry of Health. The mission attended a meeting between the team of Fortaleza Municipality and State. The strategy mainly entails preventive actions such as access to clean water, proper disposal of faeces, appropriate information of the population on hygienic measures to avoid the infection, how to suspect and where to get proper treatment for the disease. During the visit of the mission, information leaflets in various languages for spanish and italian speaking tourists were in preparation.

Major Players and Interaction

The Government, at federal, state and municipal levels, plays the major role in the implementation of child care including ARI and CDD. National NGO's, such as the religious organization named "Pastoral da Crianca" has been active over the last 10 years in 27 states of the country at, the community level through preventive actions. The Brazilian Society of Paediatrics promotes the programme strategies among the medical profession and interacts with other relevant organizations such as the "Association of Toys Producers" and the "Association of Radio-TV Enterprises." All are involved in the above mentioned multi-sectoral "Group of Defense of the Children Rights." Technical and/or financial support is also provided by International Organizations such as PAHO/WHO, UNICEF and the World Bank. From 1995 a bilateral agreement with Japan will be activated in the field of MCH.

The State of Ceara oversees the collaboration of the state and municipal health secretariats with the University of Ceara, Pastoral da Crianca, Fundo Cristao para Crianca (NGO), Terra dos Homens (NGO) and the Grupo de Apoio a Comunidades Carentes. Support to the programme is also coming from the Federal Level, PAHO/WHO, UNICEF, and the World Bank through the "North-East Project." Also at state level the structure of interaction among the different institutions is provided by the "State Group of Defense of the Children Rights."

IV. PROGRAMME TARGETS, SUB-TARGETS AND ACHIEVEMENTS

The targets for the fight against diarrhoea at national level for the year 1994, have been set out as follows:

- 10% reduction of mortality due to diarrhoea in the under 5 age group
- Ensure that 80% of dehydrated cases receive ORS
- Ensure 100% availability of ORS at health units level
- Promote adequate use of home made solution in 100% of home treated diarrhoea.

Sub-Targets will vary among states and are going to be fixed with State MCH coordinators in February this year.

The ARI targets are set less specifically and expressed as follows:

- Reduction of mortality in the under five age group for ARI and in particular for pneumonia (10% reduction of mortality for the year 1994).
- Reduction of the number of severe cases and complications of upper and lower respiratory infections.
- Control of the inappropriate use of antibiotics and other drugs for ARI.

Among the targets set at Ceara State level for the next 3-4 year period, we quote the following:

- Reduction of infant mortality by 30%
- Reduction of admission for dehydration of 50%

As far as achievements are concerned, relevant indicators show that the epidemiological picture of under five and infant mortality has positively changed in the last years. It is difficult to disentangle the impact of the health programme from other contributing factors but they may have contributed much to such improvement, notwithstanding the period of economic continuous recession. The technical interventions have possibly found a fertile ground both in the political (and others) sector and in the public opinion. The case of Ceara State would tend to support this view for the impressive achievements they have reached in the last few years to become a well known case in itself (Maurice Pate Award for 1993).

V. STRATEGIES TO ENSURE PROGRAMME SUSTAINABILITY

Training

Training philosophy has changed in the last few years to make it more relevant to the professional needs of the staff at different levels. There has been a shift in the balance between theoretical and practical aspects in favour of the latter (this is still awaited for ARI training). Another important feature is the concern to provide in-service training linked to supervision, by building on more structured courses. To support training effectiveness, services that are receiving courses are concomitantly supplied with materials to permit them to become operative. The training manuals are based on WHO material. The Cholera epidemic resulted in additional funds from the World Bank and the States to train personnel on CDD (including cholera control) activities.

In Ceara State basic training on CDD and ARI has the following features:

ARI: 08 hours theory + 08 hours practice. The course is aimed at general practitioners and nurses.

CDD: 04 hours theory + 08 hours practice for nurses, staff of intermediate level and community agents.

4 hours are spent on other basic health action of the Integrated Child Health Programme.

Training is often given at peripheral level (municipality) by the State staff of the "Viva Crianca" Programme. Specific manuals on the different components of the programmes have been produced at State level, based on PAHO/WHO guidelines. The evaluation of training effectiveness is done through monitoring the staff performance in the various health units. Corrective action is taken as part of an in-service training action that appears to be well accepted by the executing staff.

Supervision

At national level, supervision is identified as one of the main weak points of the health system, not different to the experience of many other countries. The wide expanse of the country, together with comparatively scarce human, financial and material resources are given as the major causes for such deficiency. From the federal level supervision is made (within the available resources)
on a priority basis and on demand. The same problem is existing at Ceara State level, where the main cause is felt to be the scarceness of qualified staff to conduct supervision (from state, to municipality levels). The plan for 1994 includes a supervisory visit from the State Level to each of the municipalities included in the plan at least every 60 days.

Supplies/Drugs

Supplies and Drugs are distributed by a central government structure named CEME (Central de Medicamentos), which is part of the MOH. On the production side Brazil is self-sufficient to satisfy ORS needs although problems are experienced in the distribution. Inefficiency of the system is affecting the supplies of all the medicaments provided for the Integrated Child Health Programme. Since 1992, CEME is undergoing a process of decentralization that should in the medium term improve the problem (improvements are expected already during 1994) of the supply of drugs for the ARI programme shortage in some of the regions of the country are causing a higher frequency of hospital admission, and an increase in complications consequent to delayed treatment which results in higher case fatality. In the state of Ceara, the situation is reported to be satisfactory for CDD and ARI activities. It is noted that the process of decentralization increases the efficiency of the supply distribution system, whenever the municipality gives high priority to the child health programme.

Research

Quite a number of research studies are conducted in various areas: epidemiology, operational aspects, and qualitative studies. Examples are promotion of breastfeeding, weaning/food/hygiene, improved ORS, case management, nutritional management of diarrhoea, KAP research on health professional use of ORT, and effectiveness of training. Results of research are used to re-orient programme activities. In the State of Ceara, two extensive studies were conducted in 1986 and 1990 to assess the mother and children health status. Objectives and strategies of activities were actually based on such situation analysis (1986) and helped in monitoring changes (1990). A specific investigation on improving hygienic practices and food preparation for mothers has been pursued jointly by the Federal University of Ceara and the London School of Hygiene with technical and financial assistance form WHO/CDD (1990-1991). A second phase is now under negotiation.

Financing

The main bulk of financing is provided by the Brazilian Government and related administrative levels (states and municipalities). Contributions are received from PAHO/WHO< UNICEF and the World Bank.

VI. MAIN PROBLEMS AND CONSTRAINTS

The national level identifies the following main problems shared by CDD and ARI activities:

1. General weakness of health services, especially for access, referral system and information system;

2. Lack of constant supplies at the health units such as ORS, educational materials (quoted also for ARI drugs);

3. High turnover of trained health professionals that limits investment in training;

4. Unsatisfactory participation of state and municipality health secretariat in reproduction of training activity initiated by federal level;

5. Advising, supervision and evaluation of activities still insufficient;

6. Deficient environmental health conditions especially in North and North-East regions.

7. Low acceptance of protocols by the health professionals (for ARI).

8. Insufficient interaction between University and Health Services (for ARI).

VII. RECOMMENDATIONS

A request was made by the staff who contributed to this evaluation, for feed back on this review. The request is therefore submitted for consideration to the Chairperson of the External Review Group.

The following recommendations are derived from the opinion of the Brazilian Authorities involved in the Programme at different levels; they match quite well with a series of recommendations given by PAHO/WHO staff that are not reported in this document, but are part of the documentation accompanying this report.

A) CDD ACTIVITIES

At Federal Level

1. Improve the organization of the health services for the correct development of Child Health Care (including CDD and ARI).

2. Develop the Information System to ensure monitoring and evaluation;

3. Ensure appropriate financing (national and external sources) to support supervision, monitoring and evaluation activities;

4. Improve the involvement and coordination with national and international agencies to optimize the use of available resources;

5. Request the continuation of international cooperation in the field of technical assistance, training, research, strengthening of managerial skills of health staff;

6. Develop new training methods to provide for effective and efficient training.

At State and Municipal Level

1. Prioritize the implementation of basic health services (of which Child Health Care is part);

2. Improve managerial skills of MCH coordinators;

B) ARI ACTIVITIES

1. Strengthen the management unit of MOH. Staff could benefit from further national or international training and educational opportunities;

2. Improve the information system through sentinel posts, systematic procedures, two-way feed-back;

3. Ensure sufficient funds for operational research with greater involvement of University;

4. Develop further the area and actions on Health Education;

5. Produce and disseminate health education material for all levels of service (up to the CHA);

6. Coordinate and optimize the contribution of the international organizations;

7. Ensure proper and continuous provision of drugs.

8. Support politically the implementation of the programme at state and municipal level;

9. Strengthen the personnel skills (state and municipal levels) through managerial and clinical training.

The recommendations provided by the Ceara State Programme implementers, substantially repeat the same areas of concern with the following additions:

1. WHO should increase the emphasis on the general improvement of hygienic condition of life as an important investment to improve child health. That would help in sensitizing politicians/decision makers;

2. Generate more frequent opportunities to exchange experiences in the management of programmes. The present external evaluation was felt to be a useful exercise to examine and discuss the programme strategy and orientation.

ANNEX: LIST OF PERSONS MET BY THE MISSION

Name	Position/Institute

Dr. Marina Luz Ponce De Leon, CDD Advisor MCH Programme PAHO-Brazil
Dr. Cristina M. Gomes do Monte, Nutritionist, Research Unit of the Faculty of Medicine, Federal University of Ceara (UFC)
Dr. Ana Goretti K. Maranhao Chief of Health Care Service, Ministry of Health
Dr. Francisca M. Oliveira, Director of Health Services, Andrade Secretariat of Health, Ceara State
Dr. Regina L. Portela Diniz, Coordinator, "Viva Crianca", Programme Secretariat of Health, Ceara State
Dr. Marilyn Nations, Director of the Institute of Cultural Sciences and Medicine, Fortaleza
Dr. Jose Lucivan Miranda, Professor, Coordinator of the Paediatric OPD, Faculty of Medicine of UFC, Fortaleza
Dr. Maria S. Carvalho Gomes, Professor, General Coordinator for Pediatric Training, Faculty of Medicine of UFC.
Dr. Maria F. Facanha Elias Reis, Pediatrician, Paediatric OPD, Faculty of Medicine of UFC, Fortaleza
Dr. Henrique Luis Sa, Medical Officer, Pediatric Service, University Hospital, Faculty of Medicine of UFC
Dr. Raimundo Bezerra, Secretary of Health, Municipality of Fortaleza
Dr. Ana M. Cavalcante, Secretary of Health, State of Ceara
Dr. Helena Andrade, Director, Department of Health Care, Fortaleza
Dr. Maria do Carmo, Director, Rehydration Centre, Marieta Cals, Fortaleza
Mrs. Candida Reboucas, Nurse, Technical Advisor, Viva Crianca Programme, Ceara State, Fortaleza
Dr. Veronica Said de Castro, Pediatrician, Technical Advisor, Viva Crianca Programme, Ceara State, Fortaleza
Mrs. Roselia M. A. Soares, Social Worker, Member of the Mesquita Community Health Agents Programme
Dr. Aldo Lima, Professor, PHD, Federal University of Ceara Clinical Research Unit, Faculty of Medicine
Dr. Sullivan Mota, Professor, In Charge of Pediatrics Dept, Faculty of Medicine, UFC
Dr. Antonio Queiroz, Health Secretary, Municipality of Maracanau, Ceara State

MEMO TO: Dr. Deanna Ashley
Chairperson, External Review Group
Ministry of Health
Jamaica, WI

FROM: Dr. Paul Nchoji Nkwi

SUBJECT: **Review of CDR Programme -- Guatemala. An on-site review conducted, February 1 - 5, 1994.**

I. INTRODUCTION

The objective of this on-site visit was to evaluate the CDD/ARI programme in Guatemala highlighting its achievements, strengths and weaknesses. Dr. Mario Lacayo of PAHO/WHO coordinated the visit by arranging the initial meeting with Guatemala health officials as well as visits to urban and rural clinics. The list of persons interviewed is included in this report. Dr. Octavio Moran, head of the ARI programme was very helpful throughout the trip.

Two focused group discussions were conducted with ORT volunteers in Villa Nueva village and staff of Foster Parent International at Amititlan. I visited the University Teaching Hospital's pediatric unit (San Juan de Dios). Other interviews were conducted on a person-to-person basis.

II. BACKGROUND AND PROGRAMME OVERVIEW

Between 1986 and 1990 there was a decrease of diarrhea- related deaths in contrast to the dramatic increase of child mortality due to ARI. Within this period KAP studies indicated that people were changing their attitudes and behaviour, and ORS use became significant. Studies made by INCAP (Instituto de Nutricion de Centro America y Panama) shows that despite this steady decline in mortality rates due to diarrhoea, 81% of the health personnel have very low knowledge of the management of acute diarrhoea and cholera; the health centres do not have adequate plans and actions for community awareness building; 44% of mothers can not identify the danger signs of acute diarrhoea and that most health facilities pay little attention to physical examination of diarrhoeal patients.

Within the same period attention was given to capacity building at the institutional and community level, seeking to reinforce knowledge about adequate management. In 1992, 22 ORT Units were created around the country, but inadequate follow-up, monitoring and evaluating have been the major constraints.

Cholera Epidemic

In July 1991 3,664 cases of cholera were reported. Males were affected most (60%). In 1992 the number of cases jumped dramatically to 15,861. The figure doubled to 30,728 cases in 1993, and it is expected that the numbers will go up to about 47,000 in 1994.

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The number of deaths kept rising as the number of cases went up. In order to develop adequate preventive measures and educate people at all levels, the National Cholera Commission was created. A National Action Plan to help deal with the epidemic by strengthening the development of activities of vigilance, prevention and control was put into place. Lack of adequate resources (material and financial) remain the major constraints.

III. THE CDD/ARI PROGRAMME IN GUATEMALA

Established to reduce the incidence and rate of mortality among children 5 years and younger, the programme promoted the effective management through training and education at institutional and community levels. UROC's (Unidad de rehydracion oral de communitaria) were created but little was achieved. The programme promoted the use of liquids in order to harness dehydration and the education of mothers. The coordinating role of the MOH has been weak for lack of basic resources and a political will.

Guatemala was the first Latin American country to initiate ARI programme in 1984. Between 1988 and 1989 it trained its personnel, established norms and standards. At that time diarrhoea was the leading cause of death among children 5 years and younger. The ARI programme has developed a strategy to cover 50% of the country and

PAHO will assist in this new endeavor. The remoteness of some of the districts most in need of assistance also constitutes a major handicap to the training, education, follow-up and reaching out to local communities.

The ARI programme intends to train more personnel; provide more drugs and increase the capacity of coverage by using trained volunteers from local communities. The use of local NGOs (ASINDES, Hope,) is also critical in the achievement of programme objectives. The IGSS has embarked on an extensive training programme in collaboration with the ARI programme. By December 1993, a total of 340 people (89 medical doctors, 15 nurses and 45 nursing aids, 10 health educators and 20 medical students) were trained by the IGSS/ARI.

IV. ITS ACHIEVEMENTS

1. A certain level of awareness has been raised among mothers about the dangers of dehydration. The programme coordinators assert that the decline in the diarrhoeal mortality rates is the major achievement of the programme. Future efforts in building more awareness among mothers may significantly improve the home management of diarrhoeal diseases.

2. Through an international organization such as CARE, the programme is able to educate local people in identifying the signs and symptoms of acute diarrhoea and cholera and how to develop preventive measures with episodes using community based strategies.

3. Over 22 ORT Units have been established, and the Guatemala Institute of Social Security (IGSS) has been instrumental in use of the strategies developed by the programme. IGSS hopes to establish over 40 ORT Units in local communities in 1994.

4. The cholera epidemic has attracted a lot of international attention and support. The CDD programme uses cholera experience to reinforce its activities. A only handicap is that the cholera programme tends to focus on international demands rather than on CDD national objectives.

5. Both the CDD & ARI have produced some promotional material for local communities, and the two programmes have worked closely with Foster Parent International to produce these materials. Collaborating with national and international institutions has been the major strength of the programme. Such collaboration has led to the adaption of material coming out of WHO HQ.

6. Training of local community people, nurses and medical doctors is being executed at a very slow space due to attitudinal problems and lack of resources. The training programme in ARI has been very successful having trained over 340 persons.

7. LAPROMED and ADAMED, two Guatemalan companies, produce ORS and provide the MSPAS with it. CLAPP & MAYNE, a USAID contract firm, is assisting in assessing real needs are promoting consumption. MARIPOSA, a PEPSI-COLA concessionaire, has carried out successfully the distribution of ORS.

V. THE MAJOR CONSTRAINTS OR WEAKNESSES

1. The coordination of the CDD programme is rather weak. The personnel shortage and instability do not provide for good monitoring and evaluation. For example, between 1987-1993 five coordinators of the ARI progamme were appointed making follow-up, monitoring and evaluation rather difficult. Internal politics constitute a major constraint for programme monitoring and evaluation.

2. Given the increasing emphasis of international agencies on grassroots support for the programme; the central coordinating units are completely handicapped by the lack of logistical support and financial resources. The Ministry of Health (MSOAS) does not provide financial and material resources to the CDD/ARI programmes. Although there seems to be an indication that MOH will provide funds for the 1994 CDD national programme, it is very unlikely. Due to structural and historical problems, international agencies refuse to give direct assistance to the central coordinating units of CDD/ARI programmes. Such agencies concentrate their efforts on grassroots organization (NGOs) where it is expected more will be achieved. PAHO, AID, UNICEF and other prefer a greater involvement of NGOs in the CDD/ARI programme activities.

3. Active community participation in most CDD/ARI activities is very low. Although attempts have been made to establish community drugstores in which ORS can be obtained, community participation in their establishment is totally absent. A few selected individuals are trained to run what is called community drugstores. These do not represent what is usually referred to as community participation and involvement.

4. The management of "health areas" have been found to be weak because of lack of people well trained to provide quality care. USAID/CLAPP/MAYNE project has identified this weakness and there is an attempt to target nurses, interns and university teachers for training if sustainability is to be achieved in the future.

5. Some people I talked to assert that the CDD/ARI programmes are too medically oriented. There is very little interdisciplinary cooperation; it is too vertical a programme. The managers of CDD/ARI programme are said to resent other people.

6. Attitudes towards ORT constitute a major handicap for the effective management of diarrhoeal diseases. Medical doctors accept the ARI approach and tend to neglect the importance of ORT. A study carried out by INCAP indicates that a high percentage of nurses do not evaluate carefully patients with diarrhoea, nor do they educate mothers on home management. Their attitude towards ORT must change.

7. When there was the outbreak of cholera in 1991 few nurses knew how to deal with it. Most of them were caught unaware and did not know how to handle the cholera epidemic. They knew the basic norms but they were afraid to apply them for fear of unknown complications. Medical doctors rely on standard treatment and few health facilities can afford medical doctors. So, the system depends on nurses who need to be targeted for more training.

8. The research component is very weak. Apart from INCAP that has carried out some KAP studies, we found no evidence that this is being given much importance within the programme. INCAP has the capacity to carry out research for the improvement of the programme performance.

VI. PERSPECTIVES

For the CDD/ARI programme to move forward on more sure grounds, future activities and present strategies must address some critical issues. Vertical programmes must develop into a more integrated and less disease oriented programmes. The sick child initiative seems to be a welcome approach among CDD/ARI programme managers. This will permit a rational use of resources; monitoring and evaluation will be more efficient and an interdisciplinary approach in training and monitoring will put the programme into better focus.

Influencing local attitudes and mentality within a framework of community participation will be cardinal to the success of the sick child initiative. Attention must be paid to social issues that are critical to community involvement and participation.

Local NGOs will need technical support to play their role within community-based programmes. This measure is vital if the curative trend (80%) moves to more preventive measures or strategies. Given Guatemala's ethnic diversity, the involvement of social scientists in the elaboration of more effective community based strategies is also critical.

The sustainability of a more integrated programme will largely depend on appropriate training programmes. The efforts of INCAP in developing long distance training materials based on CDR/WHO model for medical doctors, nurses and interns will improve CDD programme preventive activities.

VII. RECOMMENDATIONS

The current experiences of cholera management should be integrated into the CDD programme. The training of local people in recognizing acute episodes and empowering the health districts and centres in the management of diarrhoea and cholera must be considered a fundamental goal. Flexibility within the chain of command is required to make the programme more functional.

The monitoring and evaluation of the CDD/ARI programme by its managers at MSPAS require minimum resources and this can only occur if the political will to sustain the programme exists.

The establishment of community drugstores must be made a community affair rather than the effort of a few selected members of the communities without community participation. The UROCS and drugstores presently managed by volunteers should be transformed into health posts with greater community participation in their management.

ANNEX I: LIST OF PERSONS MET

1. Dr. Octavio Moran, Coordinator CDD programme, MOH/MCH
2. Dr. Enrique Molina, Coordinator, ARI programme, MOH/MCH
3. Dr. Carlos Mayorga, Inst. Guatemalteco de Seguridad Social
4. Dr. Juan Jose Urrutia, Consultant, Clapp & Mayne/USAID
5. Dr. Guadilio Sajche, Head, MCH Dept. Ministry of Health
6. Dr. Celeste Moran, CDD programme, MOH/MCH
7. Dr. Enrique Napoleon Diaz, Head, MCH Section, IGSS
8. Dr. Cristina Caldon, Supervisor, Child/CHO, CARE
9. Dr. Walter Flores, CARE
10. Dr. S.T.C. Flores, Head, Health Sector, ASINDES (NGO)
11. Sig. Luis Felipe Rosales, Health Educator, COMOS/UNICEF
12. Dr. Floridalma Cano, Hygiene & Weaning Food Project, INCAP
13. Dr. Sandra Saenz de Tejada, INCAP
14. Dr. Olga R. Torres, Nutrition & Infection Programme INCAP
15. Dr. Maggie Fischer, Distance Education Module, INCAP
16. Dr. Noemy de Reyes, Foster Parent International, Amititlan
17. Dr. Raul Vasquez, Foster Parent International, Amititlan
18. Dr. Gustavo Tapia, Foster Parent International, Amititlan
19. Sra. Catalina de Cuyan, ORT Unit, Villa Nueva Village
20. Sra. Doris de Carplo, ORT Unit, Villa Nueva Village
21. Sra. Felipa Alvarado, ORT Unit, Villa Nueva Village
22. Sra. Catalina Tzul, ORT Unit, Villa Nueva Village
23. Sra. Cecilia Orozco, ORT Unit, Villa Nueva
24. Sra. Clemencia Garcia ORT Unit Villa Nueva
25. Sra. Yolanda de Morales, ORT Unit, Villa Nueva
26. Sra. Margarita de Leon, Health Educator, IGSS
27. Sra. Diana Carcia Santana, Health Educator, IGSS
28. Dr. Jorge Chiang, OH/E, USAID, Guatemala
29. Dr. Rodrigo Bustamante, Director, Clapp & Mayne, Guatemala
30. Dr. Victor Lara, Clapp & Mayne, Guatemala
31. Dr. de Jesus Sagastumne, North Health Sector, Guatemala City
32. Dr. Carlos H. Vargas, Paedriatic Unit, UTH, Guatemala City
33. Dr. Carlos Andrade, Health Officer, UNICEF, Guatemala
34. Dr. Mario Lacaya, MCH, PAHO/WHO, Guatemala
35. Director, San Juan de Dios Hospital, Guatemala City

ANNEX II: REPORTS REVIEWED

1. UNICEF's Country Programme Recommendations, February, 1987.

2. Commission Nacional de Colera, Acciones de Organicion local para la lucha contra el colera, MSPAS, Guatemala, 1994.

3. H. Faust, Consultancy visit on ORS Production in Guatemala, WHO/UNICEF, Guatemala, 1992.

4. MSPAS/DGSS/DMI, Normas de atencion de slaud materno infantil, Plan Nacional de salud materno infantil, 1992-1996, Guatemala, Agosto, 1992.

5. MSPAS/DGSS/DMI La salud materno infantil en lel pais: situacion actual y propuestas para el cambio: salud para todos los Guatemala, 1994-1996.

6. Programmema control de enfermedades Diarreicas, Guatemala, Julio de 1993.

7. Modulo de capacitacion para personal de servicios de salud en la asistencia y control de las infecciones respiratorias agudas (IRA) en ninos menores de 5 anos de edad, 1993.

FROM: Dr. Deanna Ashley
and
Dr. Sadia A Chowdhury

TO: ERG Members

SUBJECT: **Review of CDR Programmes -- Pakistan. An on-site review conducted, December 8 - 12, 1993.**

SUMMARY

Acute Diarrhoeal Diseases and Respiratory tract infections are still important health problems in Pakistan and national programmes have been developed to address these health priorities.

The efforts with regards to CDD date back to 1992 when the programme was linked to the initiatives for EPI. The ARI programme was initiated in 1989. These programmes have been guided by the WHO programmes policy and strategies.

There is indirect indications for possible decline in mortality due to diarrhoea based on; i) reduction in case fatality rate at 10 DTUs, and ii) improved case management practices of health workers.
Projects such as Pakistan Child Survival Project have aimed at integrating CDD and ARI activities with other child health related activities, focusing at the operational, health centre level. This has created ambiguities and concerns among national and provincial programme managers. Discontinuation of donor support for this project in 1993 and the development of the new Social Action plan which excludes CDD and ARI has lead to further uncertainties. Integration of these programmes however seems to be accepted as the new policy direction of the Ministry of Health.

Coordination of donor and government activities and inclusion of CDD and ARI related activities in this project is essential if these two major health problems are to be addressed and an impact achieved.

1. INTRODUCTION

1.1 Objectives

1.1.1 As a part of the evaluation of the WHO global programmes of CDD and ARI to assess the inputs of the global programme in Pakistan as one of the countries selected for the External Review.

1.1.2 To evaluate the accomplishments, strengths, weaknesses and constraints of the ARI and CDD programmes in Pakistan.

1.2 Review Procedures

The itinerary for the review was coordinated by Dr. Johnathan Simon of ADDR who unfortunately, was unavoidably absent at the time of the visit. Dr. Rushna Ravji, Chief of Health, Population and Nutrition at USAID, who was delegated the responsibility to follow up organizational matters and accompany us on field visits, did an excellent job. The support provided was of great assistance in accomplishing the many visits in Islamabad, Lahore and Karachi in the short time available.

Visits and interviews included key representatives of WHO, UNICEF, and USAID, National Programme Managers for CDD and ARI at the Federal as well as the Provincial level for Punjab and Sindh provinces; researchers and trainers involved in both programmes at the Pakistan Institute of Medical Services, the National Institute of Health and other teaching hospitals, visits and discussions with staff of a non-governmental organizations and a basic rural health unit. The list of the persons interviewed and places visited is attached. (Appendix I)

1.3 Organization and Delivery of the Health Services

The National Ministry of Health and Social Welfare of Pakistan has been delegated the responsibility for the formulation of national health policies and for planning, while implementation is largely the responsibility of the provincial governments. The Federal Ministry is headed by the Central Minister for Health and the Secretary of Health and Social Welfare, who also has under him the Directorate of Basic Health Services Cell. The programmes are executed by the Provincial Secretary of Health through the department of Health (DOH) headed by the Director General of Health Services of the Province. The District level health services comes under the jurisdiction of the District Health Officer and the District Medical Superintendent of Hospitals (figure 1) Provinces provide the resources needed for programme execution, however EPI/CDD/ARI/AIDS still depend on the Federal Government for some resources.

The National Institute for Health (NIH) is responsible for overseeing the EPI and CDD programme in addition to vaccine production, while the Pakistan Institute of Medical Sciences (PIMS) is responsible for the ARI programme. The federal level (federal cells) plans and provides the policy direction for these programmes.

It is worthy to note that an estimated 60-80 % of health care is provided by the private sector.

2. CDD Programme

2.1 Overview

The national CDD programme along with EPI, at the Federal level (the Federal Cell), falls under the responsibility of the National Institute of Health (NIH). General policy directives are provided by the Director General of Health. The NIH develops the programme's policies, guidelines, develops and conducts training programmes for master trainers and, carries out research. They are also responsible for the coordination of programme activities and liaises with international organisations.

The NIH is also the main reference laboratory for investigation of diarrhoeal diseases. The national programme supplements transport, ORS packets and printed materials required by the programmes for implementation at the provincial level.

In 1982, the Government of Pakistan developed an accelerated health package that focused on EPI, CDD and TBAs. The efforts of the CDD programmes were then on the production and distribution of Oral Rehydration Salts (ORS) packets by vaccinators, supported a by mass media campaign which aimed at reducing diarrhoea deaths. The CDD programme was reviewed in 1984, 1988 and again in 1992 when more in-depth focus reviews were conducted with technical support from WHO.

Over the past ten (10) years the CDD programme at the national level seemed to have waned in importance as projects funded by USAID emerged. This created ambiguities and uncertainties in the programme. The EPI thrust also tended to overshadow the CDD programme. The Pakistan Child Survival Project (USAID), implemented in 1989/1990 had no formal linkage with the national CDD programme. The policy and activities of that project focused on integration of diarrhoeal disease and other child health related activities into the operational levels of the health service. As provincial management was not formally involved in this project, there was lack of ownership and commitment to the activities being implemented.

Policy directions from the Ministry of Health seemed to vary in accordance with donor policy and priorities. However, it is recognised that diarrhoeal disease is a problem that should remain a top priority. This has recently been brought forcibly to attention with the outbreak of cholera in the summer of 1993; and hence a renewed effort to develop a strategy and programme to deal with diarrhoeal diseases within the country.

The main thrust of the programme has recently changed to focus on case management with promotional elements focusing on breastfeeding and handwashing. A new programme plan for 1993 - 98 has been developed.

2.2 Training

Up to 1992, 10 diarrhoea training units (DTUs) had been established, and over 2,000 health staff trained in effective case management. Training has been focused on doctors. Only 13.5% of paramedical staff have been trained. ORT corners has been created in 37% of all hospitals and rural health centres. Some DTUs which were originally established in accordance with WHO policy and strategy guidelines were closed and new Child Survival Training Units for integrated training of health staff were established. It is felt that integrated training would be more cost effective. CDD programme managers, however feel that the time allocated to case management training in the new integrated training programme is too short to facilitate adequate hands-on experience for the trainee. In an effort to coordinate training activities and ensure that training quality as it relates to diarrhoeal diseases is not compromised and efforts not duplicated, a training committee has been established in two (2) provinces. The committee is chaired by the Secretary of Health and comprises the Director General, Project Directors, Professors of Paediatrics of Medical Colleges, Divisional Directors and other Directors from secondary technical schools. The group will set training policy and guide the training programme's implementation, including the selection of persons for the different levels of training.

2.3 Supervision and Monitoring

No mechanism has been developed as yet to strengthen supervision and monitoring. However, the Health Management Information System (HMIS) as developed under the Child Survival Project is accepted as a potentially good system which could provide an effective tool for monitoring and supervision. It is to be implemented throughout the Provinces. This system will become the only regular reporting system for health programmes. However, as it is just being implemented the CDD and ARI programmes still use a separate system for programme monitoring (data quality and regularity of reporting is questionable). There is much concern about the feasibility of implementation and sustainability of this new system on a nation-wide basis, in the absence of a central coordinating body and assurance of commitment of funds from the Government to cover the recurrent operational costs.

2.4 ORS/Drugs

ORS packets were provided by the Federal Government up till 1993. However, the Government has recently indicated that it will become a provincial responsibility as of this year. This is of concern as many health facilities were in short supply in previous years and there is indication that this may worsen as the budgetary allocation at the provincial level, will be unable to meet the needs. ORS packets are available in the commercial sector but often instructions on the use is inconsistent with national policy.

Although anti-diarrhoeal drugs have been de-registered in the last 2 - 3 years and the national CDD policy indicates these drugs should not be used, tablets are often made into paste and administered to children. As 60 - 80% of the population uses the private sector for health care there is wide access to drugs through the commercial sector.

Many factors contribute to irrational drug use, including the perception of clients that the government facilities provide inferior quality drugs. Essential drugs are often in short supply at hospitals and health centres. Doctors have not changed their prescribing habits despite their use of ORT.

2.5 Communication

Several information, education and communication activities have been carried out over the past five (5) years including TV and radio messages, printing of education materials for health workers and caretakers and training in communication for health workers. However this was not part of a comprehensive CDD communication/education strategy. Household and health facilities surveys found that the knowledge levels of caretakers regarding diarrhoea case management is poor and only 6% of health workers communicate effectively with caretakers messages related to home case management and prevention of diarrhoea.

UNICEF is currently supporting CDD-related communication activities in provinces whilst Johnson and Johnson are funding the national breast feeding promotional activities.

2.6 Achievements

In table 1 programme targets and subtargets set in 1966 and revised in 1990 is compared with the status of the programme indicators for which data was available in 1992/93.

As no mortality surveys have been done in Pakistan diarrhoea specific mortality data is unavailable.

Data from the sentinel surveillance system maintained at the 10 DTUs indicated a slight increase in admission rate of diarrhoea cases, with a significant decrease in case fatality rate from 11.3% to 5.8%. The reduction in case fatality rate at the 10 DTUs is indirect indication of a possible decline in diarrhoea mortality.

Access to a provider of ORS is estimated to be 85% but access to a trained provider is only 20%. ORT access is 31%.

2.7 Evaluation/Research

Since 1988, six (6) household surveys, and two (2) programme reviews in 1988 and Focused programme review in 1992, has been conducted. Several key findings emerged from these surveys:

2.7.1. ORT use during diarrhoea remains low.

2.7.2. Case management practices in Public Health facilities were often inadequate indicating that there is limited impact of the training courses on the quality of the health workers performance.

2.7.3. Antibiotics, antidiarrhoeal and other drugs are used extensively in the treatment of acute watery diarrhoea.

2.7.4. Inadequate breastfeeding and poor weaning practices exist.

2.7.5. Poor distribution system for the supply of ORS to the peripheral health facilities.

2.7.6. No advice was being provided to the caretakers on home case management and prevention of diarrhoea.

Operational research to address the above issues have not yet been carried out.

The National CDD programme has however identified the research areas for 1993/94, which aims at addressing some of the above operational and behavioural issues.

3. ARI Programme

Several studies conducted in Pakistan since 1981 have shown that acute respiratory infections (ARI) are the second most common cause of childhood morbidity and mortality. Available data from surveillance systems or community - based studies indicates that deaths in children under 5yrs. associated with ARI, range from 15% to 30%. Hospital studies indicate that the case fatality from pneumonia and other severe forms of ARI range from 4 to 10%.

The focus for the national programme is the Federal ARI Cell, which lies in the Pakistan Institute of Medical Services (PIMS - a federal government institution), which is responsible for the formulation of the national guidelines for training, clinical management and supervision, and the overall coordination of the programme.

The ARI programme started in 1989 and a national plan of action for ARI in Pakistan was developed in 1990 with the assistance of WHO Geneva and the Regional Office for the Eastern Mediterranean in Alexandria.

The initial objectives of the National ARI programme are:

- to reduce mortality from acute lower respiratory infections, in particular pneumonia in children under 5yrs. of age; and
- to reduce the inappropriate use of antibodies and other drugs for the treatment of acute respiratory infections in children.

The four (4) year action plan started off with the training of senior paediatricians at the central level and the provincial teaching hospitals. This has been continued by focussing on one division in each province in which training for clinical management and supervision would be completed at all levels by 1992 and the rest of the country by 1997. To date approximately 800 physicians from all divisions have been trained.

The programme has done well in establishing a technically strong base for action. The involvement of the professional Paediatric community has resulted in a firm acceptance of the principles of ARI control by the senior levels of the medical profession who participated in the development of the practical National Plan of Action. The challenge now confronting the programme is how to operationalize at levels where the programme impact can be perceived. If this cannot be done within the near future, the ARI programme stands the danger of becoming static and losing its impetus. The major activity of the national programme has been the planning and implementation of a programme which is mainly focussed on training and conducting some key research activities.

It is generally felt that the ARI programme has yet not reached stage where it can affect a change in the disease pattern or case management, including the prescribing behaviour of the physicians. There was a general agreement on the following:

- the ARI programme is on the right track
- the trend is to focus more on case management
- there has to be a national policy on the rational use of drugs

There was general concern expressed about the effect on the ARI programme by withdrawal of USAID (as ADDR was one of the main forces encouraging research); the lack of defined linkages with the subsequent Social Action Plan (SAP) and the Family Health Projects. It is felt that although the integration of all programmes should occur at the service delivery level, there are several issues which need to be resolved, ie.:

- Service providers are not keen for integration of service delivery.
- Integrated vs individual/vertical programme related training. Can the required skills be taught in the time allotted?
- Supervision as this should be supportive and participatory not critical and an imposing.
- Sustainability of the programme would be difficult due to resource constraints. But the group felt that if the government considered this problem as a priority then SAP money could also be apportioned to support this programme.
- The high cost of drugs may impede nation wide implementation unless adequate supplies are provided from the Federal level. Standard list of drugs appropriate for each type of facility should be prepared.
- Lack of national and international exposure lack of reliable data from all over the country.

The ARI programme has been able to incorporate clinical management of ARI into the medical curricula from 1993. All graduates from 1994 will be tested on it. Certain hospitals in Lahore (King Edward Medical College), Islamabad (PIMS), and Rawalpindi General Hospital) have taken the lead, and are active collaborators in the programme.

The ARI programme budget is shared by the Government of Pakistan/WHO/UNICEF. They contribute in the following components.

Training - WHO and UNICEF
Research - WHO, ADDR, UNICEF
Staff/Overhead - Government of Pakistan

3.1 Success of the ARI Programme

- Successful in creating awareness in the medical community and influencing changes in prescribing behaviour.
- Has been able to positively affect the use of drugs.
- Generation of programme related research findings and involvement of the medical community in this, in collaboration with ADDR.

3.2 Weaknesses

- Supervision and follow-up of trained staff especially as it relates to the HMIS.
- Apportionment of the budget is based on the population rather than the programme needs.
- Integrated training brought about by USAID supported Pakistan Child Survival Project (PCSP) has affected the growth of this programme. It is felt that it has brought in new ideas before the current ones on ARI could gather roots in the minds of the professionals.
- The programme being too donor driven with, lack of consensus among donors regarding who should be the prime mover of the programme.

At the provincial level the programme works closely with the CDD and participates in the CDD training and policy decisions. The EPI programme has been overshadowing CDD to some extent.

3.3 Training

As mentioned earlier the ARI action plan started off with the training of senior paediatricians at the central level and the provincial teaching hospitals. This was followed by the training of clinicians at all levels in clinical management and supervision, in any one division in each province. This training was to have been completed by 1992 and the whole country covered by 1997. To date approximately 800 physicians from all divisions have been trained.

The training modules have been developed centrally with the involvement of the Professors of Paediatrics and Community Medicine from the Medical Colleges of all the Provinces. This has ensured the involvement and participation of professional groups and their approval to the programme. The WHO training modules and charts were adapted for local use, especially for small health care facilities and outpatients care. The training for

Master trainers (5 days), Patient Management Courses for medical officers from all levels (4 days), Supervisory skills training for medical officers/nurses/CHWs are being done for ARI. There are a total of 20 ARI training unit (ATUs) dispersed all over the country, in teaching and other hospitals. There have been a total of 71 ARI training courses held nation wide through which 813 health workers (physicians, nurses, managers etc.) have been trained. One Regional ARI Training Course has also been conducted by EMRO for paediatricians from the EMRO Region who have teaching responsibilities.

The ARI Training has been complicated by the introduction of the integrated training courses on child survival through the PCSP. An evaluation of the PCSP has suggested that integrated training for the sick child is the best option for service providers at the First Level Care facilities and should continue. Separate vertical training on programmes such as ARI/CDD will be required for the staff of secondary and tertiary care level health facility and should be continued as such. Training in supervisory skills will also be a component of the integrated services delivery within the provinces and districts.

Provincial Training Committees which have already been established in two provinces have the responsibility of developing the training strategy and comprehensive training plan in each province and monitoring the implementation of the plans.

The ARI National Programme has made excellent strides its training the private physicians. The training of private practitioners is being done by the PPA, PMA and the Pakistan College of Physician and Surgeons. This is usually through short orientation courses in ARI case management.

Since the number of doctors to be trained in this sector is very large, the responsibility needs to be shared by all the professional bodies. Pharmacists are being trained in conjunction with diarrhoea management training.

The training of the CHWs is a new and special programme undertaken by PIMS whereby married women from the community, who are literate are responsible for the grassroots level implementation of EPI/ARI/CDD/FP. The professional groups are not totally convinced and comfortable with CHWs prescribing antibiotics in the community. The policy on use of CHWs has to be clearly defined and the CHWs trained accordingly. The support of CHW training and salaries at PIMS are being provided by UNICEF. There are other small scale experiments by WHO on community based care by AKU and WHO with differing strategies. The Federal ARI Cell needs to advice on a common strategy on this.

3.4 Supervision & Monitoring

The ARI programme strongly feels the need for immediate follow up and continued supportive supervision after training. It is a district supervisor who will perform this function. Integrated supervision is advocated as an alternative to separate supervisors, and the PCSP supervisory course training material would be suitable for the development of integrated supervision.

3.5 Drugs

Drug distribution situation needs strengthening and vigilance. There are various types of antibiotics including the ARI recommended drugs in the health facilities visited during the review. The regularity of supply of the ARI recommended drugs is not ensured, but is seems that most health facilities have some ARI antibiotic for prescribing and these are also widely available in commercial sector. There is no National Drug Policy regulating drug use, nor a recommended drug list for the Government health facilities.

3.6 Research

Clinical/aetiological studies are being done at the national level to identify the main bacterial agents causing pneumonia in children and their susceptibility to various antimicrobials.

Studies relating to the surveillance of antibiotic susceptibility and clinical efficiency have the most immediate importance in the Pakistan situation. The programme has done initial studies on laboratory surveillance of resistance of H. influenzae and S. pneumoniae to Cotrimoxazole. Other studies supported by AKU and ADDR have shown that only 8% of cases required change of therapy for effective treatment, and of these half appeared after three days of medication. In vitro studies showed 56% resistance to Cotrimoxazole showing no association between the two responses.

This could lead to the development of a practical field based surveillance methodology to assess the clinical efficiency of antibiotics. WHO has a significant role here to assist the development of such as methodology in consultation with other groups in Pakistan. A clinical study to address this issue has been started with the technical assistance of WHO and the CDC, Atlanta.

Focused ethnographic survey on the use of Cotrimoxazole in the community have been done with WHO assistance, and ARI KAP studies of mothers about the management and recognition of pneumonia in children have been planned with the support of ADDR. It has been the general feeling that ADDR has played a key role in catalyzing the situation by bringing together the researchers, epidemiologists, and programmers. With the withdrawal of USAID from Pakistan PMRC is expected take on this role. ADDR is currently funding studies on the knowledge retention of service providers following the training programme on ARI. It has also expanded its role beyond CDD to include ARI and on an average funds approximately 50% studies in each discipline.

3.7. Communication

As in CDD this remains a weak sector, with gaps between the service provider and the mother at the BHU level. To handle this health education materials including flip charts, leaflets, posters are being translated into the local dialects for use in communication. The ARI programme plans on developing strategy for a mass communication programme. This

will take into consideration the results of the two focused ethnographic studies on community attitudes and practice in ARI. Support for this will be provided by UNICEF. Four issues of the ARI News have also been printed locally with inserts on the National ARI programme news for the service providers.

4. FINANCING AND DONOR COLLABORATION

There is no shortage of donor support or initiatives in Pakistan. The major donors for the health sector are World Bank, UNICEF, USAID and WHO, while the population sector receives funding from UNFPA, ODA, Population Council, and the German Government (GTZ).

USAID supported Pakistan Child Survival Project (PCSP) started in 1990 with financing of $62 million, was initially planned for six (6) years, and later revised to be completed by May 1994. This project aimed at promoting an integrated approach to major childhood health problems. The activities focused on CDD, ARI, Nutrition and EPI. Training, communication, monitoring and supervision, HMIS, case management, training and development of research capability through ADDR, were key components. All activities except HMIS, Case management training, and ADDR supported activities ceased in mid 1993. Informal links exists between the PCSP and the National CDD and ARI programmes. Through this collaboration the WHO training modules for CDD and ARI were adapted and used in the integrated child survival case management training programmes.

The Government's contribution to the programme is projected to be $23 million over six (6) years, with implementation planned through the Provincial system. With the phasing out of USAID support, the PCSP related activities have become the government's responsibility. Assistance is being provided by UNICEF. It is expected that the Government is going to adopt an integrated approach to training and service delivery, but it is still not clear how the CDD/ARI programmes will be affected by this policy change. There is also some resistance and reservation about integration from some Technical Advisors and health staff.

The World Bank funded Family Health Project, will seek to take up the void that has been created by the discontinuation of USAID support to Pakistan. The first of the two Family Health Projects were initiated in two provinces in 1992. The second, scheduled to start by the end of 1993, will take up a further two provinces. These projects will support the development of integrated Primary Health Programmes ie. Maternal and Child Health/Family Planning, the training of community health workers, the management information system, improvement in health facilities, training and strengthening the referral system.

The Social Action Plan (SAP) aims at specific interventions geared towards responding to gross inadequacies of social sector activities, both in terms of quality and delivery, through provision of adequate financial resources, improved implementation framework and an

enabling environment. This is a special effort in view of the fact that past investments in the social sectors (primary education, primary health, population planning, and rural water/sanitation) have not yielded satisfactory results.

The SAP is funded by a consortium of multilateral and bilateral donors and agencies lead by the World Bank. A total of US $600 million will be provided over the next 3 years. In an effort to overcome the lack of coordination of donor activities, the donors have formed themselves into a group "The Multi-donor Support Group" with sectoral task forces (with technical support groups under each task force) to deal with each of the components in the new Social Action Plan. These will identify sectoral problems and constraints inhibiting the realisation of the desired level of social sector targets and objectives. The group liaises with the government.

The Federal Planning Division in the Ministry of Planning through its SAP Coordination and Monitoring Cell (SAP-CMC) will be the executing agency. The federal ministries concerned and the provincial governments will be the implementing agencies of SAP.

WHO is well respected by the national leadership in health as well as among the donors working in Pakistan. The acceptance of their leadership role in health, reinforces the need for their active involvement in working with the Government in guiding the planning and coordination of donor inputs to ensure that sustained improvements are achieved in the health sector in Pakistan.

WHO country programme has proposed a pilot programme to develop and test a community based Primary Health Care approach. This will start with four areas, each having 1200 village based CHWs. This new government initiative will train 30,000 CHWs (all female), and WHO will be working with the government to help facilitate the outreach programmes in the communities. The major issue here is related to supervision and the local capacity for implementation. There is tremendous political support for this initiative and WHO perceives the need to use this political initiative appropriately to reach the community.

All the above initiatives are important as they aim to improve access to health care as well as the service delivery system. Unfortunately as there is no specific reference to CDD or ARI within the projects it remains unclear how these programmes will be integrated and obtain resources for implementation.

5.1 RECOMMENDATIONS

5.1 The issues of surveillance of antibiotic susceptibility and clinical efficacy in ARI are of immediate importance for Pakistan and other countries. This could lead to the development of a practical field based surveillance methodology to assess the clinical efficiency of antibiotics, Which would be more appropriate than the laboratory surveillance method. WHO has a significant role here to assist the development of such as methodology in consultation with concerned groups in Pakistan and other countries.

5.2. Efforts to develop and formalise a training for integrated case management of sick children at the facilities providing first level of care through the PCDP should continue. These courses will need to be revised on the basis of experience gathered worldwide by WHO on the integrated management of the sick child. The separate training in case management for CDD and ARI should also continue to be provided to selected staff at secondary and tertiary care level facilities.

5.3. There is need for careful coordination of all training activities to ensure the appropriate selection of health workers, and that effective training programmes are implemented, avoiding duplication of effort and waste of resources.

5.4. There is currently in Pakistan a strong political will to move towards community based health services delivery. This is manifest in the efforts to recruit and deploy village based female community health workers in four pilot areas. WHO should assist the national authorities determine the exact role of the CHWs, and ensure the integration of all essential elements of health services for the provision of priority health care needs of the selected communities.

5.5. CDD and ARI related activities should be specifically addressed in the new Social Action Plan as this will ensure that this new Government/Donor thrust to addresses the priority health problems of the population.

5.6. The strengthening of the Donor Coordinating committee by including Government representatives on the "Multi-Donor Support Group" would greatly facilitate effective use and coordinate use of resourcesin addressing identified priorities.

5.7. Implementation of the recommendations from the CDD Focused Programme Review is essential especially as it relates to :

a) inappropriate drug use
b) supervision and monitoring
c) communication strategy
d) improvement in planning and coordination at the Provincial level.

5.8 Research should be conducted to better understand the behavioural and health services issues that are affecting CDD programme implementation.

5.9 WHO should provide the leadership to ensure effective coordination of donors and Government efforts to integrate health care programmes and improve access of health services to communities.

ANNEX I: PERSONS INTERVIEWED IN PAKISTAN

Ministry of Health, Punjab

Dr. M. Rafique Chaudhry, Provincial Director of Health Services, EPI/CDD Programme Manager
Dr. Abdul Ghaffoor Chowdhury, Communicable Disease (including CDD & Cholera) C Control Programme Manager
Dr. Ismatullah Chaudhary, WHO Operational Officer in Punjab for EPI/PHC
Dr. Aziz Bhatri, ARI Coordinator, Punjab
Dr. Mohammed Raees, CDD Coordinator, Punjab

Ministry of Health, Sindh

Dr. Nisar Ahmed Siddique, Additional Secretary for Health, Sindh Province, Project Manager, Family Health Project
Dr. Abdul Khaliq Mangnejo, Sindh Provincial Coordinator for ARI & CDD, Basic Health Services, Lactation Management; Provincial Project Director of PCSP
Dr. Ghulam Haider Memon, Project Director CDD, Hyderabad

Pakistan Institute of Medical Sciences, Islamabad

Prof. Mushtaque Khan, National ARI Programme Manager, Executive Director of Pakistan Institute of Medical Sciences, and Professor of Paediatrics
Dr. Shamin A. Quasi, Consultant, Pediatrician/Training/Research for ARI, CDD
Dr. Gul Rahman, Paediatric Registrar/in charge of Training Unit for ARI, CDD
Dr. Bari, Deputy Manager, National ARI Programme

Rawalpindi General Hospital

Prof. Malik Kundi, Head of Department of Child Health
Dr. Farveen Akhter, Assistant to Prof. Kundi
Dr. Mohammed Anjum, CDD Coordinator
Dr. Ijaz Ahmed, CSD Coordinator

Rural Health Unit, Taxila

Medical Officer and lady health visitor

National Institute of Health, Islamabad

Dr. Lodhi, National CDD Programme Manager

General Gurney, Consultant on CDD and ARI

King Edward Medical College, Lahore

Dr. Riffat Nisar Ashraf, Head, Department of Social and Preventive Paediatrics
Prof. Fehmida Jaleel, Past Head of the Department of Social and Preventive Paediatrics
Dr. Shakila Zaman, Associate Professor, Department of Social and Preventive Paediatrics
Dr. Ahmed Tawab Khan, Associate Professor of Paediatrics
Dr. Shahida Haider, in charge ARI training

Maternity and Child Welfare Association of Pakistan, Lahore

Prof. Awan, President
Dr. Mohammed Akram Parvez, Executive Director

Dow Medical College, Karachi

Prof. Gaffar Billoo, Sindh Provincial ARI & CDD Coordinator, Professor of Paediatrics

USAID

Dr. Lois Bradshaw, Chief, Social Sector Programmes
Dr. Rushna Ravji, Chief, Health, Population & Nutrition Social Sector Programmes
Dr. Theo Lippeveld, Advisor, Health Management Information System, Pakistan Child Survival Project

WHO

Dr. Mohd Bazgar, WHO Country Representative
Dr. Sawat Ramaboot Hanafi, WHO CDD Medical Officer
Dr. Mona P. Habibuw, WHO ARI Associate Professional Officer
Dr. Bile, WHO PHC Advisor

UNICEF

Dr. Jim Mayrides, Representative
Dr. Birthe Pederson, Programme Officer, Nutrition
Dr. Naveed Sadozai, Programme Officer, Child Health
Mr. Meshbahuddin Akhter, Senior Programme Planning Officer

ANNEX II: DOCUMENTS REVIEWED - PAKISTAN

1. Assessment Study on Health Information System in Pakistan USAID/Pakistan Child survival Project No. 39-0496 Theo Lipperveld, Zamin Gul, M Com, Nancy Limpreent April 1991.

2. Programme for Control of Acute Respiratory Infections, Islamic Republic of Pakistan Plan of Operations 1993-1997.

3. Mission Report, Pakistan 17-30 September, 1993, Dr. M. Lichenerski CDD/EMRO & Dr. D. Robinson ARI/Headquarters.

4. Evaluation of Pakistan Child Survival Project (extract from draft report) 1993

5. Primary Health Care Project Evaluation, June 1990

6. Travel Reports,

Dr. Lichnevski	Sept. 1992
Dr. Hirnschall	
Dr. L. Richards	Nov. 1992
Dr. Hirnschall	
Dr. N. Pierce	Aug. 1990

7. Diarrhoea Morbidity and Case Management House Survey
   - Mardan District, Peshawar, May 1991
   - Giarat District, Baluchistan, October 1990
   - Larkana District, Sindh, Sept. 1991
   - Gujaranwala and Rawalpindi Districts, Punjab, October 1992

8. CDD Country Project Paper - CDD 1992

9. Pakistan Social Action Project - Planning & Development Division, Government of Pakistan, Sept. 1992.

10. Health Management Information System for First Level Care Facilities - Pakistan, May 1993

11. CDD and ARI Briefs, Punjab Province, Dec. 1993

12. CDD - Briefing Notes - WHO/Pakistan

13. Focused Programme Review Phase II, Oct - Nov 1993

14. Report on CDD Project Sindh Province, 1982-1993

15. National Plan of Operations for ARI, 1994-1995

16. National Plan of Operations ARI, 1994-1998

TABLE 1

CDD Programme Targets/Subtargets for 1990 as set in 1988 and current status (1992-1993)

Targets/subtargets	Status 1992/1993	Source
reduce mortality by 50%		no data
reduce morbidity by 25%	3.9-6.6%	range of annual incidence
reduce hospital admission rate by 50%	15.6% in 1989 17.6% in 1991	sentinel surveill. system
reduce hospital case fatality rate by 50%	11.3% in 1989	sentinel surveill. system
case management training -medical officers 50% -paramedics 25%	 36% 13.5%	—
supervisory skills training 100%	90%	—
ORT use in children 40%	31%	data from household surveys
Access to: - any ORS provider 90% - trained ORS provider 50%	 85% 20%	estimate from BCG coverage
continued feeding rate 80%	55.6-78%	from HH surveys
increased fluid intake 50%	14-29.5%	from HH surveys
drug use rate 35%	78%	HHS data
exclusive breastfeeding: - urban 15% - rural 30%	 <12% 12%	Nutrition survey, 1989

MEMO TO: Dr. Deanna Ashley
Chairperson, External Review Group
Ministry of Health
Jamaica, WI

FROM: Dr. John V. Bennett
and
Dr. Sadia Chowdhury

SUBJECT: **Review of CDR Programmes--Philippines. An on-site review conducted during the week of February 21, 1994.**

I. SUMMARY

The Philippines have made remarkable progress in implementing CDD and ARI Programmes in close collaboration with Headquarters staff, and with laudatory inter-disciplinary cooperation and collaboration. These programmes are well planned and executed, and the government health workers are well trained and capable. Both programmes are now judged to be largely self-sustainable within the Philippines, although more time will be required to fully assess the impact of the recent political "devolution" (decentralization) on these programmes. Both CDD and ARI have become effectively assimilated into a package of more comprehensive health services within the Philippines, including EPI, breast feeding, nutritional assessments, and family planning. Both CDD and ARI programmes seem far more advanced toward global targets than most (perhaps any) other developing countries, and the Philippine programmes have offered and continue to offer much constructive information for global programmes.

II. INTRODUCTION

Objectives: The objective of the site visit was to evaluate the global programmes on CDD and ARI, with the Philippines selected as a country where the inputs of global programmes could be assessed. A secondary objective was to evaluate the accomplishments, strengths, weaknesses, and constraints of the Philippine programmes. It is appreciated that Focused Programme Reviews requiring several weeks of intensive effort by a much larger number of persons would be required to adequately achieve the latter objective.

Review procedure: The initial agenda for the review was graciously organized by Dr. Maria Costales, Maternal and Child Health, Department of Health, the Philippines. Interviews with a team member (John V. Bennett) were initially scheduled to begin in the afternoon of February 21, but cancellation of an incoming flight required re-scheduling to include February 25. Interviews from February 22 through February 25 were conducted by both team members.

An expert driver and UNICEF vehicle were made available for all local transportation.

The review procedure was enormously facilitated throughout the week by the in-person escort and counsel of Dr. Juanita Basilio, M.D., M.P.H., from the Department of Health. Dr. S. Pieche of WPRO was also very helpful in arranging contacts, facilitating communications, and re-scheduling appointments.

The roster of persons interviewed and documents reviewed in conjunction with the review are listed in Appendix I.

Initial interviews involved a group session with representatives of the Association of Philippine Medical Colleges (APMC) and the Philippine Pediatric Society (PPS), followed by a group session with key Department of Health staff involved in CDD and ARI programmes. An urban health clinic, a Provincial Hospital, and a rural barangay clinic were also visited, with group interviews of staff at each location. Representatives of USAID, the Research Institute for Tropical Medicine (RITM), Quezon City General Hospital, and UNICEF involved in CDD/ARI were also visited and individually interviewed. Interviews were concluded on February 25 at WPRO Headquarters.

III. BACKGROUND AND OVERVIEW

CDD efforts began in the early 1980s, but did not appear to progress rapidly until 1987-1988 when, perhaps not coincidentally, active involvement and promotion of the Programme by the APMC and PPS began to occur. These groups were instrumental in getting training modules into the medical curriculum, medical textbooks, examinations given to medical and nursing students, and promoting the need to require training in Diarrhoea Training Visits for hospital accreditation of residency training. This programme is now felt to be very well established, with a corresponding decrease in the number of severely dehydrated children seen at referral centres, and anecdotal reports of decreasing numbers of deaths. Mothers are said to be generally aware of oral rehydration solutions, believe in its importance, seek it out, and use it. Further, there no longer seem to be any ongoing questions among doctors or the community in general about the effectiveness of oral rehydration therapy, and a gradual transition of emphasis from ORS to ORT appears to have been made successfully. Mortality from diarrhoea was now said to occur often in children whose mothers decline advice to hospitalize.

ORS is made available by the government to health facilities free of cost in the form of ORESOL®, which is prepared in bulk and bought at low cost from a private company. Both ORS and cotrimoxazole for treatment of bloody diarrhoea

are now line budget items of the Department of Health, thus assuring continued annual supplies to clinics upon their request. Although the Programmes initially experienced difficulties in maintaining adequate supplies of ORS at clinics, a special re-ordering and distribution scheme has been in place for the last few years and was judged by all to be working in a highly satisfactory manner.

The ARI Programme was officially launched in 1988, but has progressed very rapidly perhaps abetted by preceding experiences in CDD. In contrast to CDD, though, there is much less overall medical acceptance of its case management strategies, and a perceived need for better promotion of the diagnostic approaches for pneumonia.

Except for an outbreak of cholera following a typhoon that impacted the Cebu area, there have been no other recognized outbreaks of cholera over the last few years. In that outbreak, the in-place CDD Programme seemed to handle the crisis without the need for separate plans and facilities. There is a strong general belief in the security of this infrastructure, such that a similar outcome is thought likely to occur if other cholera outbreaks were to appear elsewhere in the Philippines.

Both Supervisory Skills and Case Management Courses have been extensively promoted in the Philippines, with close initial and continuing close collaboration with Geneva HQ staff. Training has effectively reached midwives at the Barangay (or village) level, who are frequently the first to see a child with diarrhoea. The general feeling is that the CDD programme is so well entrenched that it will be fully sustainable by the Philippines itself in the future, and CDD is thought to be nearly self-sustaining at present.

Efforts to integrate ARI and CDD with other child and maternal health strategies are well underway in the Philippines, and have been strongly endorsed by all groups that were interviewed. At the Barangay level, for example, midwives and clinic staff now deliver comprenensive services that include CDD, ARI, family planning, once-weekly sessions for EPI, breast feeding, nutritional assessments, and prenatal care. Midwives are empowered to give injections of EPI antigens and to prescribe antibiotics. Nearly 60 percent of poor mothers in Bulacan province were said to be delivered by midwives. In general, health workers have experienced no problems in implementing ARI and CDD protocols, which have generally been found easy to understand and apply, along with other responsibilities. Indeed, there is a remarkable security in and support for both CDD and ARI approaches among all health care workers who were interviewed. As evidence of its commitment to integrated services, the Department of Health has developed a survey instrument containing 15-20 questions on each of several topics designed to permit a comprehensive evaluation of services provided in ARI, CDD, family planning, breast feeding, and EPI. Further field testing of the instrument is planned before wider application.

Most viewed the "Sick Child Initiative" as a desirable and perhaps more efficient way to integrate delivery of care to the sick child. Indeed, plans are currently underway for collaborative research with Geneva HQ to pilot test the implementation of the Sick Child Initiative.

IV. PROGRAMME TARGETS, SUBTARGETS, ACHIEVEMENTS

The Philippines have been very actively involved in promoting comprehensive approaches to deliver health care to children with ARI and CDD components, and have been quite active in evaluating progress toward achieving targets for ARI and CDD through household and facility-based surveys. Thus, it is perhaps safe to conclude that their achievements have been measurably better in achieving targets than nearly any other developing country.

The following table illustrates the Philippine achievements of selected targets in CDD, and compares the 1992 status in the Philippines with the global status in 1992, as well as the global goals in 1995.

	ACHIEVEMENTS 1992		GLOBAL TARGETS 1995
	Philippines	Globally	
Access ORT/ORS	85%	73%	80%
Mothers correctly knowing 3 rules	12.3%	32%	80%
Increased fluids and continued feeding	62.5%	19%	50%
Staff trained in supervisory skills	86%	34%	40%

Except for a comparatively low frequency with which mothers know the three rules for proper care of children with diarrhoea, the Philippines have already exceeded global goals for 1995 in the other targets listed. Though less data is available to measure progress in ARI, 60% of cases were judged to have received correct ARI care in health facilities in 1992 versus only an estimated 20% globally in 1992, with a global target of only 40% in 1995.

One acknowledged priority need in the Philippines is the development of appropriate methodology to determine the impact of these programmes on mortality, a necessary instrument in determining whether mortality reduction goals have been met.

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V. STRATEGIES TO ENSURE SUSTAINABILITY

Both programmes were judged to be sufficiently well established that sustainability by the Philippines was likely, especially so for CDD. The incorporation of ARI case management modules into the academic sphere is now underway, as was previously successfully done with CDD, and may also result in "internalization" of the ARI approaches within medical practice in the Philippines as well. The Central Government Health Workers have increased their efforts to ensure that the priorities of CDD and ARI are not overlooked at Provincial and local health levels. As outside support has diminished, they have resourcefully, innovatively, and successfully found other support, especially from private industry. (For examples, Nestle was a cosponsor of recent National Immunization Days in return for its logo being placed on banners announcing the campaign even though the Department has pushed very successfully the Baby Friendly Hospital initiative and is strongly promoting breast feeding. Another example was provided at a District Clinic within metro-Manila, where the San Miguel Brewing Company logo appeared on the sign identifying the Clinic.) USAID has funded a family planning package at local levels designed to sustain achievements in EPI, CDD, and ARI. A major focus of UNICEF's current efforts is to assist Municipal Planning Development Officers ("MPDOs") to build health criteria and targets into their plans, since the Department of the Interior to which they belong rather than the Department of Health is now responsible for budgeting all items at the local level. The Department of Health input will be limited to situations where their technical input has been invited. The impending assimilation of the Field Epidemiology Training Programme into the Department of Health also indirectly enhances the likelihood of sustainability of these programmes.

VI. MAIN PROBLEMS/CONSTRAINTS/ACHIEVEMENTS

"Devolution," an apparent form of decentralization, began about 2 years ago, and is a political process that will result in budgeting decisions being made at Provincial and local levels. District functions (and staff) were removed from the previous administrative structure in rural areas where the governmental organization now goes from central to region to province to barangay. Districts have been retained in urban areas. Much greater responsibilities are now placed on local mayors and Provincial governors who will make decisions for health expenditures as well as other matters. Devolution has also made Provinces responsible for determining training needs, and resources to support training will have to be found locally. Health staff may now need to go to the governor of a Province to intercede with a village mayor in that Province in order to secure funds for essential health programmes. There is a general feeling that Municipal Health Boards called for in the "devolution" plan are not working well, and that

former channels of reporting of health information have been significantly disrupted, as has the distribution of supplies. Although ORS and cotrimoxazole for ARI and CDD Programmes will be purchased centrally as line budgeting items, localities will still need to request these supplies in order to receive them. Several measures mentioned above under sustainability are likely to assist in ensuring that devolution doesn't drastically disrupt these programmes. However, household and facility-based surveys at periodic intervals, along with mortality trends, will be needed to establish the overall impact of devolution on ARI and CDD programmes.

There are several constraints to these programmes, and many of them are not limited to the Philippines. First, the case management approach for ARI has not yet achieved full academic credibility. It was suggested that one factor may be the relative paucity of peer-reviewed publications concerning the underlying science in the medical literature. Another suggested factor was that presentations by HQ staff in these two programmes have generally not been highly visible in international meetings and symposia. Another general issue is the limited scope of coverage of government programmes with the private sector delivering much of the primary care but with much less rigor in prescription of appropriate drugs. (Although progress in this regard was clearly perceived in the Philippines). At peripheral levels, educational materials for mothers seem particularly short in supply. Also, newsletters from HQ were not in evidence except at central levels. The evaluation of the respiratory rate of a child over a timed one-minute period, which often needs to be repeated a second time, was deemed by some to be time-consuming and tends to slow evaluation of children (although the need to do so was not questioned). No timers were observed in use; instead, wrist watches were being used for this purpose. Others mentioned that it was most difficult to get mothers to accept the need for increased fluids with respiratory infections as well as diarrhoea. One physician indicated that, although the ARI case management was quite workable, the most difficult component was differentiation of pneumonia from severe pneumonia. Effective communication between health workers and others was viewed by many as a problem, and more focused ethnographic studies were endorsed as well as the "ask-praise-advise-check" approach. Some believed midwives are now only able to instruct mothers "how," but not "why," and that communication might improve if they gained the capacity to answer the latter question by more thorough training. Several mentioned difficulties in controlling cotrimoxazole supplies, since the drug is sometimes critically useful in treating other infections, and may not be used only for its intended central purchase uses.

Major strengths of the Philippine programmes are its egalitarian team approach to matters, as exemplified in its twice annual Consultative Workshop involving all parties with interest in these fields. There seems to be a general willingness to seek input from all concerned before final health decisions are made. The

Philippines have generally been willing to be "on-the-cutting edge" in evaluating approaches, including their current willingness to evaluate the Sick Child Initiative. They also were among the first to assess lactation management training with HQ assistance. Relationships with HQ staff in Geneva have generally been excellent and reciprocally valuable and useful. Also, the capacity to identify and resourcefully resolve operational as well as disease problems has clearly become firmly developed. Another major strength has been the consecutive enthusiastic support of CDD and ARI programmes by two popular and effective Secretaries of Health (Bengston and Flavier). The staff in the Department of Health readily accepts (almost welcomes) the setting of targets and goals--and takes great satisfaction in achieving or exceeding even difficult-to-reach targets. This was generally believed to be a long-standing accepted management strategy of the Department of Health.

VII. RECOMMENDATIONS

The move toward provision of comprehensive maternal and child health services is well underway in the Philippines, and there may be many instructive lessons for other countries deriving from their experiences. Clearly, priority should be given to support from HQ for pilot testing the Sick Child Initiative, and to develop methodology to establish mortality reductions attributable to its programmes. The Philippines are also well along in developing programmes sustainable within their country, and there may be lessons to be learned from them in this regard as well.

Overall, these programmes are outstanding and exemplary, and the Philippine staff involved in establishing and maintaining these programmes deserves strong commendation.

ANNEX I: PERSONS INTERVIEWED (IN SEQUENCE)

Group interviews: Philippine Pediatric Society and Association of Philippine Medical Colleges

Dr. Lulu Bravo, PPS, APMC
Dr. Grace Battad, PPS (CDD)
Dr. Jossie Rogacion, PPS (CDD)
Dr. Reynaldo De Vega, PPS (CDD)
Dr. Amelia Fernandez, PPS President
Dr. Salvation Gatchalian, PPS (ARI)

Group Interviews: Maternal and Child Health Staff Government of the Philippines

Dr. Maria Otelia Costales, ARI, EPI
Dr. Emmalita Manalac, ARI
Dr. Estalita Papa, CDD/Breast Feeding
Dr. Juanita Basilio, CDD/Breast Feeding

Manila City Health Office

Dr. Anabella Luz, City Health Officer, Manila
Dr. Ortega, District Health Officer

Group Interview: Pedro Gil Health Centre, District Urban Clinic

Nurse Nelia Susan Rafael
Nurse Lorna Richermoso
Nurse Loido Alido
Dr. Arelene Manza
Nurse Concepcion Yusop

Group Interview: Bulucan Provincial Hospital

Dr. Alberto Bondac
Dr. Rosario Santos
Dr. Wilfredo de Vera
Nurse Frieda Elefone
Dra Salome Agnes Castillo
Dr. Ruth Lopez

Group Interview: Rural Barangay Clinic, Bulucan Province

Dra Corazon Eugenio
Nurse Emily Catolica
Midwife

USAID -- Ms. Patricia Moser

Research Institute for Tropical Medicine -- Dr. Cecelia Acuin

Quezon City General Hospital -- Dr. L. Abraham

UNICEF -- Dr. Maria Nilda Lambo

Regional Office for Western Pacific

Dr. Sergio Peische
Dr. Sumala (APO)

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ANNEX II: REPORTS REVIEWED

1. Trip report -- Cost effectiveness study for CDD. August 1990, Dr. B. C. Forsberg.

2. Trip report -- Evaluation of CDD supervisory skills course. October 1990, Dr. R. Waldemann.

3. A joint DOH/WHO/UNICEF/USAID CDD Comprehensive Desk Review, Philippines. Dec. 1990, Fernandez M., Pons M., Sherwin E., Rantaren T., Gonzales B., Arnold R.

4. Trip report -- CDD Programme implementation research workshop, Philippines. April 1991, Dr. J. Martinez.

5. Proceedings of Workshop on Research Priorities on Diarrhoeal Diseases. April 1991, at RITM.

6. Results of the Evaluation of Case Management Training in the Philippines. August 1991 - February 1992. DOH/Pritech/Quality Assurance Project, CDD/WHO.

7. Trip report -- Location Management Training Course pre-test. October 1991, Dr. M. Rea/CDD.

8. Executive Summary of the Filipino Children: 2000 and beyond--Philippine plan of action pursuant to the World Declaration on the Survival, Protection and Development of Children. December 1991.

9. Summary data--Philippines. Stat 92.doc from CDR.

10. Control of Acute Respiratory Infections Programme -- The Philippines Country Report. March 1992. M. O. Costales.

11. Trip report -- Evaluate case management training (CDD). April 1992, Dr. M. Claeson.

12. Trip report -- Assist in preparing new CDD Directional Plan for 1997-1998, and Operational Plan for 1993-1994. April-May 1993, Dr. M. Claeson.

13. CDD Country Programme Profile for Philippines - 1992. Printed October 1993.

14. Research Projects Forms for Philippine Research -- from CDR, 1993.

MEMO TO: Dr. Deanna Ashley
Chairperson, External Review Committee for CDR
Ministry of Health
Jamaica, WI

FROM: John V. Bennett, M.D.
and
Paul Nohoji Nkwi, Ph.D.

SUBJECT: **Review of CDR Programmes--Zambia. An on-site review conducted November 15-19, 1993.**

I. SUMMARY:

The ARI programme launched its national plans in March 1993 but has yet to get underway and thus there is nothing to evaluate at present. The CDD programme has been underway for several years, and will be the focus of this report.

Infant and child mortality remain unacceptably high in Zambia. The prevalence of diarrhoea and frequency of deaths from diarrhoea, especially persistent diarrhoea, which has increased in prevalence from 1986 to 1992, remain unacceptably high in children under 5 years-of-age. Major factors contributing to high child mortality are drought and subsequent malnutrition of children, a weak economy with run-away inflation rates, recent epidemics of group A meningococcal meningitis and multi-drug resistant cholera and shigella dysentery, prevalent infections with malaria and HIV, and lack of sanitary sewage disposal systems coupled with unsafe water supplies. The CDD has focused its training efforts in case management on nurses, a group with exceptionally high turnover rates (about 50%), and has not yet effectively reached Community Health Workers or Traditional Healers in large numbers. The most recent household-based community surveys of CDD efforts in 1992 revealed improvement since 1986 in access to ORS, but frequent misunderstandings of caretakers about preparation and use of ORS. Only one-fourth of caretakers prepared ORS correctly, and less than one-fifth of them knew that fluids should be increased and food continued during diarrhoeal episodes in their children. While the CDD in Zambia has dedicated, competent and trained staff at central, provincial, and district levels and has doubtlessly prevented many deaths through training health workers in case management, substantial progress in diarrhoeal disease control will undoubtedly require major expenditures to develop safe water and sewage facilities.

Recent political commitment in Zambia to health care reform may substantially reduce the number of positions in the Ministry of Health, decentralize health priority setting and funding to the district level, and impose user fees on those seeking health care services such as CDD (epidemic diseases excluded). The effect of these changes on access to care, quality of care, and mortality from diarrhoeal diseases and respiratory diseases, needs careful evaluation through periodic facility-based and community-based surveys.

II. INTRODUCTION

Objectives: The overriding objective of the site visit was to evaluate the global programmes on CDD and ARI, with Zambia selected as one country where the inputs of global programmes could be assessed. A secondary objective was to evaluate the accomplishments, strengths, weaknesses, and constraints of Zambia's CDD programme.

Review procedure: The initial agenda for the review was graciously organized by Dr. Mukunyandela of the Tropical Disease Research Centre (TDRC) in Ndola, Zambia. Since these appointments were arranged by TDRC without the official endorsement or blessing by the Ministry of Health, several persons appeared not to have understood either the significance nor the purpose of the review. Several modifications in the initial schedule were necessary; most importantly, the National Programme Manager for CDD/ARI was not available. Unfortunately, it was not possible to arrange interviews with Dr. Mukunyandela or other staff of TDRC.

TDRC also made a driver and vehicle available to the review team with the understanding that vehicle petrol costs and the driver's per diem would be paid by the review team.

The review procedure was enormously facilitated by the assistance of Steven Wiersma, M.D., short- term WHO consultant to CDD/ARI programmes and a potential Associate Professional Officer for Zambia. The CDD national programme coordinator, Mrs. Mary Kaoma, was also exceptionally helpful.

The roster of persons interviewed, their titles, and the documents reviewed in conjunction with the review are listed in Appendix I.

Initial interviews were held with WHO, UNICEF, and CDD/ARI staff at the national level, followed by visits to the Diarrhoeal Training Unit in Lusaka and other components of the University Teaching Hospital (UTH) and School of Medicine, including the virology laboratory. An urban and a rural clinic were also visited to evaluate CDD activities, and a "think-tank" session was held with the staff at the rural clinic.

The review team also met with the Minister of Health on the third day of its review.

III. BACKGROUND AND PROGRAMME OVERVIEW

The Diarrhoea Training Unit (DTU) at the University Teaching Hospital (UTH) has been central to CDD efforts since inception of the programme in 1982. A nationwide CDD/EPI baseline survey was conducted in 1986, documenting the magnitude of diarrhoeal diseases. National ORS production was started in 1986 but proved non-sustainable as the cost of imported ingredients became prohibitively high. Unfortunately, locally produced ORS was designed to be prepared in 750 ml containers, and containers with this capacity were widely distributed along with packets. The containers continue to be used by caretakers, and result in hypertonic solutions when UNICEF and other packets designed for liter volumes are used. In 1987, the Ministry of Health removed all non-essential drugs for treatment of diarrhoea from its central drug list. The effectiveness of this action was probably abetted by deteriorating economic conditions, and substantial reductions in the use of such drugs has subsequently been documented. With WHO Headquarters' assistance, guidelines for implementing national CDD efforts were developed in 1990. A nationwide CDD household survey was undertaken with WHO Headquarters' assistance in 1992; its main findings were a high prevalence of diarrhoea in children under 5 years-of-age, an increase in persistent diarrhoea since 1986 thought to be related to prevalent malnutrition, a low ORS correct preparation rate, and unsatisfactory lack of knowledge of caretakers about the need to both increase fluids and continue feeding the child during diarrhoeal episodes.

Since the 1992 survey, "ORT corners" have become widespread among clinics which also serve as focal points for cholera treatment as well. ORT corners typically include replenishable supplies of ORS, scales, measuring containers, CDD case management wall charts, access to one or more persons trained in CDD case management, and high energy protein supplemental food sources that can be dispensed to mothers for continued feeding of their children with diarrhoea. ORT corners also serve as a focus for "echo" training.

Major disappointments of the CDD programme have been the high turnover rates of nurses who have been preferentially selected for training in case management. Consequently, available expertise at the district clinic level has accrued at a slower rate than desired. Relatively few Community Health Workers and Traditional Healers have been trained, although they are usually the first to see a mother and child with diarrhoea.

Organizationally, physicians who serve as district health officers (DHO) are often responsible for far too many clinics to permit effective supervision or constructive input in emergency situations. Non physician clinic staff must therefore be

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empowered to undertake actions in accord with their judgements, and to seek information from respected sources; most often, ready communication and helpful assistance are available from the National Programme Coordinator. Thus, DHOs play little role in actual management of diarrhoea cases in district clinics. Also, although Provincial level authorities are supposed to serve as intermediaries between national and district level staff, they appear to serve no visibly useful function in the day-to-day operation of clinics.

The National programme staff have obviously established excellent working relations with headquarters staff in Geneva, and often communicate directly with Geneva although great efforts are undertaken to assure that AFRO is informed of all communications. The recent governmental decisions to decentralize funding and priority setting to the district level are likely to strengthen the role of districts in CDD and de-emphasize central level inputs thus perhaps leading to a need for greater CDD expertise at the district level.

Each major geographic area of Zambia has been evaluated for its preparedness for cholera, and action plans developed by each district deemed at likely risk for cholera cases. The cholera control programme relies heavily on the current CDD programmes and its "ORT corners," which have been established in nearly all government clinics and are described above. Severe cholera cases have often been referred to pre-designated clinics, such as Railway Clinic, where cholera cots and standard operating procedures for management of cholera cases have been implemented, or to in-patient facilities within the DTU and UTH. Cholera has been given a special priority by the Ministry of Health, exempting such cases from the need to pay "user fees" for treatment. Special coordinating groups such as the National Cholera Surveillance Committee, have also been assembled, which meet frequently during outbreak periods and assure the input of donors, including the Italian Embassy and Norad. In general, cholera has been viewed as strengthening the CDD efforts through improved case-management training, improved management, and closer monitoring of water supplies.

The CDD programme is assisted by the efforts of multiple organizations. UNICEF is the major supplier of ORS, and also provides ORT kits with supplies needed at "ORT corners" throughout Zambia. USAID previously provided support through Pritech, which provided valuable technical assistance and conducted ethnographic research. Currently, attempts are being made to fund an APO post with AID funds. JICA has provided extensive laboratory equipment in support of DTU activities and is conducting epidemiologic studies of the impact of DTU activities on outcome. Most notably, case-fatality among children admitted to the DTU correlates strongly and directly with the case burden per nurse, with the CFR increasing from a baseline of 5-10% to more than 25% during outbreaks when nearly 70 cases had to be attended by each nurse. The Centers for Disease Control has conducted case control studies of Shigella

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dysenteriae in Zambia, and is interested in assisting Zambia in upgrading its laboratory capabilities and surveillance for diarrhoeal diseases. The School of Medicine has prepared a proposal to JICA for funding the establishment of a Public Health laboratory. Curiously, there appear to be no important interactions of the Tropical Disease Research Centre with the National CDR programmes.

WHO headquarters has constantly provided responsive and quality support to the CDD programme. The quality of its technical assistance was consistently rated excellent by those whom we interviewed. Its manuals are extensively used at the central level, but only selected manuals appear to be known by key staff at the district level. In general, it was felt that WHO manuals needed modifications for training at the district level, and that their effectiveness was compromised by the lack of slide projection equipment.

IV. PROGRAMME TARGETS, SUBTARGETS, AND ACHIEVEMENTS

In general, the targets are those established globally for ORS access rate, ORS and/or RHF use rates, correct preparation, increased fluids and continued feeding of the child with diarrhoea, correct knowledge of care-seeking by the caretaker, and appropriate use of drugs in treatment of diarrhoea. As noted earlier, the household survey in 1992 showed correct preparation rates to be unacceptably low, as well as lack of mothers' awareness of need to give increased fluids and continue feeding during diarrhoeal episodes.

Current plans call for continued emphasis on case-management training and refresher training, further attempts to integrate training and management with ARI, EPI, nutrition and family planning, and the development of cholera action plans in all districts along with suitable emergency treatment supplies. A major media effort is planned to provide health messages on CDD to caretakers.

Integration of CDD and ARI with other child survival activities has been actively pursued in 11 units in the past year, although the effects have not yet been systematically evaluated. Most interviewees believed integration should be as complete as possible, with some expressing the opinion that such integration should be pursued in incremental stages. Some believed separate training modules for ARI and CDD would still be needed (in part because of seasonal training needs consequent to different seasonal occurrences of these diseases), although breast feeding and other integrated strategies could still be addressed in each of the separate courses. One interviewee believed full integration would overburden health workers and supervisors with too much information, and foresaw that mixing matters requiring urgent attention (e.g. rehydration) with much less urgent matters (e.g. immunizations) in a busy clinic environment could well lead to neglect of the less urgent needs. Some also believed the charts for Integrated Management of the sick child contained too much information and needed to be simplified.

Repeat community-based surveys will be needed to assess the impact of these activities as well as monitor the morbidity and mortality of diarrhoeal diseases. Such monitoring is especially important given the district level decentralization and user-fee initiatives currently being implemented (see section III).

V. STRATEGIES TO ENSURE PROGRAMME SUSTAINABILITY

Sustainability would appear to require increased attention to case management at the community level. Proper intervention at this point offers the prospect of reducing the resources needed at the district and central level.

Health priority setting will now take place in Zambia at the district level, and it is not clear whether CDD efforts will consistently be selected for implementation. Since user fees collected at the district level will be available for expenditures there, sustainability may well be enhanced in those districts that accept CDD as a priority. An opportunity exists to package CDD along with other essential health services at the district level, potentially increasing the chances of support for all components.

Zambian programme managers recognize that sustainability may heavily depend on the private sector, whose roles and responsibilities need to be better defined. Appeals to drug companies, business sector and mining companies have already begun.

VI. MAIN PROBLEMS/CONSTRAINTS/ACHIEVEMENTS

As noted earlier, one of the main shortcomings of the programme has been the lack of training of Community Health Workers and Traditional Healers, which should ultimately assist in overcoming the observed lack of proper skill of caretakers in preparing ORS and knowing the cardinal rules of treatment. The recent outbreaks of Shigella dysentery and cholera have temporarily distracted programme efforts, but ultimately have led to the "ORT corners" approach, which appears to have been quite successful. EPI, family planning, and nutritional components are now integrated components of the approach to a child with diarrhoea at many clinics, and incorporation of ARI will presumably occur rapidly once national ARI efforts get underway, perhaps through conversion of ORT corners to "CDD/ARI corners." The main constraints on achieving reduction in morbidity and mortality have been noted earlier, with lack of sanitary sewage systems and safe water supplies as the major underlying constraints.

VII. RECOMMENDATIONS

Given the current dynamic nature of health care reform in Zambia, it is most important to monitor effects of decentralization and user fees on access to care, indicators of performance, and trends in morbidity and mortality from diarrhoeal

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diseases. Suitably spaced community-based surveys would seem to be well suited for these purposes. Sustainability might be greatly enhanced by coordinated support for an essential clinical services package, including both CDD and ARI, by central level government, UNICEF, and WHO staff. This could be proposed for implementation at the District level to District Health Management Teams that will now make decisions on resource expenditures.

Since communication between health-care providers and care givers seems to be one of the weakest links in Zambian CDD, increased emphasis might be given on focused ethnographic studies to determine factors that might improve communication and/or caregiver performance. Focused ethnographic surveys are a high priority for the ARI programme, and there is a need to train persons to acquire the skills needed to conduct such surveys. Perhaps CDR/ARI Geneva could, with AMRO assistance, organize such a training programme.

The training of Traditional Healers for case management began in 1993, and should be accelerated for them and Community Health Workers. Such acceleration would be abetted if "ORT corners" at district level clinics were more systematically utilized as "mini-DTUs" for such persons.

Laboratory capability to identify E. coli 0157 or the 0139 strain of cholera currently does not appear to exist in Zambia, and it seems urgent to develop these capabilities--especially the latter. Consideration should be given to requesting consultation from the Centers for Disease Control for these purposes and for establishing a system for surveillance of antimicrobial resistances of enteric pathogens. The capability should not await the establishment of a Public Health Laboratory. Indeed, if JICA is favorably inclined to fund the establishment of a Public Health Laboratory, sustainability of CDD and a number of other programmes might be better served by establishing a Zambian Centres for Disease Control, which would encompass both laboratory and epidemiologic aspects of infections and potentially other diseases.

As Health Care Reform accelerates, the technical and management expertise of an APO seem increasingly crucial to the future of the CDD programme in Zambia.

Finally, the impact of DTU practices on mortality that is being supported in Lusaka by JICA deserves commendation and support. The high relative presence of HIV infections among children admitted to the unit (about one-third), along with observations that HIV positively is strongly related to mortality from diarrhoea, suggest a need to further evaluate relationships, and especially the role HIV infections may be playing in children with persistent diarrhoea.

ANNEX I: PERSONS VISITED (IN SEQUENCE)

1. Dr. W. S. Boayue , WHO Representative in Zambia
   Dr. Steven Wiersma, temporary WHO Advisor on CDD/ARI, Zambia
2. Mrs. Maria Kaoma - National Programme Coordinator, CDD
3. Dr. Magam, UNICEF Country Programme Officer
4. Diarrhoeal Training Unit Staff--Dr. Bhat, Head, Department of Pediatrics and Child Health, School of Medicine, Lusaka
   Dr. C. Mukuka, JICA, Lusaka
   Sr. E. Monze, UTH, Lusaka
   Dr. N. Matsubayashi, UTH, Lusaka
5. Professor Katewa, Dean Medical School, University Teaching Hospital
6. Dr. Lambert, Assistant Dean, School of Medicine
7. Dr. Shilalukey Ngoma, ARI National Programme Director
8. Ms. Rose Masilani and staff, Railway Clinic, Metropolitan Lusaka
9. Dr. J. Chisanga, District Health Officer, Kafue District
10. Ms. Florence Mumta, Nursing Sister, Kafue District
11. M. Morgan Yombawa, Senior Clinical Officer, Kafue District
12. Ms. Ruth Hankeda, Public Health Nurse, Kafue District
13. Ms. Patricia Liago, District Nursing Sister, Kafue
14. Dr. Kawimbe, Minister of Health

ANNEX II: REPORTS REVIEWED

1. Progress report for the CDD and ARI Programmes in Zambia - July 1993
2. The CDD and ARI Programmes in Zambia - Annual Report - 1992
3. Programme for control of diarrhoeal diseases - Interim report - 1992
4. CDD Country programme profile in Zambia - 1992
5. Report of the field test clinical skills course - December 1992 to March 1992 - Mrs. Kaoma
6. Trip report on CDD household case management survey - Dec 1992 - Dr. Eva Kerdlova
7. Major factors on high mortality in DTU, UTH - Dr. C. Mukuka
8. Mothers' knowledge and attitude in oral rehydration therapy in DTU - Sr. E. Monze
9. The counter plan in DTU, UTH - Dr. N. Matsubayashi
10. National policy guidelines for the control of acute respiratory infections in children - April 1993 - Dr. Ngoma
11. Trip report: Cholera preparedness in Copperbelt Province - Nov 1993 - Mr. Dahlin and Dr. Wiersma
12. Report on epidemic preparedness tours with special reference to cholera of Central Copperbelt and Luapala Provinces - Nov 1993 - Dr. J. Mbonena, Mrs. Kaoma, et al
13. National health policies and strategies (Health Reforms) - Oct 1992 - Republic of Zambia Ministry of Health

APPENDIX D

LIST OF INTERVIEWS CONDUCTED

WHO/Geneva

Dr. Hu Ching-Li
Dr. R.H. Henderso
Dr. A. Cattaneo
Dr. M. Claeson
Dr. S. Gove
Mr. R. Hogan
Dr. J. Martines
Dr. N. Pierce
Dr. J. Tulloch
Dr. M. Belsey, MCH
Dr. C. Clements, EPI
Dr. N. Cohen, EPI
Dr. J. Cattani, Division for the Control of Tropical Diseases
Dr. T. Godal, TDR
Dr. B. Ivanoff, MIM
Dr. F. Käferstein, Food Safety Programme
Dr. H. Kahssay, Division for Strengthening of Health Services
Dr. L. Laugeri, Community Water Supply and Sanitation
Dr. I. Tabibzadeh, Division for Strengthening of Health Services
Dr. T. Türmen, FHE

WHO/Regional and Country O

Sir G. Alleyene, AMRO, Washington,D.C
Dr. Y. Benguigui, ARI/AMRO, Washington,D.C.
Mr. P. Carr, PWR, Guyana
Dr. C. Drasbek, CDD/AMRO, Washington,D.C.
Dr. A. Faisal, CDD/ARI/EMRO, Alexandria
Dr. V. Kumar, ARI/SEARO, New Delhi
Dr. M. Lichnevsky, CDD/ARI/EMRO, Alexandria
DR. I. Mochny, EPI/SEARO, New Delhi
Mr. R. Peck, CDD/SEARO, New Delhi
Dr. K. Singh, CDD/SEARO, New Delhi
Dr. H. Traverso, CDD/AMRO, Washington.D.C.

Donor Agencies

Dr. M. Anderson, USAID
Dr. B. Austveg, NORAD
Dr. B. Carlsson, SAREC
Mr. R. Clay, USAID
Dr. L. Freij, SAREC
Dr. L. Jakhelln, NORAD
Dr. M. Kyenka-Isabirye, UNICEF
Dr. M. Kerker, SDC
Dr. A. Kern, Australia

Dr. B. Liese, World Bank
Dr. T. Measham, World Bank
Dr. C. Miller, USAID
Dr. E. Missoni, Italy
Dr. O. Ohlin, SAREC
Mr. T. Rothermel, UNDP
Dr. M. Sharma, UNICEF
Dr. B. Thorpe, ODA
Dr. A. Valle, NORAD
Dr. E. Wallstam, SIDA

Other Collaborators

Dr. R. Feacham, London School of Hygiene and Tropical Medici
Dr. S. Huttly, London School of Hygiene and Tropical Medicine
Dr. B. Kirkwood, London School of Hygiene and Tropical Medic
Dr. R. Miller, CIHI, Washington,D.C.
Ms. C. O'Gara, Wellstart Project, Washington, D.C.
Dr. S. Pryser-Jones, SARA Project, Washington, D.C.
Dr. D. Sack, Johns Hopkins School of Hygiene and Public Health
Dr. B. Schwartz, CDC, Atlanta
Dr. B. Weirbach, REACH/BASICS Project, Washington,D.C.
Ms. P. Whitesell, ACT International, Atlanta

APPENDIX E

EVOLUTION OF THE CDD AND ARI PROGRAMMES

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Appendix

1. Introduction

This background report summarizes the development of two WHO programmes: Control o Diarrhoeal Diseases (CDD) and Control of Acute Respiratory Infections (ARI). Each of thes programmes is discussed separately in terms of its objectives, major programme components strategies, targets, organization and management, funding, and collaboration with other WH(programmes and agencies. A final section reviews the inter-relation of the two programmes tha have been carried out in an increasingly collaborative manner since the late 1980s.

2. Programme for Control of Diarrhoeal Diseases

2.1 Objectives

WHO launched a programme of activities for the control of diarrhoeal diseases in 1978 an formally established the CDD Programme two years later in 1980. The need for such a globa endeavor was clear given the extent of childhood morbidity and mortality from diarrhoe diseases and its contribution to malnutrition throughout the developing world. The objective c the Programme is to reduce diarrhoea-associated mortality, morbidity, and malnutrition amon infants and young children in developing countries. Establishment of the Programme wa considered both necessary and possible because of significant advances in knowledge (includin the development of a simple method of oral rehydration) that had major implications fc improved treatment and control of acute diarrhoeal diseases. The CDD Programme reflec WHO's strong commitment to primary health care and is considered a priority for th achievement of the international goal of Health for All by the Year 2000.

The immediate objective of the CDD Programme is to reduce diarrhoea-related mortality an malnutrition, especially in children, and the longer-term objective is to reduce diarrhoe morbidity. The Programme has worked closely with countries in the development of nation plans of action and in promoting the formulation, implementation and evaluation of nation programmes. The CDD Programme has provided technical and financial support to countri implementing national CDD programmes and to researchers seeking ways to improve th delivery of control programmes and new or improved tools for control.

2.2 Major Programme Components

CDD Programme activities are divided into two broad components, one focused on country-lev CDD programmes (through what has been called the Health Services Component until recentl and the other on research and development (comprising both basic and operational resea:ch As global CDD activities increased, the Programme developed an information service disseminate information and documentation on diarrhoeal diseases control.

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2.2.1 Health Services

The health services component has emphasized the development of sound plans for national CDD programmes, the implementation of national programmes, the training of health workers at all levels, and the evaluation of national activities and impact. Through this component, activities have also been supported to increase the production and supply of Oral Rehydration Salts (ORS) and communication support (health education and promotion.)

The basic approach for implementing the health services component has been to use and strengthen existing infrastructures, particularly primary health care and programmes of maternal and child health care, environmental health, or the basic health services at the community level. The Programme has promoted the application in national CDD programmes of control strategies described in below. Table 1 shows the progress achieved in terms of the number of countries with operational programmes from 1982 -1987. By 1987, 96 countries representing 98 percent of the population in developing countries had developed CDD programmes. By 1990, the coverage had extended to 110 countries.[1]

2.2.1.1 Strategies

Since its earliest days, the Programme has had five strategies for achieving its objectives in the health services component: 1) clinical management of acute diarrhoea with emphasis on oral rehydration; 2) improved maternal and child care practices; 3) improved water supplies, sanitation and food hygiene; 4) epidemiological surveillance; and 5) health education.

Among these five strategies, highest priority has been given to case management because of the urgent need to reduce diarrhoea-associated mortality, case-fatality rates, malnutrition, and treatment costs. This strategy was issued in 1983 as a WHO/UNICEF Joint Statement on the Management of Diarrhoea and Use of Oral Rehydration Therapy.[2] Four elements are emphasized as part of this strategy:

- Prevention of dehydration through the proper treatment of diarrhoea in the home using available or home-prepared ORT solutions;

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[1]The CDD programme reports ceased listing new CDD country programmes starting in 1988.

[2]The statement was revised in mid-1985 to take into account the new ORS formulation containing trisodium citrate. Following the issuance of the 1983 statement, many countries formulated a locally appropriate strategy for the preparation and use of ORT solutions in the home.

- Treatment of dehydration due to diarrhoea using ORS supplied throughout the health care system;
- Promotion of proper feeding during and after diarrhoea; and
- Selected use of intravenous fluids and antibiotics.

Based on the CDD Programme's experience with implementation at the country-level during the 1980s, new areas were targeted for priority. The Programme recognized that successful implementation of the case management strategy depended on all families being educated and motivated to treat diarrhoea correctly when it starts, and all health workers involved in child care acquiring skill and confidence in the use of ORS. Following a systematic review of the effectiveness, feasibility, and costs of 18 potential interventions[3] (other than case management) for the reduction of diarrhoeal disease morbidity and mortality in young children, three major areas were identified in 1985 as having the greatest cost-effectiveness and deserving high priority in the Programme's services component. These areas included:

- Improved nutrition: a) uninterrupted breast-feeding for the first two years of life; b) proper weaning practices.
- Use of safe water: a) collecting an ample quantity of water from the safest source; b) protecting water from contamination.
- Good personal and domestic hygiene: a) hygienic excreta disposal, including use of latrines and care in disposing of babies' stools; b) washing hands.

During 1988-89, three programme areas received increased emphasis: communication in support of case management, the promotion of breast-feeding, and the promotion of a more rational use of drugs in the treatment of diarrhoea. In 1990-91, additional emphasis was placed on the promotion of breast-feeding with the objective of increasing exclusive breast-feeding. Over the years, the implementation of the CDD programme has become increasingly focused on preventive strategies. More recently, the CDR programme has also taken a more integrated approach through its concentration on case management of a range of health problems including diarrhoeal diseases, ARI, malaria, measles, and malnutrition.

2.2.1.2 Targets

[3]By the end of 1985, all reviews but one on child spacing were near completion. Measles immunization was also identified as a priority intervention, but given the EPI it was not necessary to include this as a priority in the CDD Programme.

As early as 1981, targets were set for the health services component to measure progress of national programmes in the areas of planning, training and evaluation and to assess achievements in the control of diarrhoeal diseases in children.

The indicators of progress for the CDD Programme and the targets have changed over time. As Table 2 shows the indicators adopted in 1981 included access to ORS (later ORT), ORS use rates, training coverage, the number of countries with operational programmes, country programme evaluations, and number countries producing ORS. While the 1981 list was longer and more detailed, most of the original indicators continued to be used during the 1980s. Targets for each of the indicators were set first for 1983 and 1990. These were revised somewhat in 1984 and again in 1986. The most recent change in CDD targets occurred in 1991 when UNICEF and WHO agreed to develop a joint strategy for CDD including monitoring and evaluation. Four key indicators were selected, two of which had not been measured previously. These four include:

- Population with access to ORS
- Cases receiving increased fluids and continued feeding
- Mothers knowing three rules of home case management (new)
- Cases correctly managed in health facilities (new)

The Programme will progressively shift to using these four indicators during the 1990s as a way to monitor progress toward the targets set for the WHO/UNICEF indicators. It is believed that if the targets for these four indicators can be achieved, the mortality reduction goals set by the 1990 World Summit for Children (by the year 2000, reducing diarrhoea mortality by half compared with the 1990 level and diarrhoea morbidity by one quarter) can be attained.

2.2.1.3 Progress in Achieving Targets

Over the course of the CDD Programme, steady progress has been achieved in the number of countries with operational programmes reaching 110 by 1990. As many as 129 countries were counted as having plans of operation by the end of 1991 thus covering 99 percent of the total population of developing countries. By 1991, 92 countries had undertaken reviews of their CDD Programmes either comprehensively and/or focusing on selected programme areas using results of household and health facility surveys. Many of these countries had revised their country plans at least once.

CDD training activities have been increasingly extensive over the years. Literally hundreds of courses have been given on supervisory skills and case management. At the end of 1992, it was estimated that 34 percent of health staff with supervisory responsibilities from 126 countries had

been trained and 24 percent of health staff had been trained in diarrhoea case management. These levels represent 85 percent and 60 percent of the 1995 targets and suggest much greater effort is needed in case management training.

Access to ORS and ORS and/or RHF use rates[4] show steady progress between 1984 and 1992. As shown in Chart 1, the proportion of the population with a regular supply of ORS in their community had increased from 24 to 73 percent suggesting that the 80 percent target for 1995 will be achieved and probably surpassed. ORS and/or RHF use rates had increased from 12 to 46 percent and are also very close to the 50 percent target for 1995. Chart 2 also gives estimates of the remaining WHO/UNICEF indicators: By 1992, 32 percent of mothers knew the three rules for case management in the home and 19 percent of diarrhoea cases received increased fluid intake and continued feeding.[5] No data were available for measuring the proportion of cases correctly managed in health facilities.

2.2.2 Research

The research component of the CDD program had two foci: biomedical to respond to global policy issues and operational to meet the needs of national CDD programmes. These two categories persisted until the late 1980s. The biomedical research included the development and evaluation of new and better tools (e.g., vaccines, drugs and treatment algorithms) for the prevention and treatment of diarrhoea and better understanding of the epidemiology of diarrhoeal diseases. The operational research sought to determine the best ways of applying available knowledge and of implementing the control strategies of the health services component (cited above) at the country level.

Scientific Working Groups (SWGs) were formed to oversee and manage the two research areas. Three global Scientific Working Groups (SWGs) were established to develop research priorities and work plans in: 1) bacterial enteric infections (BEI), viral diarrhoeas (VID), and drug development and management of acute diarrhoeas (DDM). Six regional SWGs were set up in each of the WHO regions to manage the operational research. The regional bodies were to ensure close relationships between the operational research and the national CDD programmes.

Beginning in 1986, the priorities of the SWGs were revised to concentrate on fewer biomedical and epidemiological topics of highest priority for developing new or improved methods for reducing morbidity and mortality due to diarrhoeal diseases. The global SWGs were reorganized on the following three areas: 1) improved treatment methods (Case Management (CMT));

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[4]The percentage of diarrhoea episodes in children under 5 years of age that received ORS and/or a recommended home fluid (RHF).

[5]The surveys for measuring these WHO/UNICEF indicators are being revised. Estimates for 1991 and 1992 are extrapolated from existing household and health facility surveys.

vaccine development (Immunology, Microbiology and Vaccine Development IMV)); and evaluation and implementation of interventions, other than vaccines, for the prevention of diarrhoeal diseases (Epidemiology and Disease Prevention (EDP)). While operational research continued to be supported by regional SWGs, this research area was also modified to focus on solving problems encountered in the establishment or operation of national CDD programmes. By 1988 the operational research activities had been moved into the health services component.[6]

The CDD research programme evolved further in 1990 when the SWGs were replaced by a core of experts who advised on priority issues in each of five broad research areas: case management, nutrition, hygiene, vaccine evaluation, and descriptive studies on severe diarrhoea and diarrhoeal deaths. These ad hoc review panels had several advantages over the fixed SWGs in that they could draw on scientists with more applied experience from various disciplines. Thus these panels were more flexible for reviewing a variety of proposals. In addition, the ad hoc panel did not meet to review proposals but simply reviewed them on a continuing basis as they were received through the mail. The new research projects supported during the 1990-91 period responded increasingly to the needs of program implementation. In addition, research was supported to help define and test future interventions for the prevention of diarrhoea including field trails of vaccines.

The most recent change affecting the CDD programme's research activities was a functional reorganization of the former services and research components. These were replaced by four research and development working groups that address the major elements of national control programs: 1) case management in health facilities, 2) case management in the home, 3) prevention of diarrhoea, and 4) national programme management.

2.2.3 Information Services

Since 1980, the principal vehicle for dissemination of information about the CDD Programme has been the Diarrhoea Dialogue newsletter. Numerous other materials and publications are distributed by CDD including summaries of the meetings of Programme's review bodies, annual reports, manuals and guidelines of various subjects, and technical/research reviews and reports such as those of the Scientific Working Groups. In 1981, the Programme began to distribute a periodic bibliography of published articles on acute diarrhoeal diseases with support of the U.S. National Library of Medicine.

[6]The budget tables stopped reporting separate regional research activities that supported operational research in 1986 (see Table 5).

2.3 Organization and Management (see also Appendix F)

The major elements of the organizational structure for the CDD Programme are the WHO Programme Secretariat and three annual review meetings. This structure has remained essentially the same since the Programme's inception with some modifications cited below.

1) WHO Secretariat provides global support for the development of national CDD programmes, implements basic research activities (through 1991) and coordinates the Programme under the guidance of the TAG through the headquarters staff. At the regional and country levels, the secretariat implemented activities in the services component and operational research through 1991. A functional reorganization of the Programme's Headquarters replaced the former services and research components with four research and development working groups to complement the national programme implementation activities.

2) Technical Advisory Group (TAG), consisting of 16 senior national public health administrators and scientists, helps define the objectives and strategies of the Programme. Meeting annually, the TAG guides the direction of the scientific and technical aspects of the services and research components including review of the Programme budget. Beginning in 1990, the TAG altered its method of operation. A small group of members now meets in alternate years thus permitting more detailed discussion of Programme issues.

3) Management Review Committee (MRC) composed of representatives of the UN agencies (UNDP, UNICEF, WHO, World Bank) and representatives of three (initially only two) national governments with two-year rotating terms, that reviews in depth the overall management of the Programme on an annual basis in preparation for the annual Meeting of Interested Parties. Beginning in 1989, the MRC officially became an interagency committee with responsibility for reviewing both the CDD and ARI programmes as well as matters of coordination among external support agencies.

4) Meeting of Interested Parties (MIP) attended by representatives of at least six developing country governments, agencies (including UN) that are contributing or are interested in contributing financial support to the Program and representatives from six developing countries. The MIP reviews general progress, plans, budget projections of the Programme as evaluated and recommended by the TAG, recommends policy and receives pledges of financial contributions to the Programme. The deliberations of both the TAG and the MRC are reviewed by the MIP at annual meetings. Also beginning in 1990, the MIP has served as the donor forum for the ARI Programme.

Technical and fiscal accountability has been assured in each Programme component. In the Health Services component, independent evaluations and reviews of national programmes have

been conducted and success is measured in terms of improvements in the health status of infants and young children. In the Research component up until 1990, the Scientific Working Groups conducted peer review of proposed research and during 1990-91 a core group of experts carried out this function. The overall success of research activities is judged by the results achieved (e.g., the development of better approaches for health service delivery or the discovery of new vaccines and drugs.)

To strengthen the link between research and the implementation of national CDD programmes, four research and development working groups were formed in 1992 as part of a reorganization of the CDD Secretariat cited above. These four groups (case management in health facilities, home care for diarrhoea, prevention of diarrhoea, and national programme management) ensure that research activities address key issues of programme implementation.

2.3.1 Reporting

Starting in 1981 and every two (odd-numbered) years, the CDD Programme issued biennial progress reports describing the activities carried out during the previous two calendar years. For the intervening (even-numbered) years, beginning in 1984, the Programme issued an interim status report summarizing activities during the previous calendar year. Beginning with the Seventh Programme Report for 1988-89, the reports include specific examples from countries of activities and achievements. In addition to the progress reports, the Programme produces unpublished reports from the annual meetings of the TAG, MRC and MIP. (See Bibliography for a list of these CDD Programme reports.)

2.4 Funding

From 1978-1991, nearly $US 100 million has been contributed to support the CDD Programme (see Table 3). The funding for the Programme increased steadily from the initial years through 1989. Since then, contributions have leveled off at close to $US 21 million for the 1990-1991 biennium. Between 1986-1991, the average annual level of contributions has been about $US 10 million. Available funds and pledges for 1992-1993 were only about $US 13 million, and the number of contributors and/or pledges was only 17 indicating that the Programme might be facing a fragile funding situation unless additional resources were contributed.[7]

The CDD Programme's funds have come from the WHO regular budget and from a wide range of countries and agencies. Funds from the WHO regular budget represented about 16 percent of total resources from 1978-1991. The vast majority of funds (84 percent) have been contributed by a total of 27 countries and other agencies. Among the largest country contributors are Denmark, the Netherlands, Sweden, Switzerland, the United Kingdom and the

[7]Based on the Interim Programme Report for 1992. WHO/CDD/93.40 (1993).

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United States. The largest contributors among other agencies include UNICEF, UNDP, the Arab-Gulf Programme for UN Development Organization, and Giba-Geigy. (see Table 4 for a detailed breakdown of resources contributed by funding source.)

Total resources devoted to both health services and research under the CDD Programme were nearly 84 million from 1980-1991 (see Table 5). Over the years, resources for health services have increased from close to $3 million for 1980-81 to over $14 million for 1990-91. In contrast, research funds increased steadily from $1.9 million in 1980-81 until the mid-1980s when the rate of growth leveled off at between $6-7 million per biennium and subsequently declined to $4.2 million for the 1990-91 period. Annual obligations have averaged about $4.5 million for health services and $2.5 million for research. Of all Programme funds attributed to these two components, an average of about 65 percent has been devoted to health services and the remaining 35 percent to research. Increasing proportions of CDD's financial resources have been devoted to health services in recent years (up to 77 percent in 1990-91).

Table 5 also shows the evolution in programming for global and interregional activities apart from regional activities. Through 1985, both the health services and the research components of the CDD Programme reported their global and interregional activities separate from regional ones. Beginning in 1986, only the health services component reported obligations for regional activities that supported the implementation of CDD country programmes.

Three financial issues have been of concern during the life of the Programme. As early as 1981-1982, the Programme requested that whenever possible, contributions to the Programme should not be designated for either health services and research. The level of earmarking was sufficiently high in 1984-1985 to cause concern about the Programme's ability to implement its activities.[8] The second issue raised in 1984 led to a request that contributors make funds available to the Programme as early as possible in the biennium or the calendar year to allow the Programme to proceed with implementation as planned. Finally, concerned about inadequate funding, the MRC urged in 1993 that donors provide written pledges of support for 1994-95, if possible in 1993, to ensure that program activities would continue uninterrupted into the new biennium.

2.5 Collaboration with Other WHO Programmes and Other Agencies

An important dimension of the CDD Programme has been its collaboration with other WHO programmes, other international and bilateral agencies, research and training centres, and the pharmaceutical industry. The areas of collaboration have encompassed virtually every facet of the Programme. In the Health Services component, collaboration has involved training, health

[8]Report of the fifth Meeting of Interested Parties. Unpublished document CDD/MIP/85.8 (1985).

education and communication, and evaluation. In coordinating and supporting the research component, the Programme has collaborated in various areas including epidemiology and vaccine development and evaluation. Even in the area of information services, collaborative efforts have been pursued.

2.5.1 Other WHO Programmes

The CDD Programme has worked with several other WHO Programmes whose areas of effort are similar. Beginning in 1982, collaboration with the WHO Collaborating Centre for Environmental and Epidemiological Aspects of Diarrhoea Diseases was started to develop evaluation methods on the impact of water supply and sanitation projects. This led to a systematic analysis of the effectiveness, feasibility and cost of 18 potential interventions (other than case management) for controlling diarrhoea diseases.

Collaborative activities have been undertaken with other WHO programmes, e.g., EPI, MCH, and PHC, in the joint evaluation of national primary health care activities in various countries. The Special Programme for Research and Training in Tropical Diseases also collaborated with the CDD Programme on training in epidemiological, clinical and laboratory research. The WHO Nutrition Unit has worked with the Joint WHO/UNICEF Nutrition Support Programme in the development of a number of country projects that have significant CDD components. The CDD Programme has collaborated with the Essential Drugs Programme whose activities include the provision of ORS. In 1991, the Programme increased its work with WHO's Community Water and Sanitation Unit (CWS) in order to strengthen hygiene education and other areas of national health programmes.

In the area of training, collaborative links were established with 13 regional or sub-regional units and national units in 35 countries in order to support the extensive training activities of the Programme. Over the years, the International Centre for Diarrhoeal Disease Research in Bangladesh (ICDDR,B) and the National Institute for Cholera and Other Enteric Diseases in India have played particularly important roles in the Programme's training activities.

2.5.2 Other Agencies

Collaboration between the CDD Programme and UNICEF has been sustained and far-reaching. Since ORT is a key component in UNICEF's Child Survival Revolution, it has been important that both programmes work together in a number of areas including the promotion of home-based ORT, ORS production, training of health workers, and evaluation of national programmes. In 1983, a Joint WHO/UNICEF Statement on the Management of Diarrhoea and Use of Oral Rehydration Therapy was issued that articulated the control strategies to be emphasized in the control of diarrhoeal diseases. In 1991, the CDD Programme and UNICEF developed jointly a core set of key programme as well as the targets for these that can be used to evaluate progress. The two programmes are continuing their close collaboration in order to accelerate

implementation of country activities aimed at achieving the goals of the CDD Programme and the World Summit for Children.

Collaboration between the CDD Programme and other international and bilateral agencies has been extensive both in terms of the number of agencies involved and the areas of their involvement. In addition to financial support of the Programme's work, the following is a selected list of such cooperative endeavors in the Health Services area:

USAID — The Programme has been working with several USAID funded projects such as the Technologies for Primary Health Care (PRITECH), HEALTHCOM, the Program for Appropriate Technology in Health (PATH), and the Combating Childhood Communicable Diseases (CCCD) Project.

SIDA (Sweden) — Activities have involved support of biomedical research, the development of breast-feeding activities, and along with numerous other donors support for Associate Professional Officers who work in national CDD programmes.

International League of Red Cross and Red Crescent Societies — Collaboration has involved working with the League's Child Alive Project in several countries.

World Bank — A collaborative study was carried out to obtain better methods for assessing the cost-effectiveness of various interventions (such as breast-feeding, water supply and sanitation)

Selected examples of cooperative endeavors in the Research area include:

ICDDR,B — Collaboration has involved implementing various of the Centre's research projects including cholera vaccine trials.

USAID — The CDD Programme has been coordinating its research efforts with three USAID projects: the Applied Diarrhoeal Diseases Research Project, the Dietary Management of Diarrhoea Project in Nigeria and Peru, and DIATECH, a project that supports research on rapid diagnostic methods for enteric pathogens.

Pharmaceutical Industry — An active collaboration has occurred over the years with as many as 13 pharmaceutical companies in order to promote the

development of new vaccines and anti-diarrhoeal drugs and diagnostic tests.

The Programme's Information Services is another area of collaboration. Various donors including UNDP, UNICEF, the German Agency for Technical Cooperation, and SIDA (Sweden) have provided support over the years for the Programme's newsletter, Diarrhoea Dialogue. The International Children's Centre in Paris has produced a bulletin of recent references, and the U.S. National Library of Medicine has collaborated with the CDD Programme in producing the Bibliography of Acute Diarrhoeal Diseases.

3. Programme for Control of Acute Respiratory Infections

3.1 Objectives

The ARI Programme was officially established in 1982[9] in response to the concern about high mortality from respiratory disease in infants and young children. Based on several years of experience with ARI control efforts in a few developing countries and results of several etiological studies, it was determined that a reduction in mortality from childhood pneumonia was a feasible objective. The first meeting of a WHO Technical Advisory Group on Acute Respiratory Infections, held in 1983, concluded that enough knowledge and technology were available to start an ARI control programme. Control of ARI was seen as one of the basic elements of primary health care and both UNICEF and WHO considered it as part of the global strategy to improve child survival.[10]

The main objectives of the ARI Programme are to reduce the severity of and mortality from acute lower respiratory infections (ALRI), especially pneumonia, and to reduce the inappropriate use of antimicrobials and other drugs for the treatment of all ARI in children. In the longer term, the Programme intends to reduce the severity of and prevent complications from acute upper respiratory infections (AURI), as well as the overall incidence of ALRI in children.

The 1987 Technical Advisory Group for ARI recommended that the Programme be directed to the 85 countries where infant mortality rates are higher than 50 per 1000 (accounting for 84 percent of the total ARI mortality) since one of the goals of the Health for All strategy is to

[9]The intention to start an ARI programme at WHO was first presented in 1978.

[10]WHO/UNICEF Joint Statement (1986). Basic principles for control of acute respiratory infections in children in developing countries. WHO Geneva.

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reduce infant mortality to below this level.[11] Subsequently, the ARI Programme chose to focus its efforts on the 88 countries where infant mortality rates were 40 per 1000[12]. The rationale for so concentrating was based on the fact that in these countries most community-acquired pneumonias in children were bacterial, the very ones to which the Programme's case management strategy could be addressed. At the same time, it was recognized that all countries could benefit by emphasizing the other objectives of the ARI Programme (reducing inappropriate use of drugs for the treatment of ARI in children, preventing complications from AURI, and reducing the incidence of ALRI).

3.2 Major Programme Components

Similar to the CDD Programme, the ARI Programme has had two main components: health services with the application of the existing knowledge on the treatment and prevention of ARI in children, and research aimed at promoting and supporting investigations of the technology and health systems research.

3.2.1 Health Services

The initial approach to ARI control stressed the need to start in a phased manner with the introduction of simple measures of case management and health education at the primary health care level, the progressive strengthening of technical support at the higher levels and the monitoring of deaths. The approach to planning and implementation of national ARI control activities was similar to that adopted for national CDD programmes. First, the delivery of ARI programmes is integrated with the delivery of other primary health care services especially since the activities involved the same personnel. Second, ARI programme strategies and plans of operation are prepared as distinct documents prior to initiating activities, but then become part of the national health plan. Finally, plans assess the current situation, set objectives and targets, schedule activities for several years, establish monitoring and evaluation systems, and indicate budget allocation. With relatively limited resources, the ARI Programme has achieved impressive results in terms of the number of countries with plans of operation and those where implementation of national control programmes has been started (see Table 6.)

3.2.1.1 Strategies

In 1983, a Global Medium-Term Programme on Acute Respiratory Infections was formulated for 1984-89. The Programme set out two general objectives: the development of a strategy for

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[11]WHO Technical Advisory Group on Acute Respiratory Infections. Report of the third meeting. Unpublished document WHO/RSD/87.37 (1987).

[12]ARI Fourth Programme Report, 1988-89.

While the ARI training programmes include training for programme managers and supervisors, training in case management of staff based at health facilities is the key indicator of progress. At the end of 1992, 100,000 staff had been trained or 50 percent of the target for 1995. This was a major increase from the 10,000 trained by 1990.

Progress has been made as well in the access target since 1990 reaching 12 percent in 1992 although this is far below the target of 50 percent for 1995. Similarly, an increase has been made in the adequate treatment of childhood pneumonia at health facilities from 8 percent in 1984 to 20 percent in 1992, reaching 50 percent of the projected 1995 target.[16] While the ARI Programme endorsed the target for reducing pneumonia mortality of the World Summit for Children, there is concern about its feasibility given the levels of training, access and adequate treatment that would be required.

3.2.2 Research

The scientific and technical review of the ARI Programme activities has been the responsibility of the ARI TAG. For the first several years, the ARI Research Component directed its limited resources primarily to support studies of the feasibility, impact and best means of implementing the case management strategy. In addition, a few clinical, epidemiological and etiological studies were funded. Given the progress made by 1984, the programme began to shift its emphasis from health systems research to effective programme implementation. Research continued to be an essential part of efforts to improve the control strategies and the implementation of national programmes. The 1987 TAG meeting recommended that a research plan be developed with four priority topics: health systems research, clinical research, indoor pollution studies, and vaccine development. While such a plan was prepared in 1988, the research priorities were redefined the next year and included the following areas:

1. Case management covering various research issues related to the treatment of pneumonia.
2. Behavioral research including studies of early care detection and prompt treatment of pneumonia.
3. Health systems research involving studies to evaluate the effectiveness of the ARI case management strategy when carried out within national programmes.
4. Disease prevention research.

In 1991, the TAG continued to give priority to these areas, but called for an expansion of the work in health systems research and research related to preventive interventions. Further an on-going review of risk factors for childhood pneumonia and the potential impact of interventions to reduce the risk factors are considerable important aspects of the work in prevention.

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[16]These estimates are based only on countries completing country profiles and are both approximate and incomplete.

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3.2.3 Information Services

Again similar to the CDD Programme, the ARI Programme initiated an information service to disseminate information on case management and prevention of ARI in children. The global newsletter, ARI News, is the main vehicle for this activity. The Programme also distributes technical and programme reports.

3.3 Organization and Management (see also appendix F)

When WHO's global ARI activities were launched in 1978, ARI was placed within the then WHO Tuberculosis Unit and activities from 1978 - 1981 were covered by funds from the tuberculosis and other communicable diseases. For the first time in 1982-83, the ARI Programme had specific funding from allocations in the WHO regular budget and extra-budgetary contributions. The initial organizational structure for the ARI Programme consisted of a three-person professional staff of the renamed Tuberculosis and Respiratory Infections Unit that carried out the added tasks related to the global ARI Programme. In 1986, when a new medical officer was hired specifically for the ARI programme, an organizational structure was established within the unit that consisted of the following ARI-related tasks:

- Promotion and coordination of ARI and Tuberculosis Programmes	Existing program manager
- ARI Service Component	New medical officer
- ARI Research Component	New medical officer

In addition, each of the WHO regional offices had a designated officer for ARI within the programmes of Communicable Diseases except in the region of the Americas in which ARI, together with EPI and CDD, came under Maternal and Child Health. The ARI Programme at headquarters was responsible for planning and implementation of developmental and research activities, and for global coordination of the services component. The regional offices were responsible for all collaborative activities with countries implementing ARI programmes.

In 1987, the ARI Programme was placed administratively under the responsibility of the Director of the CDD Programme. Three years later in October 1990, the Programme became a unit of a newly formed Division of Diarrhoeal and Acute Respiratory Disease Control (CDR). The Director of this Division provides general direction and management support to the global ARI Programme and enhances cooperation with development agencies and institutions interested in collaborating with the ARI Programme. Both the ARI and CDD Programmes share common divisional support service at the central level including budget planning and monitoring.

The scientific and technical review of the ARI Programme activities has been the responsibility of the Technical Advisory Group (established in 1983) composed of leading experts in pediatrics

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the control of acute respiratory infections by 1985 and formulation of national ARI programmes for most countries by 1989. The ARI Programme centers around three control strategies: case management, immunization and health education.[13]

Case management has been the central strategy of the programme because in the short term it can greatly reduce the mortality and case fatality from acute lower respiratory infections. The key role of case management as an ARI control strategy was based on: 1) demonstration of the major role played by bacteria as causes of severe pneumonia in children; 2) feasibility projects that had shown that paramedical staff and community health workers are able to apply correctly a simplified protocol for the recognition and treatment of pneumonia; and 3) several intervention studies that had proved the success of the case management approach.

Immunization has been the second control strategy. One-quarter of ARI deaths in young children in developing countries are due to vaccine preventable diseases -- measles, diphtheria, pertussis, and tuberculosis. The global ARI Programme effort assists national ARI programmes to strengthen the expanded programme on immunization (EPI). The programme has supported research for the development and testing of vaccines most likely to have an impact on mortality from ARI.

Health education of the public and of parents has been the third control strategy.[14] Based on a 1987 review, health education was integrated into immunization and case management strategies and ceased to be a separate strategic objective.

The International Consultation on the Control of ARI, jointly sponsored by UNDP, UNICEF, and WHO, was held in 1991. A six-point global action programme was adopted for ARI that encompasses the above ARI strategies but is more detailed. The six programme areas include[15]:

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[13]These control strategies were adopted based on recommendations of the Technical Advisory Group meeting in 1983. World Health Organization. A programme for controlling acute respiratory infections in children: Memorandum from a WHO meeting. Bulletin of the World Health Organization, 1984, 62: 47-58.

[14]Education activities were related to immunization and case management as well as to non-specific measures to reduce the risk of ARI morbidity from various conditions such as malnutrition, vitamin A deficiencies, low birth weight, etc. In reviewing ARI control strategies, non-specific measures would be selected based on a thorough analysis of the their effectiveness, feasibility and cost and promoted by the ARI programme .

[15]ARI Fifth Programme Report, 1990-1991. WHO/ARI/99.22 (1992), p. 39.

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- Training and supervising health workers to recognize the symptoms of pneumonia and to carry out basic curative measures;
- Ensuring continuous supplies of antibiotics, so that children with signs of pneumonia receive proper treatment;
- Launching education programmes for parents on how to recognize danger signs and when to take their children for proper treatment;
- Accelerating the development of new vaccines that could prevent pneumonia cases;
- Improving childhood immunization rates as an effective preventive measure; and
- Enhancing preventive measures at home, such as proper nutrition and care of young children, especially infants during their first six months, and measures against domestic air pollution.

3.2.1.2 Targets

Targets for the ARI Programme were established to measure progress in the implementation of countries programmes and efforts to achieve adequate access to primary health care and referral facilities, extend relevant health education and improve the quality of case management in all children with ALRI. The indicators of progress for the ARI Programme include a general programme target (countries with operational ARI program programmes), a training target, an access target for case management, and a treatment target. Targets were set for 1991 and 1995 and subsequently for 2000. (see Table 7.)

The ARI Programme also adopted a pneumonia mortality reduction target, established at the 1990 World Summit for Children. More than 130 countries committed themselves to a 33 percent reduction in under-five ARI mortality by the 2000, using 1990 as a baseline. This goal was reaffirmed at the 1991 International Consultation on the Control of ARI jointly sponsored by UNDP, UNICEF, and WHO.

3.2.1.3 Progress in Achieving Targets

As mentioned, a major target of the ARI Programme is the establishment of ARI programmes in the 88 countries with an IMR of 40 per 1,000 or higher. Good progress has been made since 1983: 47 countries (53 percent of the Programme's target for 1995) had operational programmes at the end of 1992. Another 15 of these "target" countries had developed plans of operation. In addition, 20 other countries and areas (with IMR less than 40) had operational programmes bringing the total to 67 countries.

and epidemiology of ARI, and public health administrators from outside of WHO. As early as 1985, this group saw the need to integrate ARI with EPI, CDD and malaria control because the target population group was the same and because the managerial processes were deemed similar.[17]

In 1986 a Meeting of Interested Parties for the Prevention and Control of Acute Respiratory Infections in Children was held. The purpose of this meeting was to examine the technical and managerial aspects of the ARI programme, activities planned, budgets for future years, and financial and organizational commitments. Beginning in 1988, the MRC and the MIP for the CDD Programme reviewed the status, approaches, plans and budget of the ARI Programme. In 1990 for the first time, the MRC and MIP were officially designated as review bodies for both the CDD and ARI programmes.[18]

3.3.1 Reporting

Reports on the progress and current status of the ARI programme have been issued since 1985 and cover the Programme's activities from 1983. By the time of the fourth programme report for 1988-89, the format was similar to that used for the CDD Programme and reports were subsequently issued every two (odd-numbered) years. Beginning in 1990 and issued in subsequent even-numbered years, an interim programme report has been published. The ARI Programme has also produced unpublished reports of the meetings of the Technical Advisory Group (held every other year from 1995-1988 and annually since 1989). (See Bibliography for a list of these ARI Programme reports.)

3.4 Funding

From 1982-1991 close to $US 19 million has been contributed to support the ARI Programme (see Table 8). The funding for the Programme has increased steadily over those years, and the level proposed for 1992-1993 suggests that this trend is continuing. While the average annual level of contributions has been less than $US 2 million between 1982-1991, the progressive rise in support over time has meant larger annual obligations in recent years, nearly $US 4 million in 1990-1991.

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[17]WHO Technical Advisory Group on Acute Respiratory Infections. Report of the second meeting. Unpublished document WHO/RSD/85.18 (1985).

[18]In the ARI Programme's Interim Programme Report, 1990 (WHO/ARI/91.19 (1991), the MRC is referred to as the CDD/ARI management Review Committee and similarly the MIP was referred to as the MIP of the CDD and ARI Programmes. The CDD Programme Report for that year did not refer to these review bodies as having joint responsibility for the two programmes.

The ARI Programme's funds have come from the WHO regular budget (representing about 24 percent of total funds) and some 21 countries and other agencies (constituting 76 percent or the bulk of the funding). (see Table 9 for a detailed breakdown of resources contributed by funding source.)

Total obligations under the ARI Programme devoted to health services and research were just over $10 million from 1988-1991 (see Table 10). Close to $12 million is estimated for 1992-93 obligations. Resources for both areas have increased over time: health services increased from $2.8 million in 1988-89 to $4.9 million in 1990-91 and research from $733,000 in 1988-89 to $1.7 in 1990-91. Of all ARI Programme obligations devoted to these two components, about three-quarters has supported the health services component.

Despite the modest level of funding for the Programme, evidence of some promising achievements in the effort to reduce ARI mortality has been cited.[19] In 1992, the MRC advised that increased resources were necessary to achieve the ARI global target.[20]

3.5 Collaboration with Other WHO Programmes and Other Agencies

During the past decade, collaboration between WHO/CDR and other United Nations Agencies, bi-lateral agencies, and WHO programmes has significantly increased and improved. Within the United Nations, a close complementary relationship has developed with UNICEF, in which WHO's technical guidelines on clinical management, programme planning and evaluation, and training are joined with UNICEF's interest in advocacy, communication with families, and provision of ORS. With bi-lateral agencies,collaboration with AID supported projects on both research(ADDR) and implementation(PRITECH and REACH), has strengthened the global efforts in both developing and applying control interventions. Within WHO, CDR has worked closely with EPI to ensure compatibility of training materials for nurses and other groups. More recently, in the development of the training course for first level facility workers, "Management of Childhood Illness", CDR coordinated inputs from a number of programmes, including Malaria, Tropical Disease Research, Maternal and Child Health, Nutrition, Blindness, and Immunization. This activity reprsents one of the most extensive single examples of practical collaboration at WHO.

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[19]WHO Technical Advisory Group on Acute Respiratory Infections. Report of the third meeting. Unpublished document WHO/RSD/87.37 (1987). See also Report of the Ninth Meeting of the Management Review Committee. Unpublished document CDD/MRC/89.1 (1989).

[20]Report of the Twelfth Meeting of the Management Review Committee. Unpublished document CRD/MRC/92.1 (1992).

The ARI Programme is collaborating with an increasing number of other WHO programmes and other agencies. Within WHO, close collaboration has developed principally with the CDD Programme (described on pp. 24-26 in this paper) and the two programmes are gradually moving toward integration. Collaboration has also been established with the Action Programme on Essential Drugs for the promotion of standard treatment guidelines. Collaboration has begun with the Office of International Cooperation in arranging joint missions to developing countries to assist in planning the integration of priority health activities. A range of other collaborative activities are undertaken with other WHO programmes including EPI, MCH, and Pharmaceuticals.

Vaccine development is key to the long-term solution of preventing ARI. Within WHO, research to develop vaccines against respiratory viruses has been supported the Division of Communicable Diseases under the guidance of a Steering Committee on Acute Respiratory Viruses. An ARI Programme staff member is a member of this steering committee and helps to ensure close cooperation between the ARI Programme and the Division.

Given that ARI is a major priority for UNICEF in its strategy for the Child Survival Revolution, a high degree of collaboration has been important for both programmes. This association began in the earliest days of the ARI Programme when WHO and UNICEF drafted what became the "Joint Statement on Basic Principles for Control of Acute Respiratory Infections in Children in Developing Countries" (officially approved in 1985). The collaboration that has developed occurs at the central, regional and country levels in order to promote the same technical policies and managerial principles in planning and implementing ARI programmes. Most recently WHO and UNICEF are coordinating efforts to follow up the health-related goals of the World Declaration on the Survival, Protection and Development of Children of the 1990 World Summit for Children. As part of this effort, the two programmes jointly selected four essential indicators on the access and use of standard case management of pneumonia in children in order to monitor global ARI efforts.

Collaboration between the ARI Programme and international and bilateral agencies and non-governmental organizations has developed in the areas of research, communication and advocacy of the ARI control programme. Examples of these efforts include research on the etiology and case management of ARI, publication of the ARI News and the Bibliography on Acute Respiratory Infections in Children, and technical support. In 1991 WHO, UNDP and UNICEF jointly sponsored the first International Consultation on the Control of ARI. Participants at the meeting endorsed a six-point global action programme to reduce mortality from pneumonia in children. Other collaborative efforts have been underway with several USAID-funded projects including Resources for Child Health Project (REACH) and PRITECH. Finally the Federation of Finnish Lung Disease Associations and WHO have agreed to work together on the planning, implementation and evaluation of a country ARI programme.

4. Inter-relation of CDD and ARI Programmes

In 1987, the Director-General of WHO proposed the integration of the management of the CDD and ARI Programmes.[21] Four reasons were given justifying the integration of the two programmes:

- Both programmes had as their primary objective the reduction of mortality in infants and young children through a case management approach;
- Many activities needed for successful implementation were common to both programmes. The managerial framework for these activities that had been developed by CDD could enhance the implementation of the ARI case management strategy and its impact on mortality;
- Research priorities for clinical, epidemiological, and vaccine-related research were similar. The CDD research management structure would benefit ARI research.
- Integration would lessen the administrative and management costs of two separate programmes.

The Technical Advisory Groups of both the CDD and the ARI programmes were supportive of closer links. That year the Management Review Committee (MRC) endorsed the general idea of integration, but expressed concern that the constraints to implementing ARI programmes needed to be recognized (e.g., the difficulty of gaining acceptance that primary health workers could recognize pneumonia and treat it with antibiotics.) The Meeting of Interested Parties (MIP) held in 1987 also had some concerns about integration and so proposed a studied approach to integration: that the two programmes have a common, but not integrated, management and separate financial accounting of contributions and expenditures. Further, the MIP requested that the ARI Programme fully document its experience and the impact of its activities and also develop a work plan and budget for 1988-89 for review at the next MIP.

At its annual meeting a year later, the MIP agreed that CDD and ARI programmes would each continue to have its own TAG. The two other programme review bodies of CDD (MRC and MIP) would serve as review bodies for the ARI Programme. It was agreed that the two

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[21]Although the ARI Programme was still relatively new, considerable progress had been achieved in developing approaches and demonstrating through intervention stuties the impact of its case management strategy in reducing deaths from pneumonia. Further training materials and technical manuals had been developed for use in national ARI programmes and important clinical and laboratory research was being supported. Given the early progress, it was deemed a propitious time to integrate the programmes.

programmes would continue to have separate budgets and financial reporting.[22] The 1988 report of the External Review Group (ERG) of the CDD Programme concluded that integration of the two programmes was feasible and desirable, but that the integration should be carried out in a phased manner. It was acknowledged that the scientific basis for the ARI Programme was well established and that methods of applying the knowledge in the field were being developed. The ERG stressed that the integration of the two programmes and large-scale application of ARI control methods should be introduced only after methods had been field-tested and incorporated into workable plans.[23]

By 1990-91, close collaboration between the CDD and ARI programmes was firmly established with the same administrative structure providing managerial direction and support to both programmes. Further, the managerial materials of the ARI programme were developed following the terminology and pattern of CDD materials so that they could be easily combined in joint training, monitoring and evaluation activities at the country level. By 1992, the CDD and ARI programmes had begun to prepare combined ARI/CDD materials such as a household survey on case management. The programmes were also exploring the possibility of producing other combined materials for programme planning, evaluation and surveillance.

At the 1992 MIP, it was agreed that an independent, external review of the CDD and ARI programmes should take place. Particular attention should be given to examining how greater integration of the two programmes could be achieved and how integration with other primary health care activities at the country level could be improved.

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[22]Further, it was agreed that the guidelines designated for the CDD Programme would also apply to ARI, e.g., contributors who wanted to earmark their contributions would be allowed to do so only for broad programme components (services or research). Contributors to both the CDD and ARI programmes would have the option of either separate contributions to each programme or a total sum for both to be divided between them at the discretion of the WHO Secretariat.

[23]CDD Programme. Report of External Review Group. CDD/MIP/88.10 (1988).

Table. 1

Countries with Operational National CDD Programmes by year of establishment

1982–1987

	12/82	12/83	12/84	12/85	12/86	12/87
Africa	Botswana (84) Burundi Congo Ethiopia (85/87) Sierla Leone	Gambia (85) Niger Swaziland Zaire (85/87) Zimbabwe (84)	Algeria Angola (87) Senegal Seychelles Togo Uganda Tanzania (84)	Cote d'Ivoire Malawi Mali Nigeria San Tome (87)	Benin Burundi Central AFR. Rep Chad Ghana Kenya Liberia Madagascan Mozambique Rwandd Zambia	Cameroon Guyana
Americas	Belize (83) Colombia (84) Costa Rica (84) Ecuador (82/85) El Salvador (85) Haiti (85) Honduras (82) Jamaica (83/87) Mexico (2 states) Nicaragua Panama Paraguay (85)	Brazil	Argentina Bolivia (85) Dominican Rep. Mexico Peru (85) Suriname (85) Uruguay (85) Venezuela	Cuba Guatemala (86)		
Eastern Mediterran	Egypt (84/86) Gaza Jordan (86) Pakistan (84) Tunisia (85)	Afghanistan Democratic Yemen Yemen	Iran (87) Iraq (85) Oman Saudi Arabia Somalia Syria		Libya	
Europe						
S.E. Asia	Bangladesh (86) Burma (85) India Indonesia (83/86) Sri Lanka (86) Thailand (83/87)	Maldives Nepal (86)	Bhutan (85) Mongolia (85)			
Western Pacific	Fiji (*83) Kiribati Laos Malaysia Papva New Guinea (*83/87) Philippines (82/85) Samoa Solomaon Island (86) Vanuatu (86) Vietnam (84/87)	Demc. Kampuchea Guam Tonga (85)	China			

Table 2

Evolution of Indicators and Targets of the CDD Programme

Indicators	Year targets were set: 1981[1]		1983-84[2]	1984-85[3]	1986-87[4]	1988-89[5]		1992[6]	
	Target Year: 1983	1990	1989	1989	1989	1989	1995	1995	2000
No. of Countries with Operational CDD Programme	35	80	100	125	115	115	no target set	*	*
No. of Countries Producing ORS	15	24	60	60	60	60	no target set	*	*
No. of Country Programme evaluations/ reviews	20	175	80	80	80	80	160	160	200
Training									
No. of Managers Trained	@	@	4,000	4,000					
Staff trained in supervisory skills					20%	20%	40%	40%	60%
Staff trained in case Mgt.					20%	20%	40%	40%	60%
No. of Training Centers	6	10	*	*	*	*	*	*	*

Indicators (cont.)	1981[1]		1983-84[2]	1984-85[3]	1986-87[4]	1988-89[5]		1992[6]	
	Target Year								
	1983	1990	1989	1989	1989	1989	1995	1995	2000
No. of Countries with training & health materials	35	80	*	*	*	*	*	*	*
Surveys	-	-	200	*	*	*	*	*	*
Access to ORT/ORS	25%	50%	50%	80%	80%	80%	80%	80%	100%
Use of ORT[b]	12.5%	37.5%	35%	50%	50%	50%	no target set	50%	80%
Mothers knowing 3 rules of home case management								80%	100%
Cases correctly managed in health facilities								50%	80%
Annual childhood deaths prevented	1/2 million	1 1/2 million	*	*	*	*	*	*	*

* Indicators is no longer used.

@ Training indicators in 1981 were number of WHO coures and number staffed training at different levls.

b 1992 indicator: cases receiving increased fuleid and continueed feeding.

Sources:

1. Summary of Programme Activities, January 1980-April 1981. Table 2. Projected Targets Health Services Component WHO/CDD/81.3, p.8.

2. Fourth Programme Report, 1983-1984. Figure 5. Targets and Achievements. WHO/CDD/85.13, p.29.

3. Fifth Programme Report. 1984-1985. Figure 13. Current Programme Targets and Achievements, WHO/CDD/86.16, p. 45.

4. Sixth Programme Report, 1986-1987. Figure 9. Current Programme Targets and Status. WHO/CDD/88.28, p. 36

5. Seventh Programme Report, 1988-1989. Table 3. Programme Targets and Status. WHO/CDD/90.34, p. 49.

6. Interim Programme Report 1992. Figure 4. Programme Targets and Status. WHO/CDD/93.40, p. 30.

Table. 3

CDD Financial Resources

1978 - 1993

US$

	1978-81	1982-83	1984-85	1986-87	1988-89	1990-91	Available 1992-93	Pledged	Total
:egular	3,331,783	1,438,231	2,809,897	2,399,561	2,903,030	2,928,471	3,031,100		18,842,073
ources	5,914,347	11,023,914	12,715,306	17,307,192	17,985,414	18,043,091	7,492,011	2,639,279	93,120,554
	9,246,130	12,462,145	15,525,203	19,706,753	20,888,444	20,971,562	10,523,111	2,639,279	111,962,628

Table. 4
Financial resources: 1978-1992
Status at 31 December 1992

SOURCE	1978-1985	1986-1987	1988-1989	1990-1991	1992-1993 Available	1992-1993 Pledged
REGULAR BUDGET	US$	US$	US$	US$	US$	US$
Global and Interregional	2 948 454	979 951	1 090 897	1 203 888	1 453 900	
Regions	4 631 457	1 419 610	1 812 133	1 724 583	1 577 200	
TOTAL REGULAR BUDGET	7 579 911	2 399 561	2 903 030	2 928 471	3 031 100	
OTHER SOURCES						
Australia	700 877	268 442	418 665	505 570	223 350	
Belgium	163 916	24 390				
Canada (CIDA)	856 100	441 088	501 536	312 109	211 865	
China	100 000	50 000	50 000	50 000	25 000	
Denmark (DANIDA)	1 969 513	1 241 628	1 294 292	770 826	157 808	
Finland	402 050	727 049	940 797	1 204 948	235 018	
France	139 000	90 833	97 984	664 070	70 840	
India	60 000	40 000				
Italy		101 062	632 830	245 009		
Japan	425 000	300 000	300 000	150 000	50 000	
Kuwait	10 000					
Morocco	7 475					
Netherlands	1 855 433	910 617	971 829	1 170 641	346 821	
Nigeria	6 680				1 419	
Norway	189 884	276 507	299 406	1 780 980	773 994	
Sweden (SIDA/SAREC)	3 256 809	1 139 690	945 354	949 079	1 512 647	522 388
Switzerland	1 101 732	901 108	520 833	1 729 685	405 329	353 741
United Kingdom	1 019 380	330 320	1 200 977	1 653 775	947 750	
United States of America	1 574 300	3 200 000	2 153 450	2 076 223	1 250 000	1 000 000
Pan American Health Organization	49 695					
United Nations Children's Fund	1 734 238	866 945	705 837	771 973	363 880	96 150
United Nations Development Programme	7 546 111	2 177 004	2 055 500	3 143 659	728 750	667 000
Arab Gulf Programme for United Nations Development Organizations (AGFUND)	2 500 000		1 000 000			
International Development Research Center (Canada)	754 291	162 016	184 594			
Rotary International		5 000				
Sasakawa Research Fund	56 135	23 436				
Thrasher Research Fund	20 000					
Ciba-Geigy	757 576	2 579 365	2 650 970			
Special Account for the Cholera Programme	433 990					
Special Account for Miscellaneous Designated Contributions	333 707	732 653				
Other	5 640	549	800	154	4 950	
Interest	1 624 035	717 490	1 059 760	963 390	182 590	
TOTAL OTHER SOURCES	29 653 567	17 307 192	17 985 414	18 043 091	7 492 011	2 639 279
TOTAL	37 233 478	19 706 753	20 888 444	20 971 562	10 523 111	2 639 279

Table. 5
CDD Programme Actual Obligations from 1980 – 1991 and Estimates for 1992 – 93
US$

ramme Component	Actual Obligations 1980–81	Actual Obligations 1982–83	Actual Obligations 1984–85	Actual Obligations 1986–87	Actual Obligations 1988–89	Actual Obligations 1990–91	Estimated Obligations 1992–93	Total	%
dvisory and Mgmt. eetings									
al & Interregional	95,393	79,346	165,335	203,983	170,063	182,575	198,000	1,094,695	1
lealth Services									
al & Interregional	718,687	1,713,544	1,603,515	2,667,663	3,395,454	4,318,768	4,924,000	19,341,631	17
ional	2,159,251	4,143,723	5,977,739	7,477,435	9,294,352	10,048,478	10,800,000	49,900,978	43
total	2,877,938	5,857,267	7,581,254	10,145,098	12,689,806	14,367,246	15,724,000	69,242,609	60
Research									
al & Interregional	1,060,095	3,497,922	5,330,807	6,277,292	6,882,227	4,240,044	4,650,000	32,320,421	
onal	822,503	1,130,626	797,912					2,751,041	
otal	1,882,598	4,628,548	6,128,719	6,277,292	6,882,227	4,240,044	4,650,000	35,071,462	31
Programme Mgmt. nd Support									
al & Interregional	798,494	905,166	961,467	1,135,703	1,340,171	2,120,512	1,695,000	8,956,513	8
al & Interregional	2,672,669	6,195,978	8,081,124	10,284,641	11,787,915	10,861,899	11,467,000	61,331,226	54
ional	2,981,754	5,274,349	6,775,651	7,477,435	9,294,352	10,048,478	10,800,000	52,652,019	46
l	5,654,423	11,470,327	14,470,327	17,762,062	21,082,267	20,910,377	22,267,000	114,365,279	100

Table. 6
Countries with Operational National ARI Programmes by year of establishment
1982–1992

1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
					Zimbabwe*		Botswana* Gambia*	Ethiopia* Lesotho* Namibia*	Kenya* Malawi* Mozambique* Nigeria* Swaziland*	Madagascar*
Brazil*		Honduras* Panama	Bolivia* Guatemala* Paraguay	Colombia* Costa Rica Mexico*		Venezuela	Argentina Ecuador* Peru*	Dominican Republic* Nicaragua* Uruguay	Belize Chile El Salvador	
					Oman* Tunisia*		Sudan*	Egypt* Iran* Iraq* Morocco* Pakistan*	Afghanistan*	Jordan*
					Turkey*					Albania
					Indonesia*	Sri Lanka	Myanmar Thailand	Bangladesh* India*	Mongolia* Nepal*	Maldives*
		Vietnam*				China Fiji Lao* Papua N.G.* Philippines* Solomon Is. Vanuatu	Malaysia Tonga	Am. Samoa Cook Islands Samoa	Cambodia* Kiribati	

Countries = 88

Table. 7

ARI programmes in countries with an infant mortality rate greater than 40/1000[a]. Status in 1984, 1990 and 1992, and targets for 1995 and 2000

Category of target		Total	Status in			Targets for	
			1984	1990	1992	1995	2000
General programme target							
Countries with operational[b] ARI control programme:	Number	88	4	34	47	88	88
	Per cent	100.0	4.5	39.0	53.0	100.0	100.0
Training target							
Facility-based staff trained in case management:	Number	2 000 000	1000	10 000	100 000	200 000	400 000
	Per cent	100.0	-	0.5	5.0	10.0	20.0
Access target							
ARI standard case management access rate[c]:	Per cent	100.0	-	5.0	12.0	50.0	75.0
Adequate treatment target							
Adequate childhood pneumonia treatment at health facilities:	Per cent	100.0	8.0	12.0	20.0	40.0	60.0

[a] Source: United Nations Population Division, World Population Chart 1990, United Nations, New York.
[b] Operational: having a designated programme manager, technical guidelines on programme management, a plan of operations, and activities carried out and monitored in at least one part of the country.
[c] Geographical access to a health provider adequately trained in standard case management and regularly supplied with free or affordable antibiotics for the treatment of pneumonia.

Source: Interim Programme Report. 1992
WHO/CDD/93.40 (1993)

Table. 8
ARI Financial Resources
1982 – 1993
US$

Source	1982–83	1984–85	1986–87	1988–89	1990–91	Available 1992–93	Pledged	Total
WHO Regular Budget	638,900	1,026,742	1,184,676	1,674,761	2,030,960	2,125,570	-	6,556,039
Other Sources	206,050	750,140	1,161,191	4,156,525	5,916,876	5,888,488	897,761	18,977,031
Total	844,950	1,776,882	2,345,867	5,831,286	7,947,836	8,014,058	897,761	27,690,640

Table. 9

Financial resources: 1982-1993
Status at 31 December 1992

SOURCE	1982-1985	1986-1987	1988-1989	1990-1991	1992-1993 Available	1992-1993 Pledged
	US$	US$	US$	US$	US$	US$
REGULAR BUDGET						
Global and Interregional	857 006	624 365	601 924	712 012	485 970	
Regions	808 636	560 311	1 072 837	1 318 948	1 639 600	
TOTAL REGULAR BUDGET	1 665 642	1 184 676	1 674 761	2 030 960	2 125 570	
OTHER SOURCES						
Australia			291 216	350 010	223 350	
Canada				218 109	211 864	
Denmark				561 696	473 423	
Finland			229 489	437 022	235 018	
Germany			31 928			
Italy			641 892	215 008		
Japan		145 000	70 632	141 006	60 000	
Netherlands		175 951	357 850	468 257	462 428	
Norway					309 597	
Sweden	216 336	547 140	653 432	835 898	526 625	447 761
United Kingdom			1 154 780	616 850	483 353	
United States of America			56 391		1 000 000	
Pan American Health Organization		68 800				
United Nations Children's Fund			100 000	250 000	192 800	
United Nations Development Programme			399 316	1 073 500	452 000	450 000
World Bank					1 000 000	
Arab Gulf Programme for United Nations Development Organizations (AGFUND)	320 000					
Federation of Finnish Lung Disease Associations (FFLDA)				411 060	153 940	
Kellogg Foundation	34 000	68 000				
Sasakawa Health Trust Fund	385 854	156 300				
Other					180	
Interest			169 600	813 460	113 910	
TOTAL OTHER SOURCES	956 190	1 161 191	4 156 525	5 916 876	5 888 488	897 761
TOTAL	2 621 832	2 345 867	5 831 286	7 947 836	8 014 058	897 761

Table. 10
ARI Programme Actual Obligations
In 1988–89, 1990–91, and Estimates for 1992–93
US$

ne :nt	Actual Obligations 1988–89	Actual Obligations 1990–91	Estimated Obligations 1992–93	Total	%
Services					
Interregional	843,992	1,348,036	1,635,000	3,827,028	15
	1,951,291	3,588,516	6,302,000	11,841,807	46
	2,795,283	4,936,552	7,937,000	15,668,835	61
ırcl.					
Interregional	733,067	1,688,366	3,859,000	6,280,433	24
ramme Mgt. Support					
Interregional	740,123	1,542,490	1,604,000	3,886,613	15
Interregional	2,317,182	4,578,892	7,098,000	13,994,074	54
	1,951,291	3,588,516	6,302,000	11,841,807	46
	4,268,473	8,167,408	13,400,000	25,835,881	100

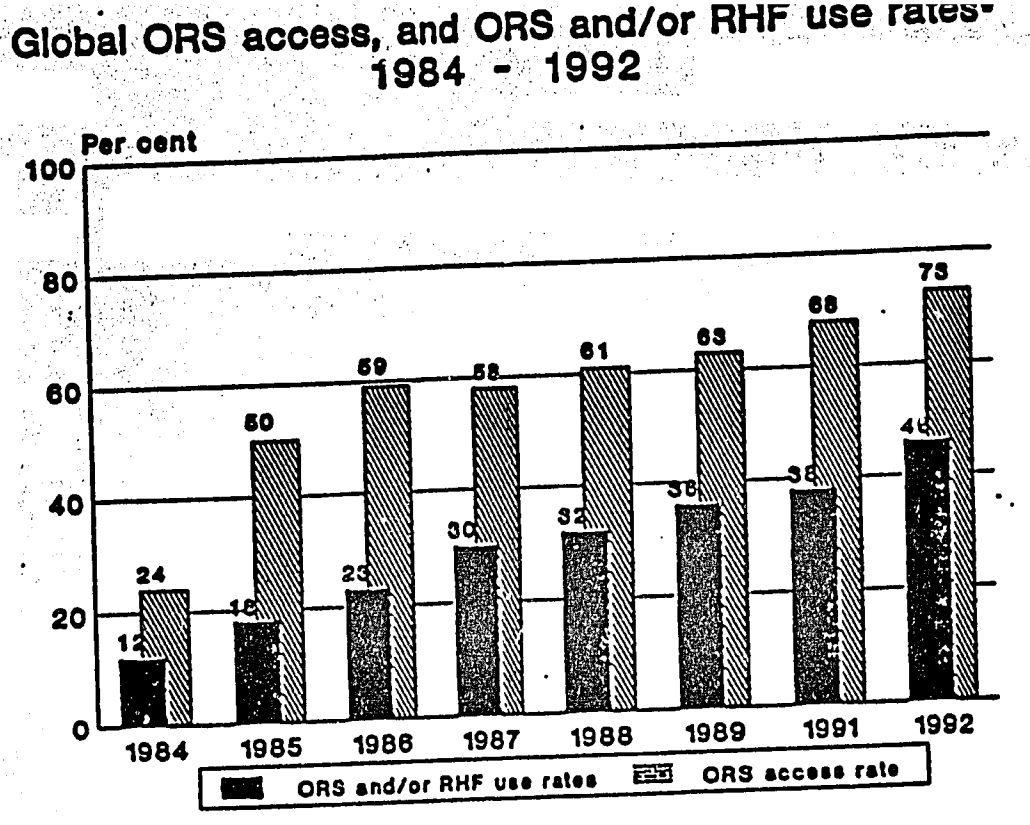
Table. 11
Total GNP and Contribution to CDD and ARI by Country, 1990–11991

	Total GNP ($000)	Contribution to CDD 1990–91 ($000)	Contribution to ARI 1990–91 ($000)
Austria	132,990	505,570	350,010
Canada	558,012	312,109	213,109
China	425,315	50,000	N/A
Denmark	123,240	770,826	561,696
Finland	119,900	1,204,948	427,022
France	1,161,660	664,070	N/A
*Germany	1,894,365	N/A	N/A
Italy	1,070,456	245,009	245,008
Japan	3,336,627	150,000	141,006
Netherlands	283,578	1,170,641	468,257
Norway	104,146	1,780,980	N/A
Sweden	215,946	949,079	835,898
Switzarland	248,948	1,729,685	N/A
U.K.	953,280	1,653,775	616,850
U.S.A.	5,520,048	2,076,223	N/A

* Before unification

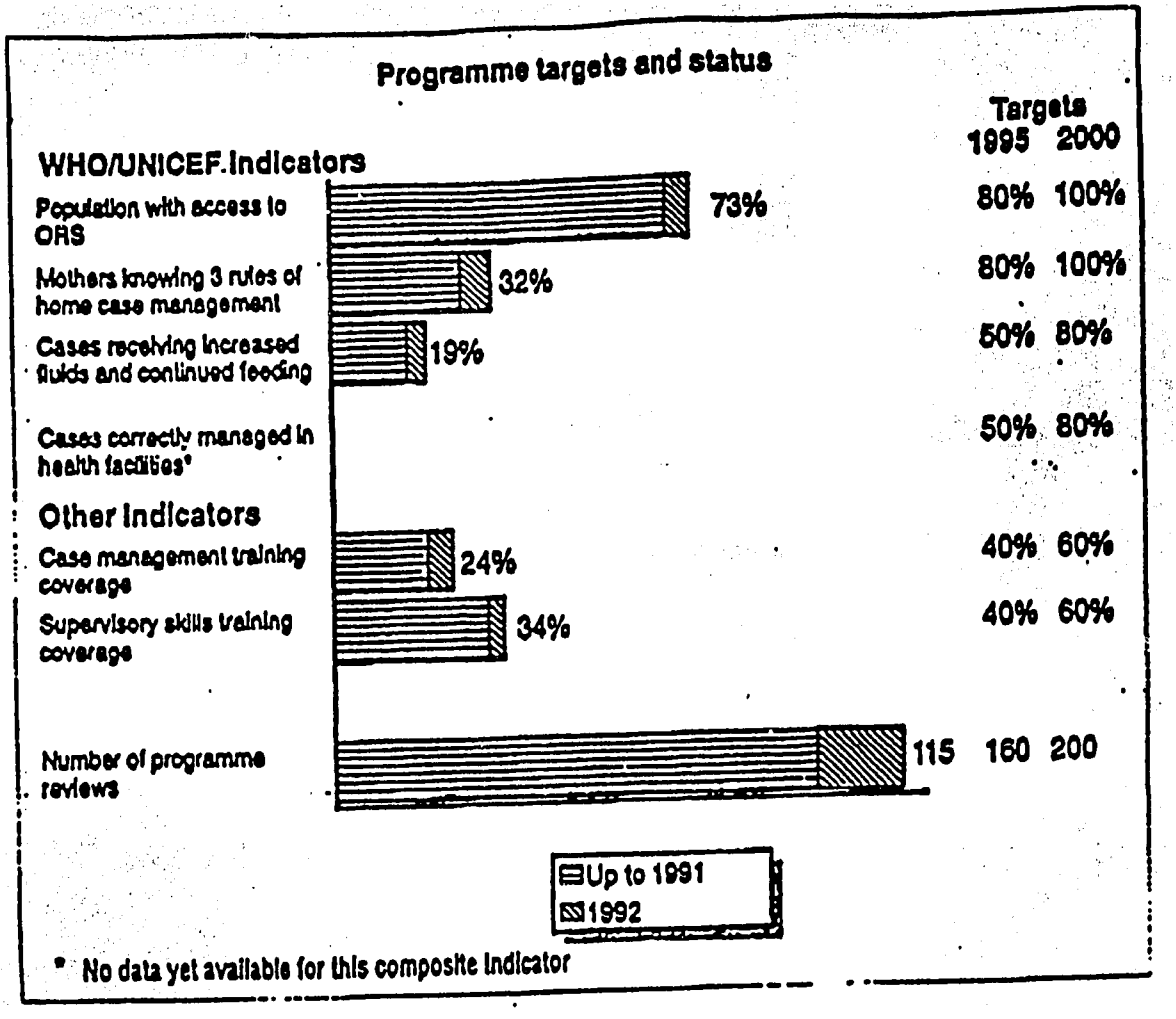
Source: 1. World Development Report, 1993.
Investing in Health Table 19, Official
Development Assistance of OECD & OPEC Countries.
GNP figures drevied from World Development Report, 1993

Chart 1



The global estimates for these rates are based primarily on figures reported by national CDD programmes to the WHO regional offices using CDD Country Programme Profiles, and on estimates made by the regional offices. In 1992, 74 countries completed Country Programme Profiles and regional offices provided estimates for an additional 16 countries. For the remaining 30 countries estimates were made using other reliable sources such as programme documents or survey results, or in the absence of any new information the estimates for 1991 were used.

Chart 2



Because the surveys for measuring the remaining WHO/UNICEF idicators are under revision, the 1991 and 1992 estimate for these indicators are extrapolated from results using he current household and health facility surveys.

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Graphic Presentation

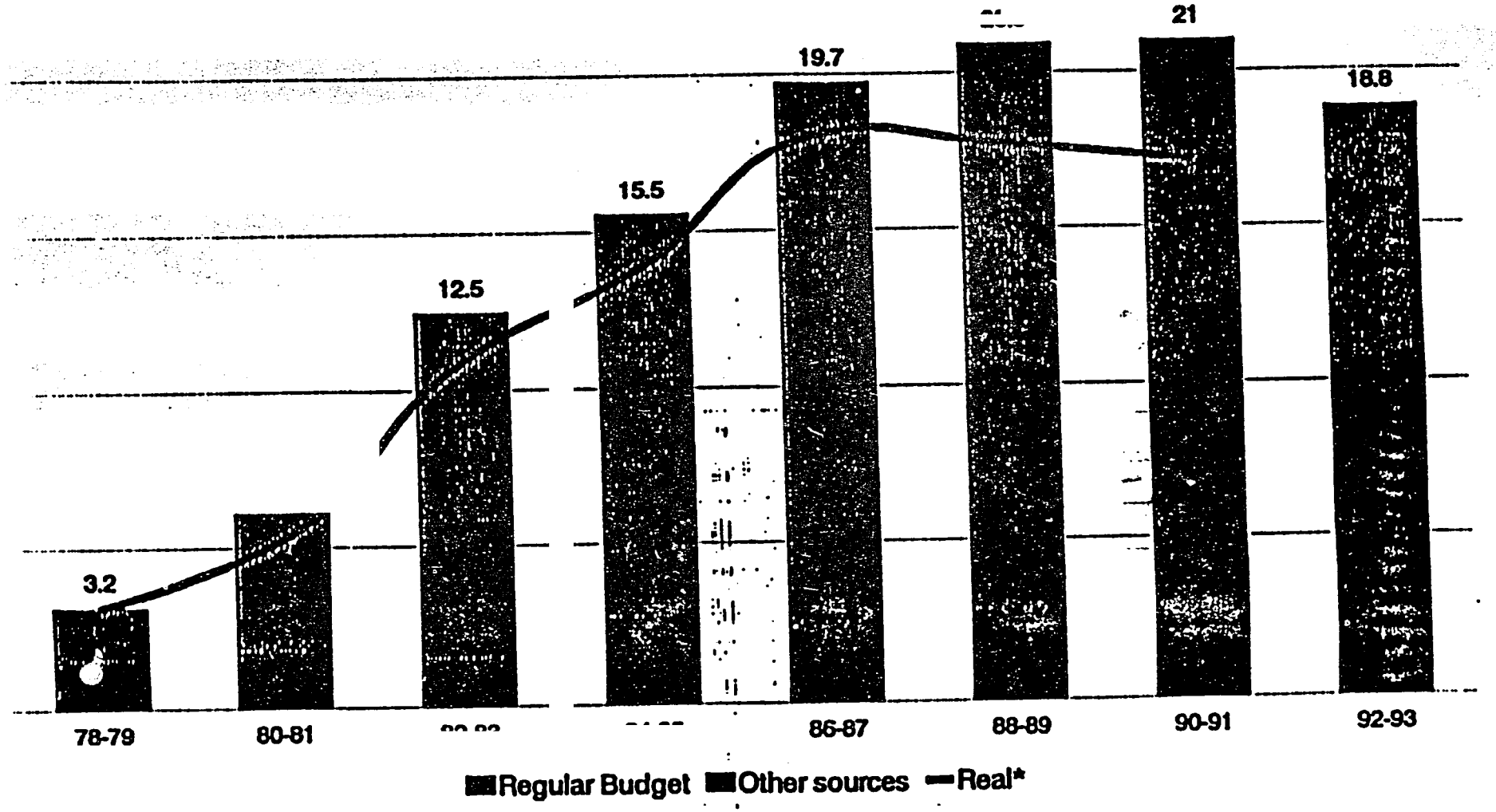
of the CDD Programme

Inputs and Outputs

1978-1993

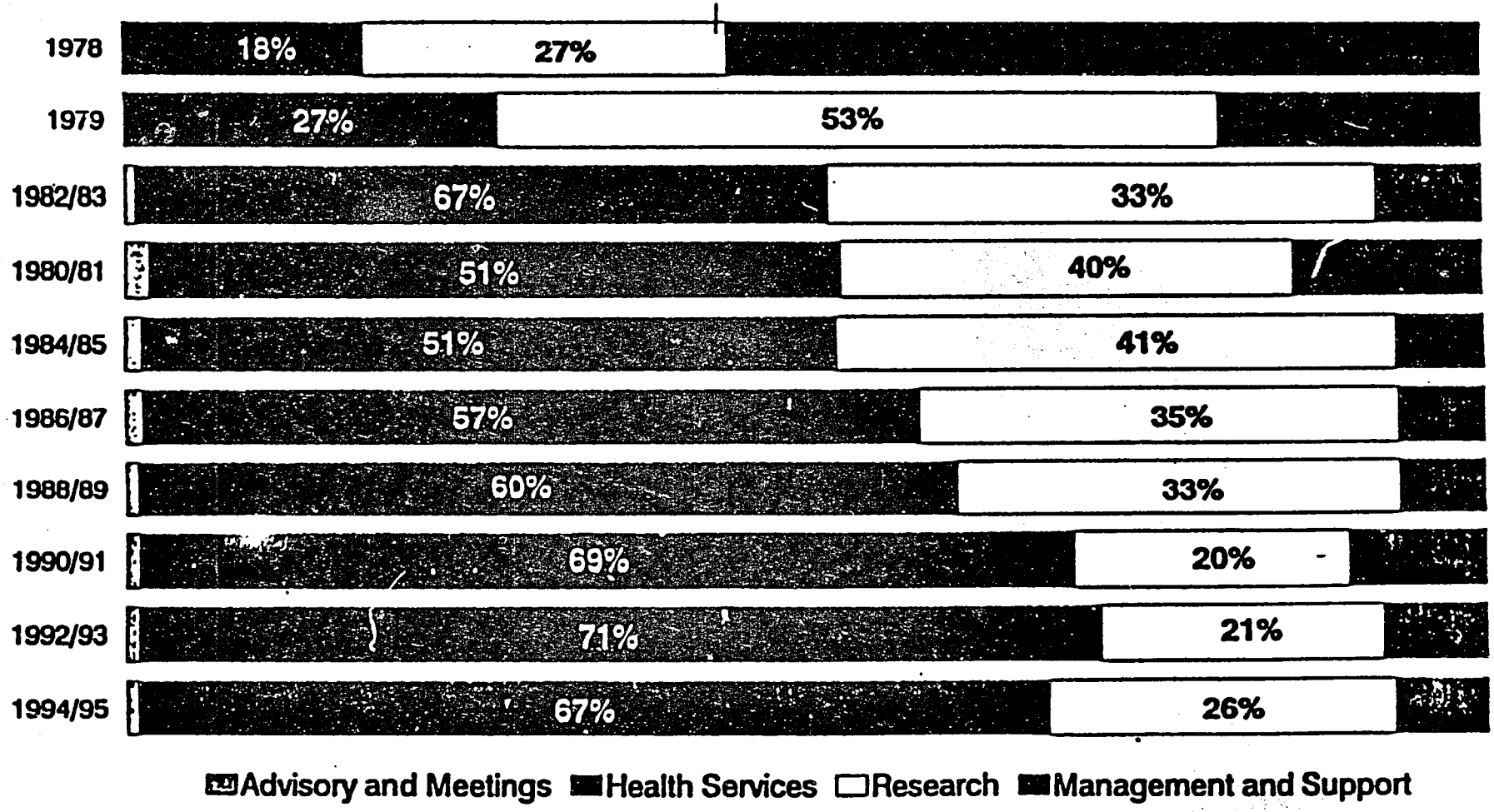
Financial contributions received by the CDD programme

Millions US$

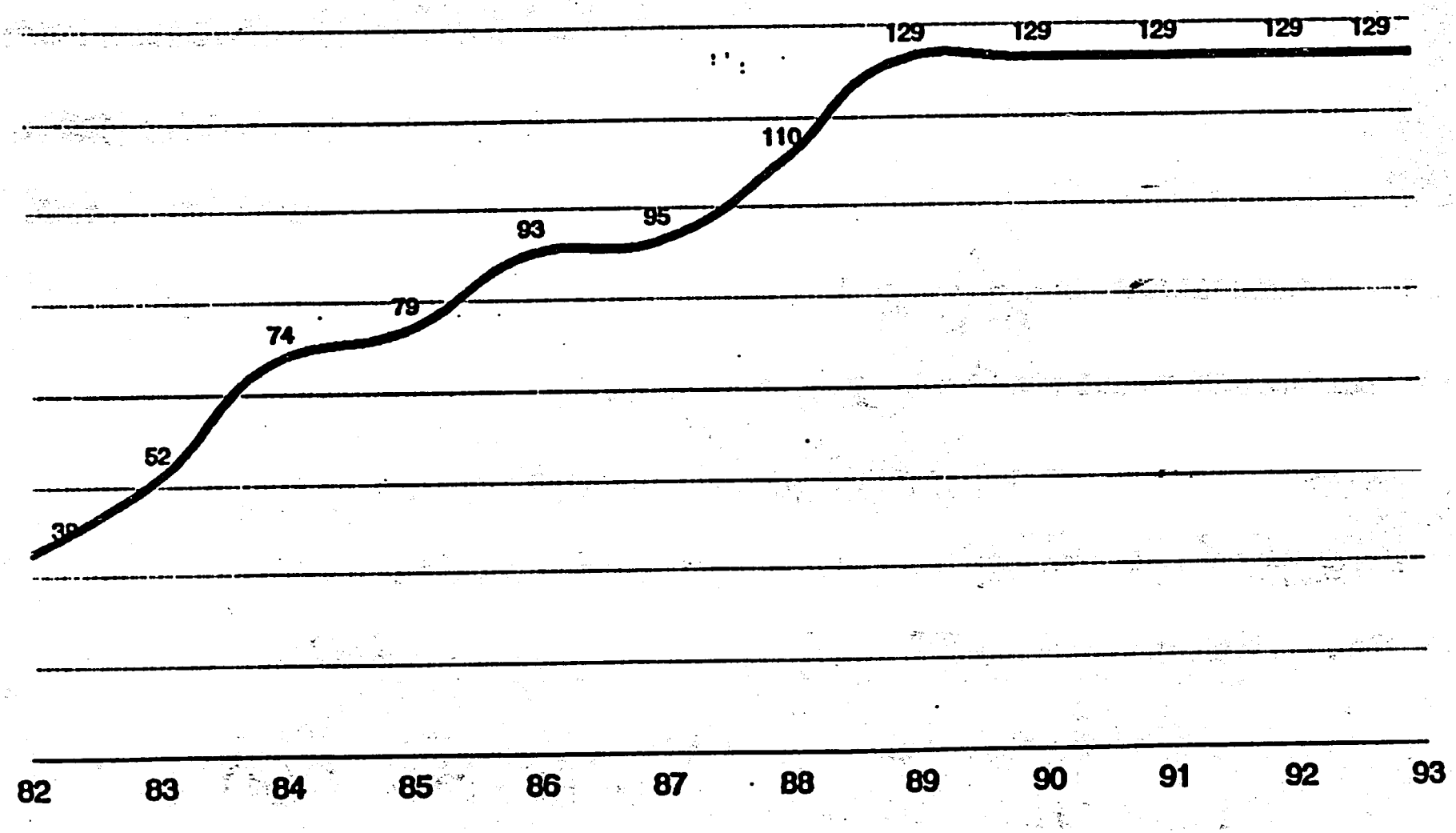


*Deflated using global GDP-deflator index; IMF International Financial Statistics 1992

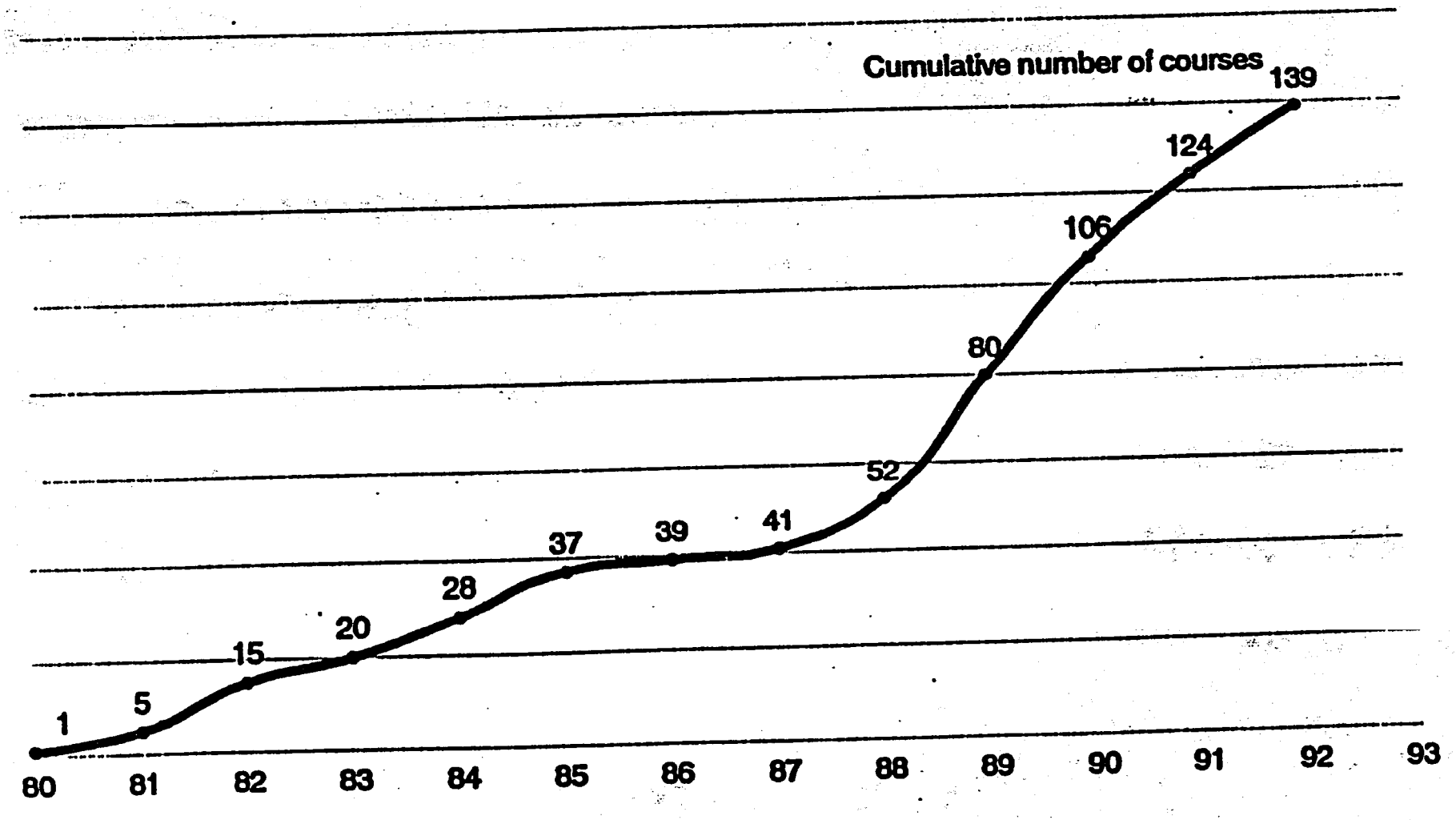
Distribution of CDD programme financial obligations by component



Countries with operational CDD programmes

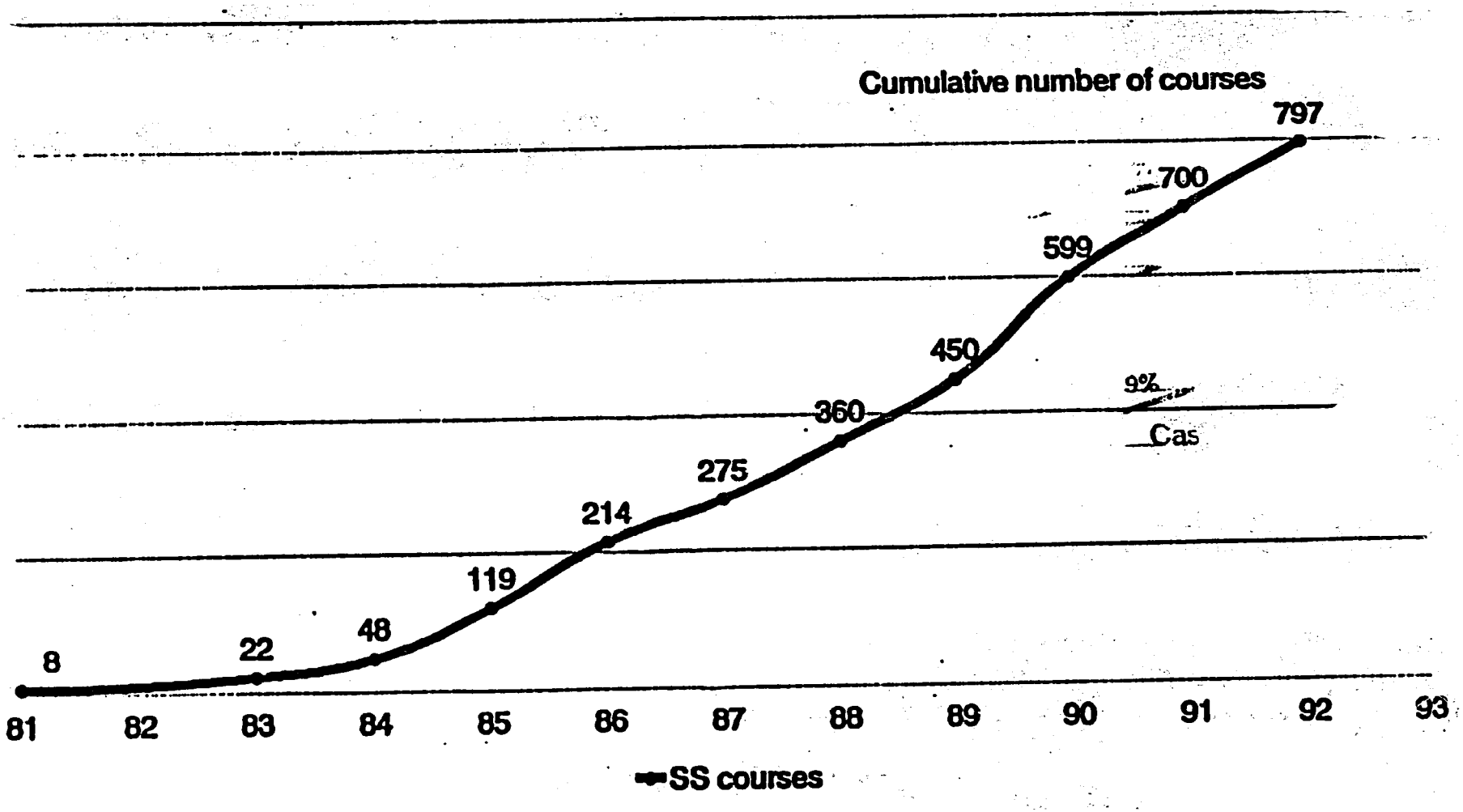


CDD Programme Management Training

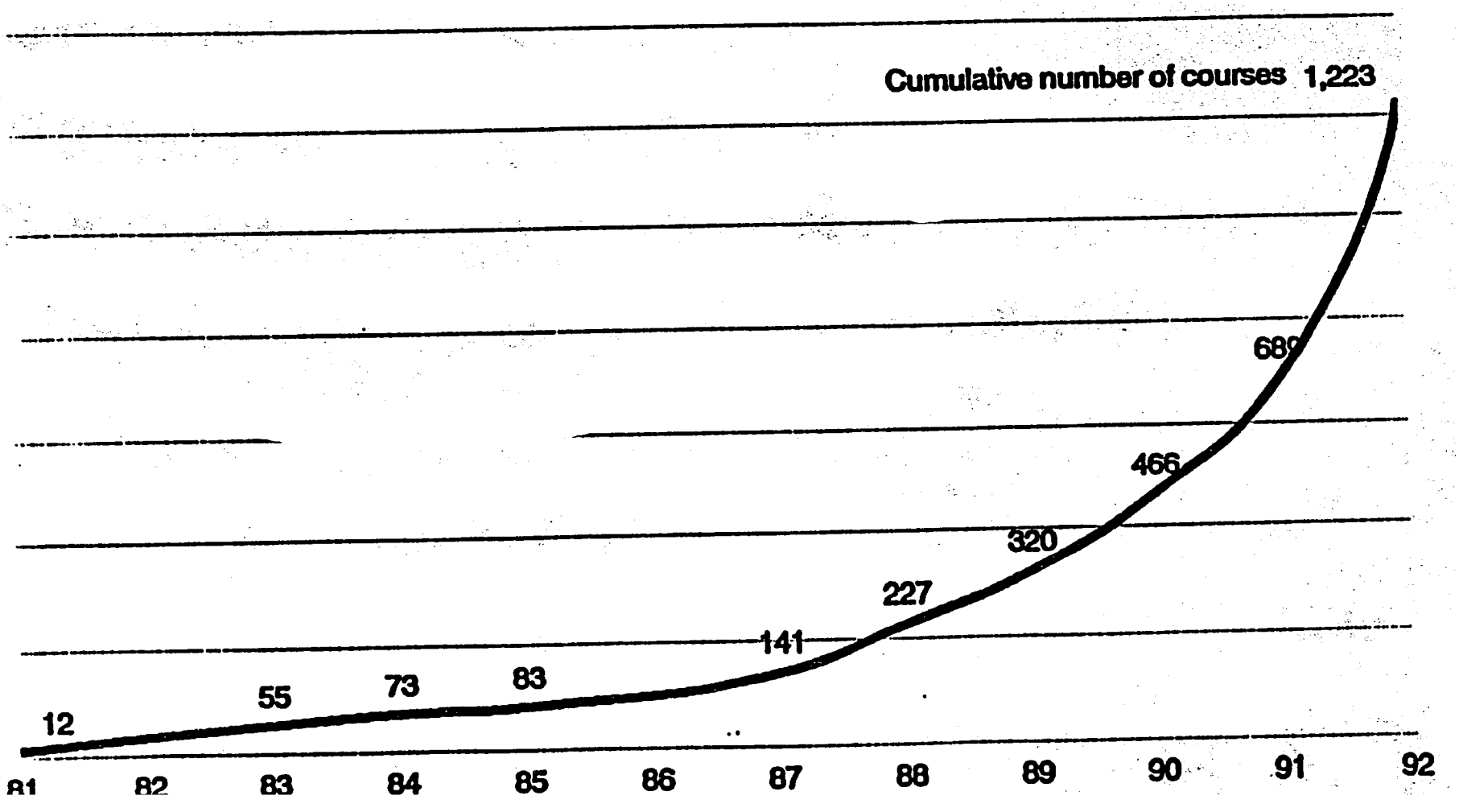


ISD

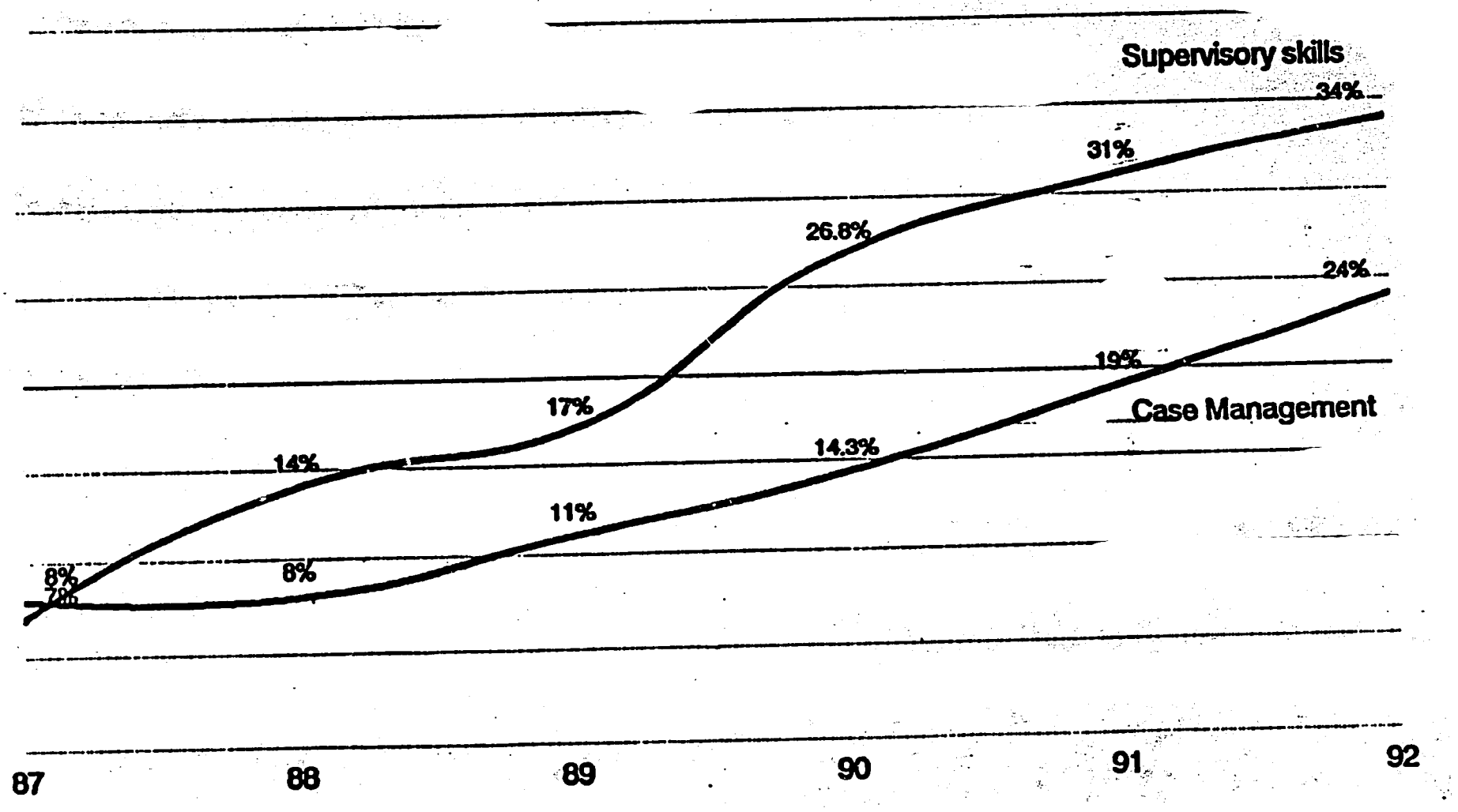
CDD Supervisory Skills Training



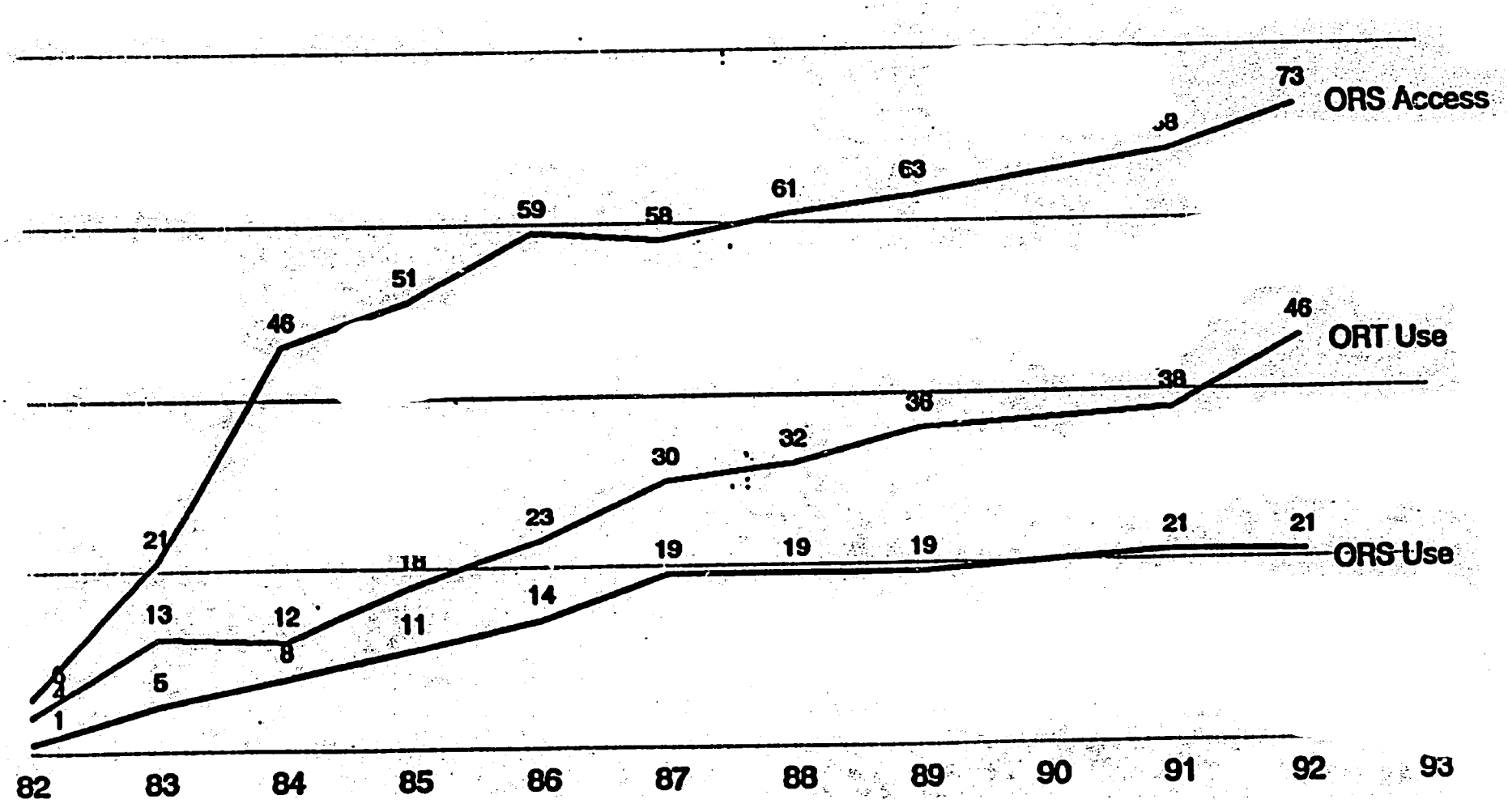
CDD Case Management Training



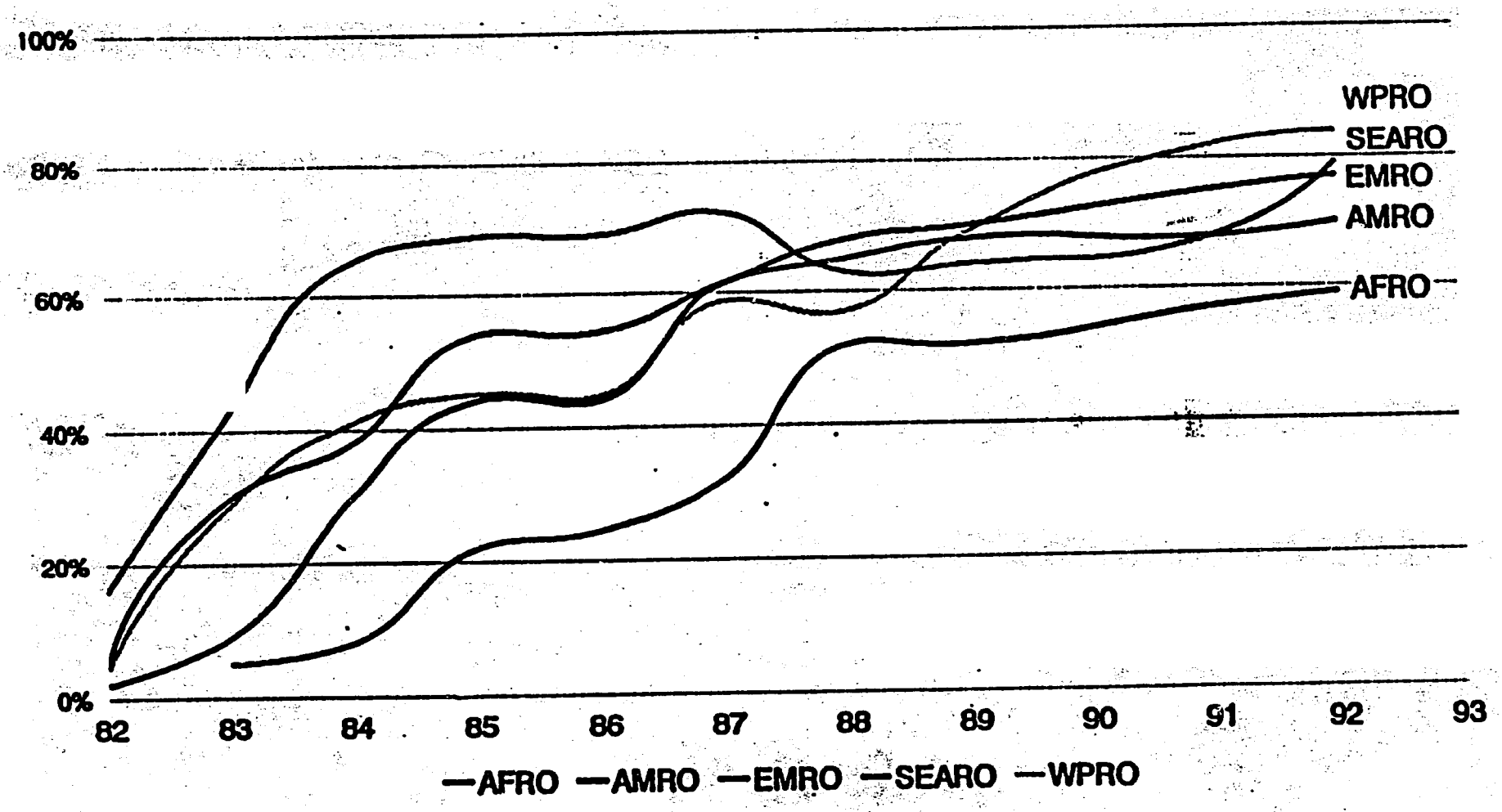
CDD training coverage



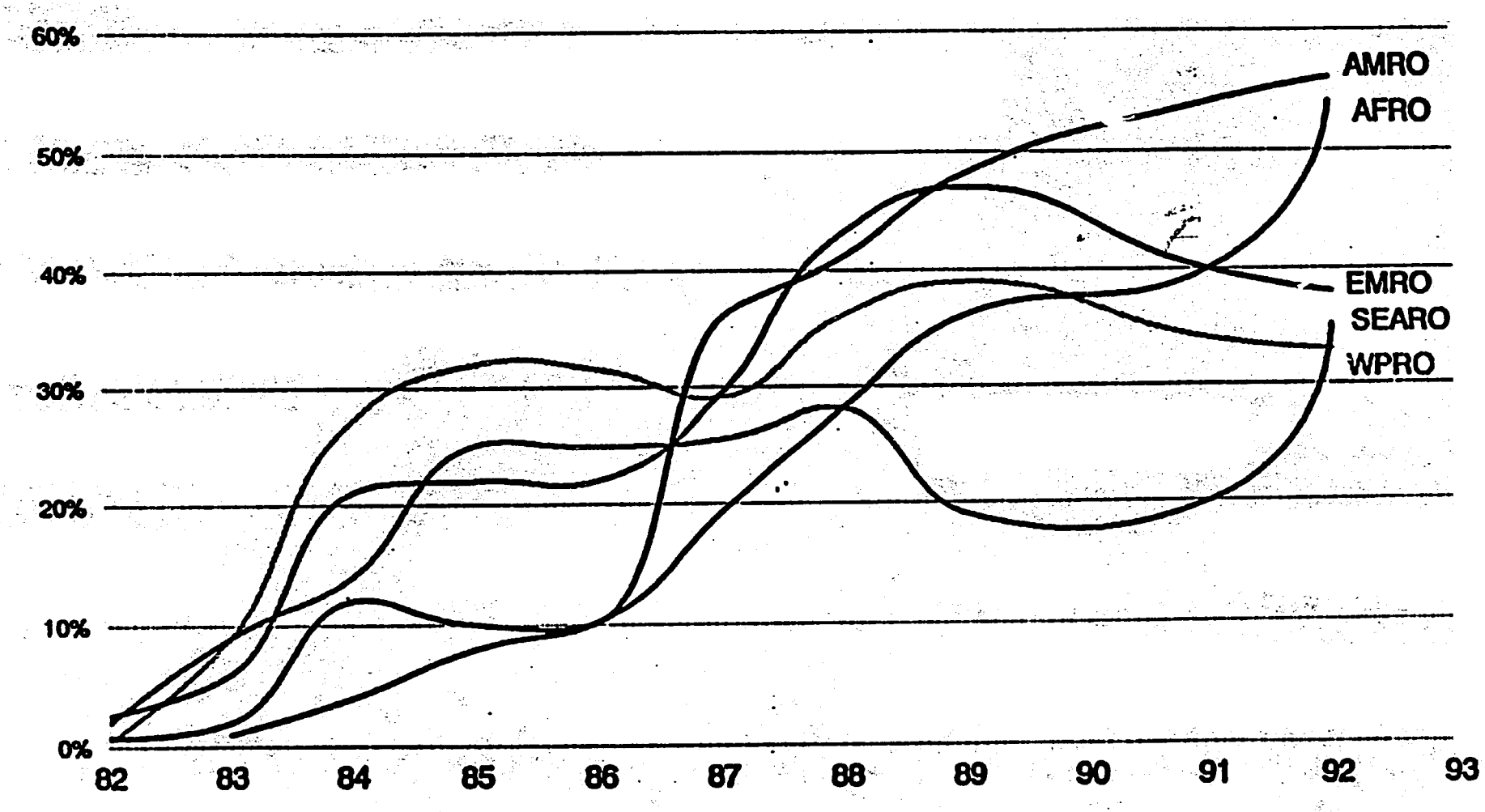
Global ORS access, ORS use and ORT use rates



ORS access rate by region



ORT use rate by region



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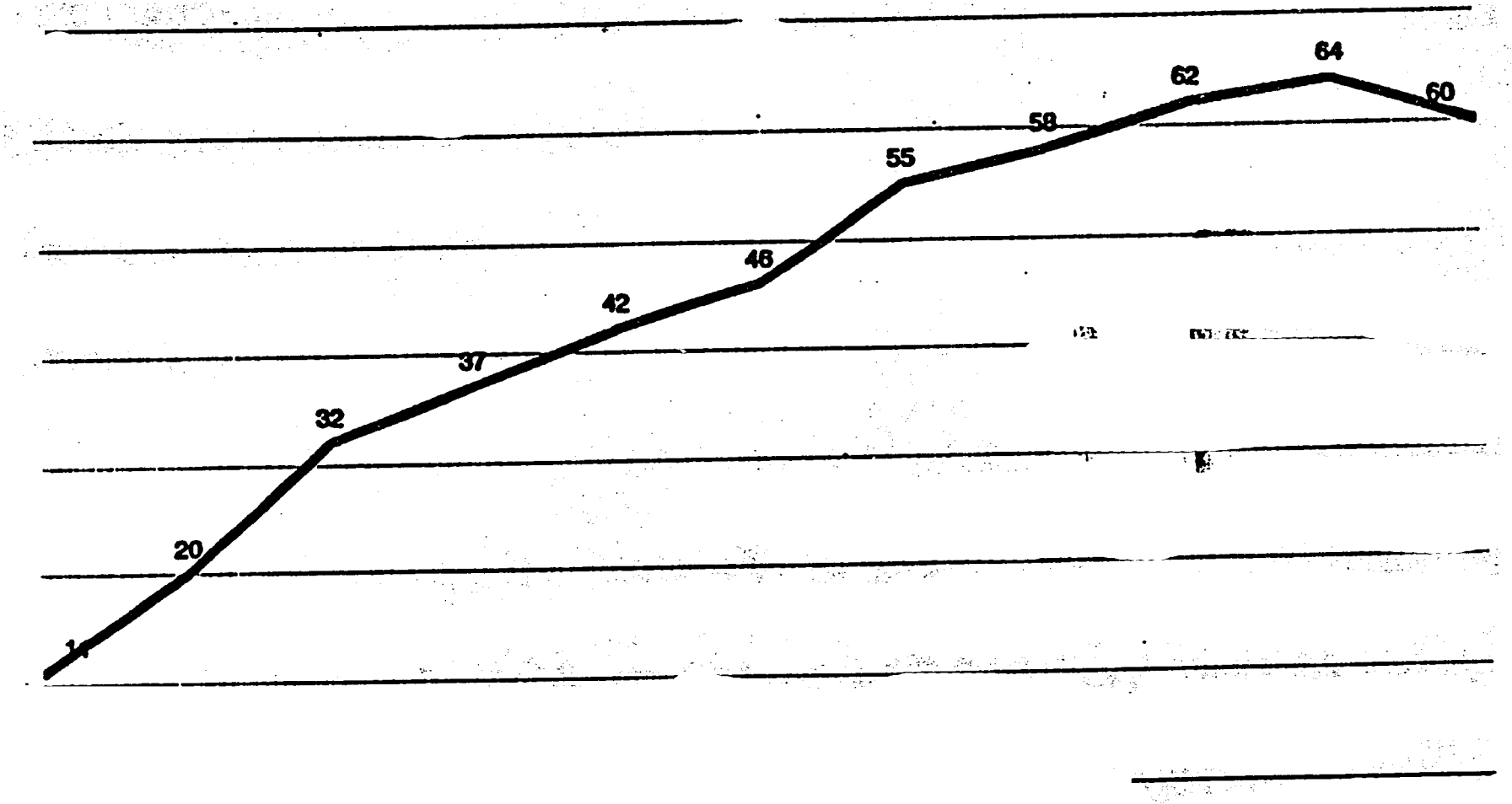
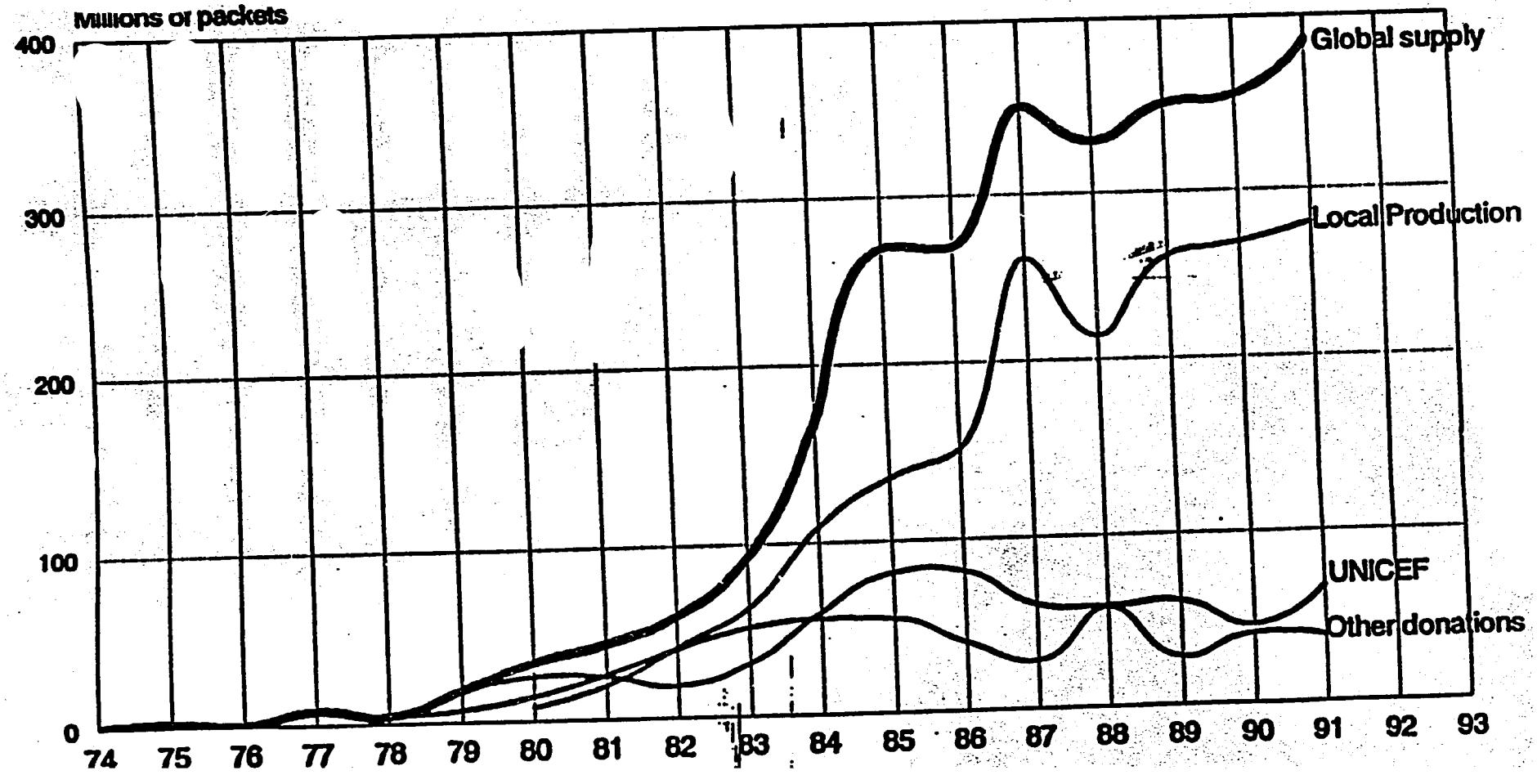
Countries with ORS local production



ORS supply



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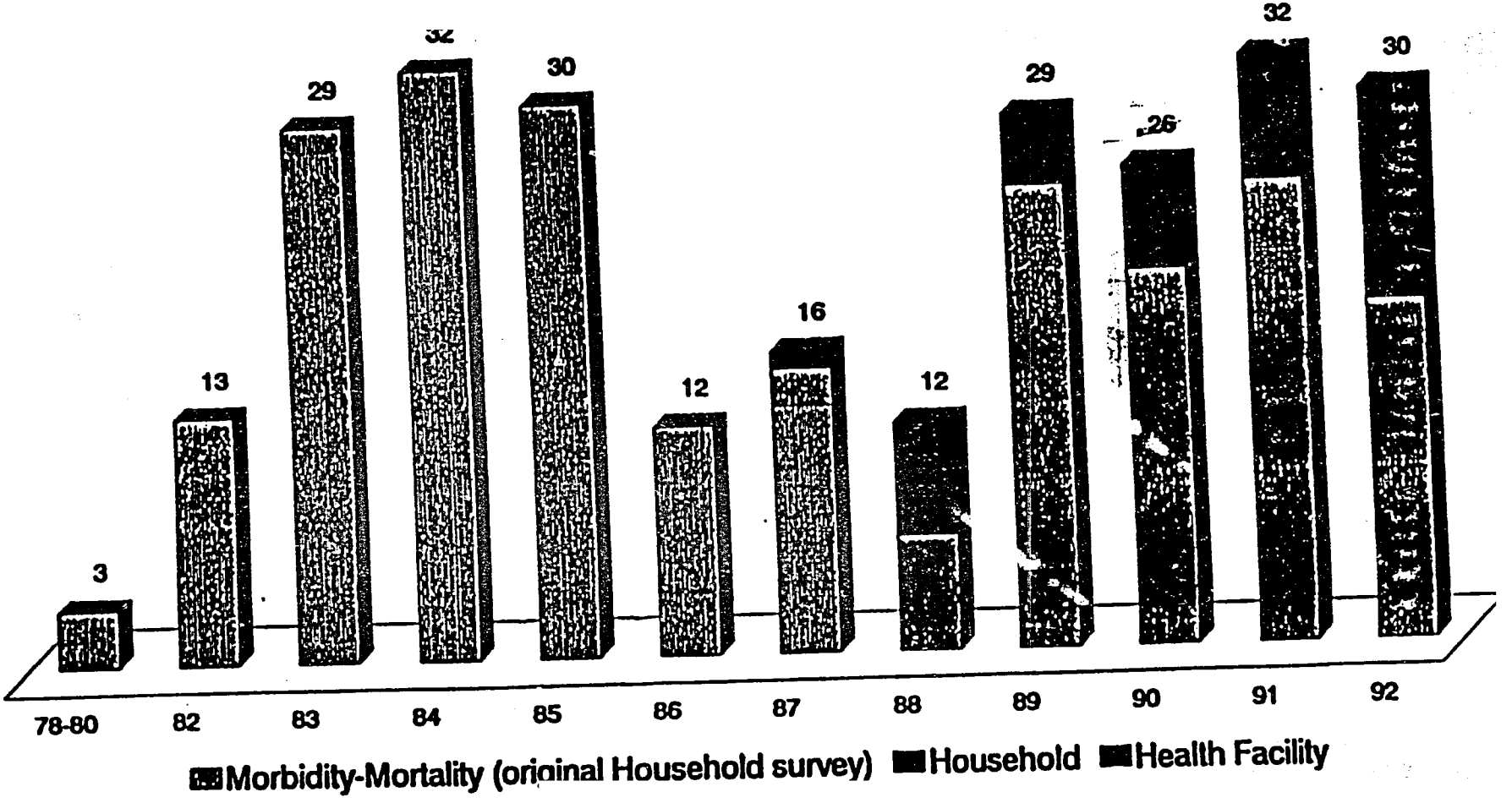
CDD surveys



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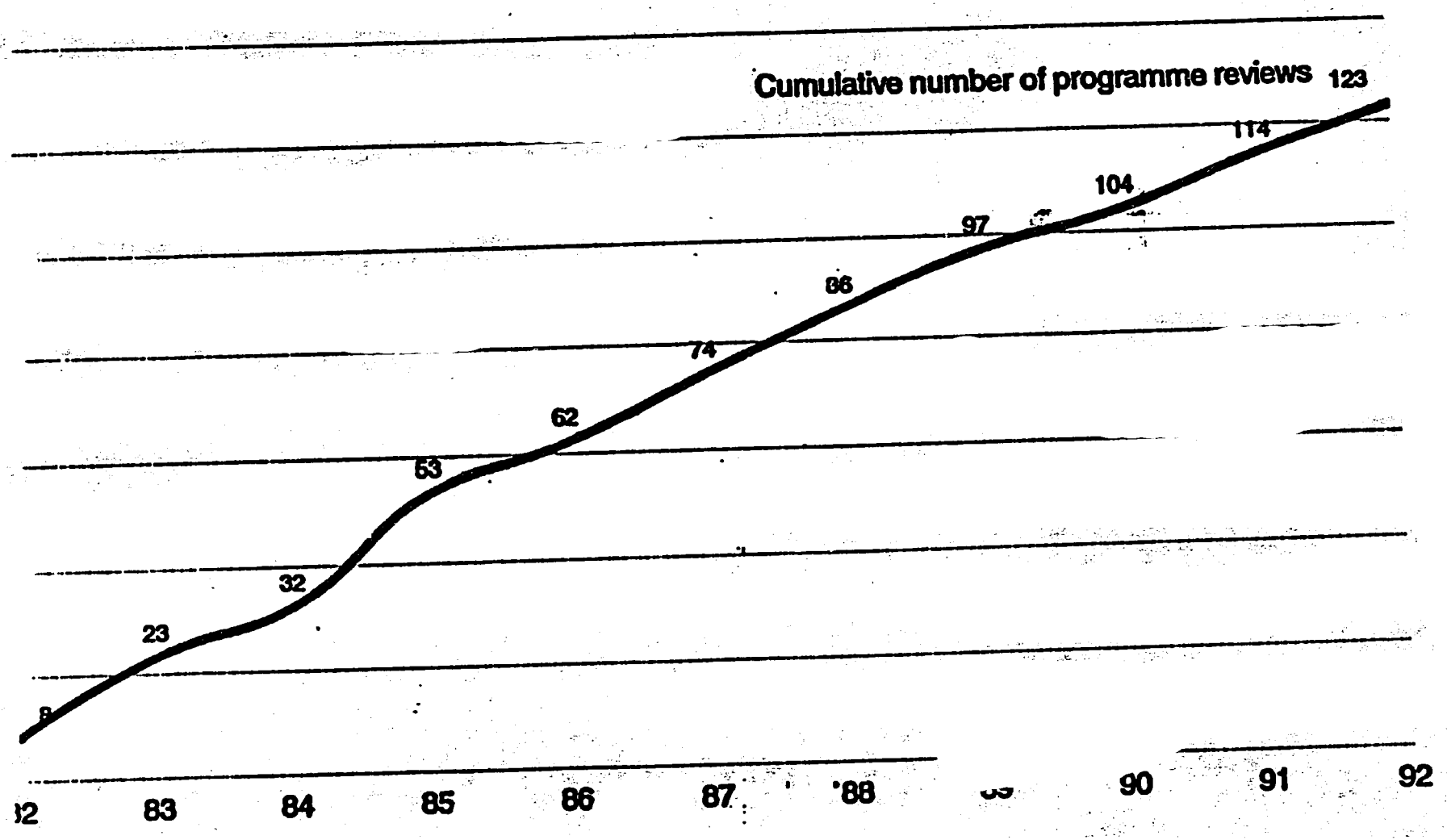
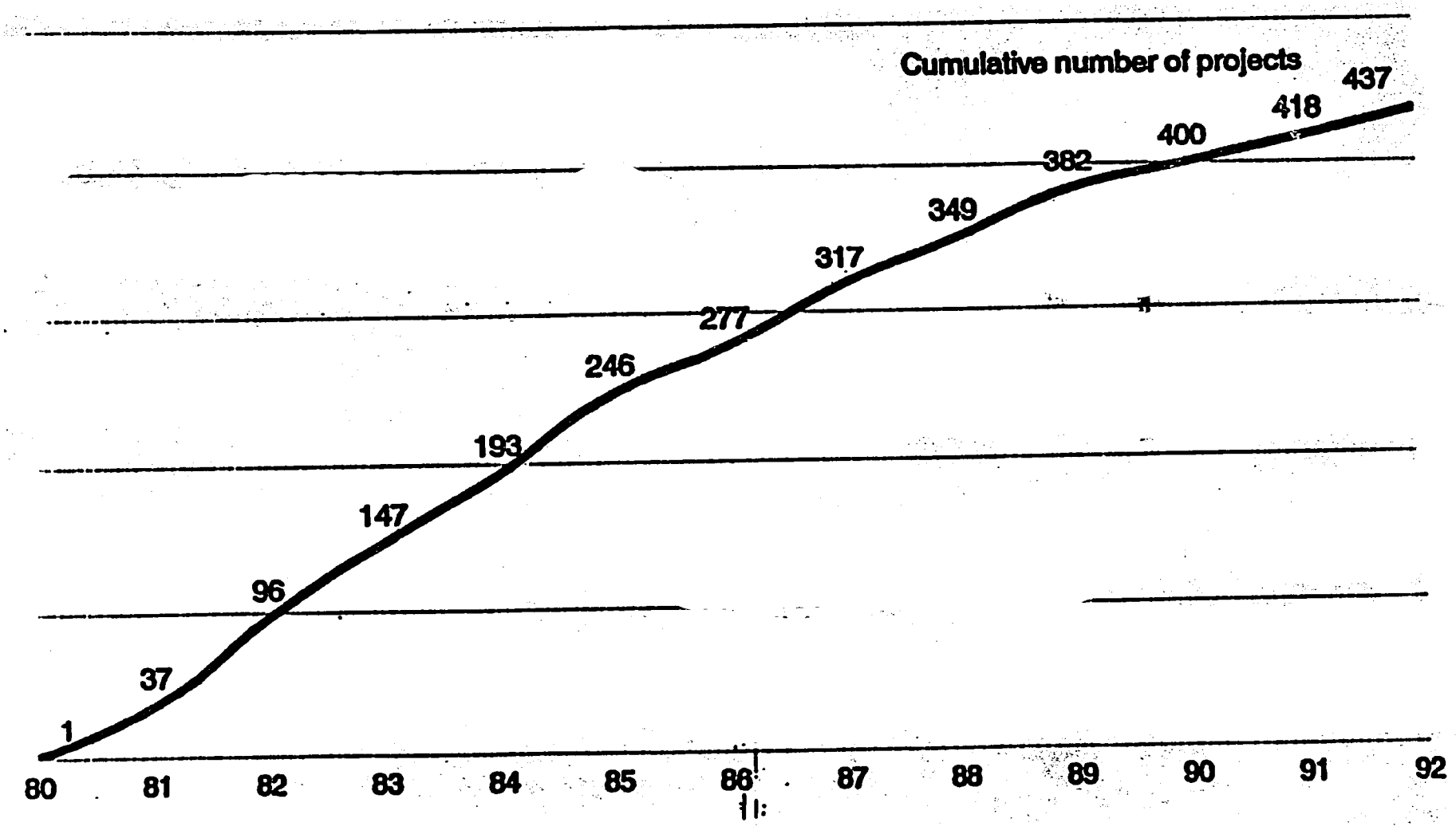
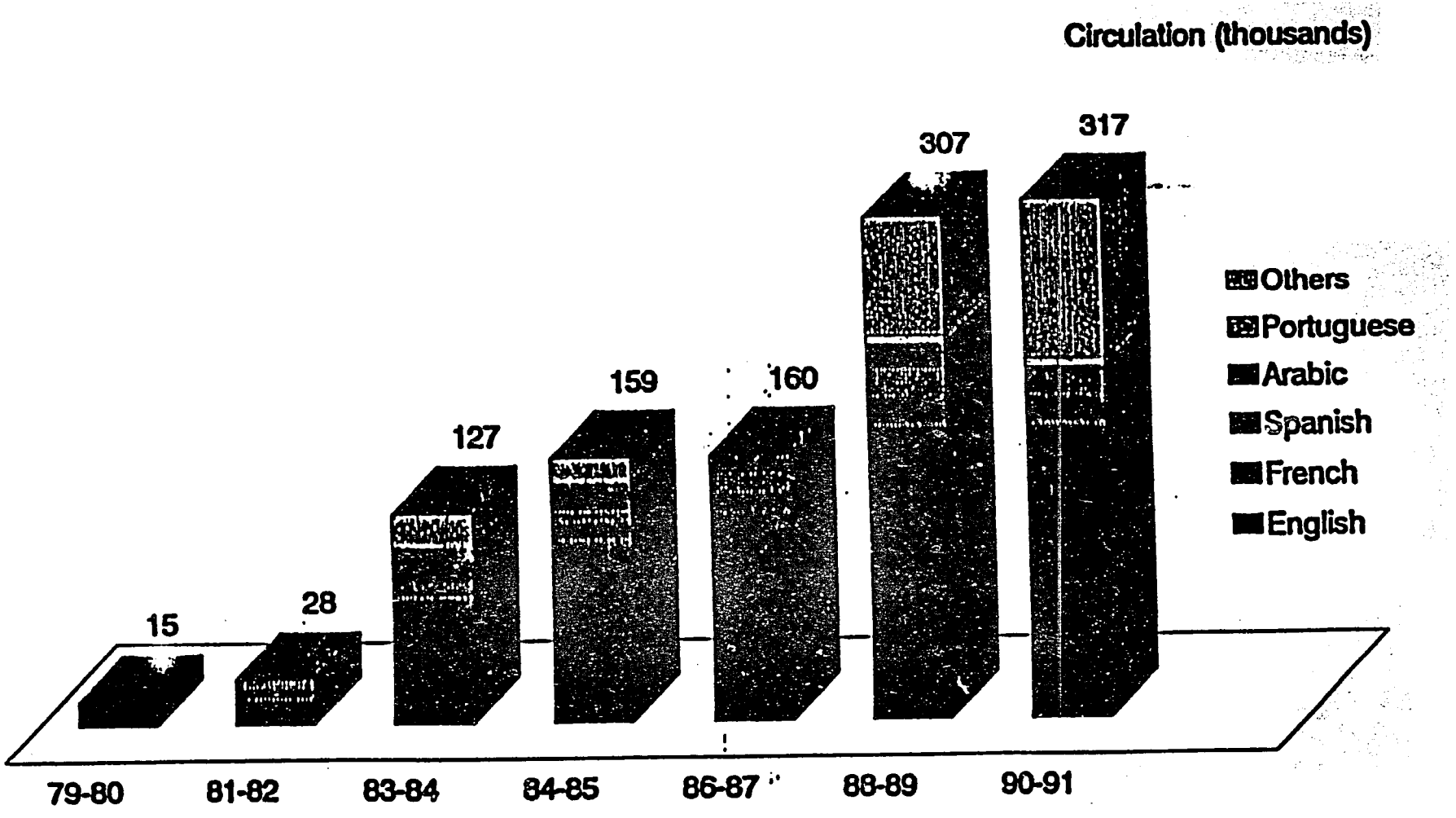
CDD programme reviews held



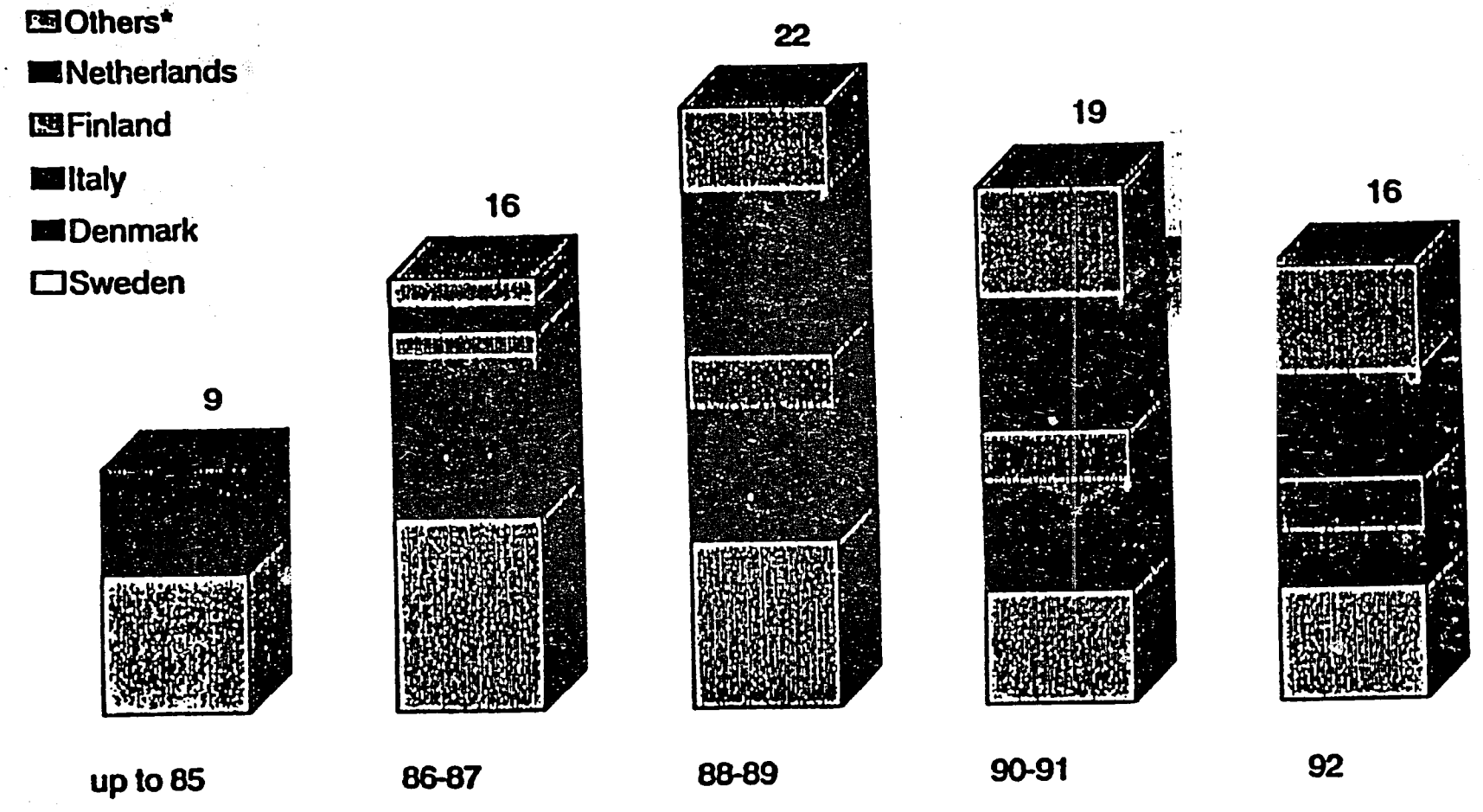
CDD Research projects



Diarrhoea Dialogue



CDR Associate Professional Officers



Others include Japan, Germany, Belgium, Austria, Norway and Belgium

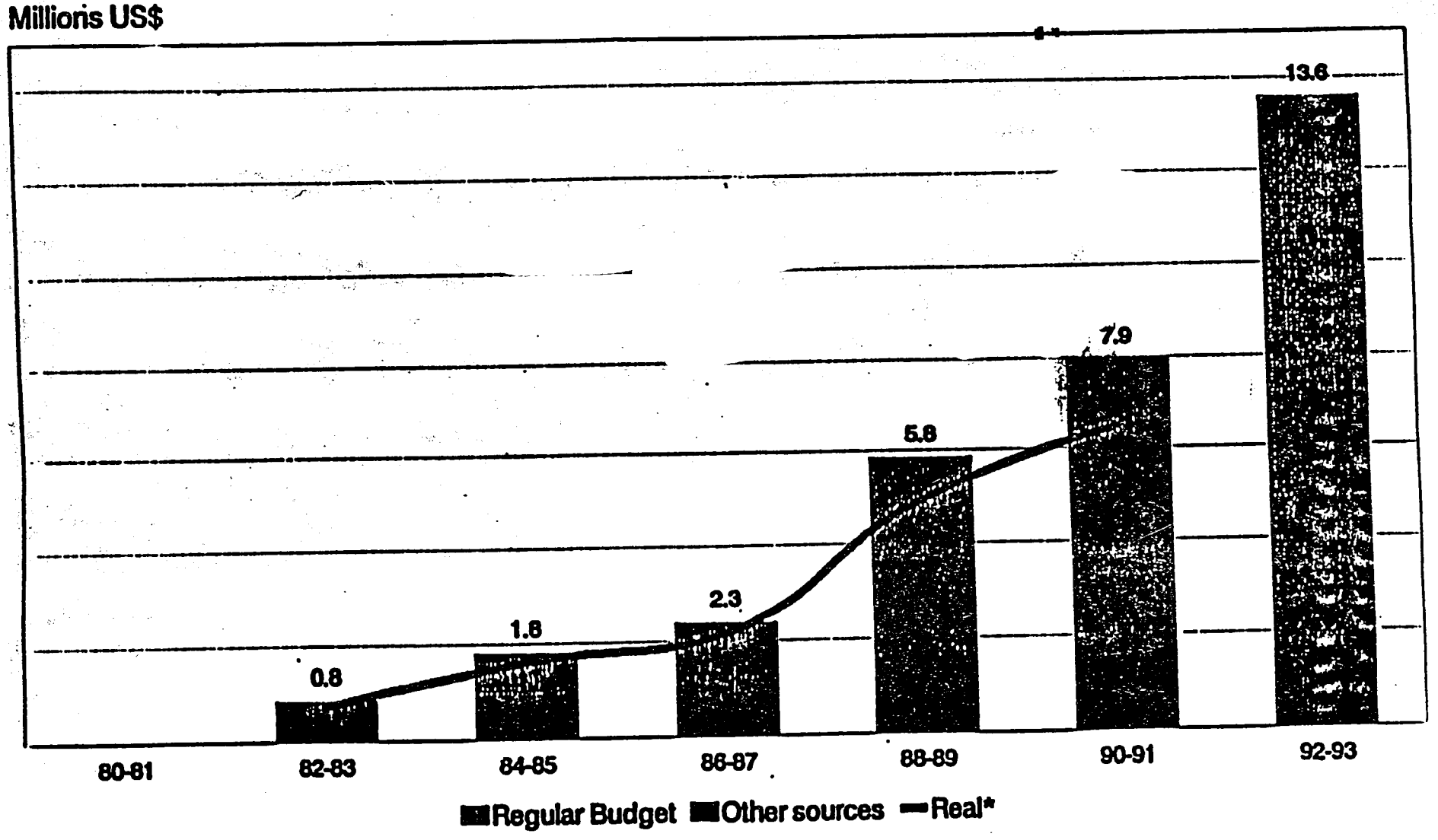
Graphic Presentation

of the ARI Programme

Inputs and Outputs

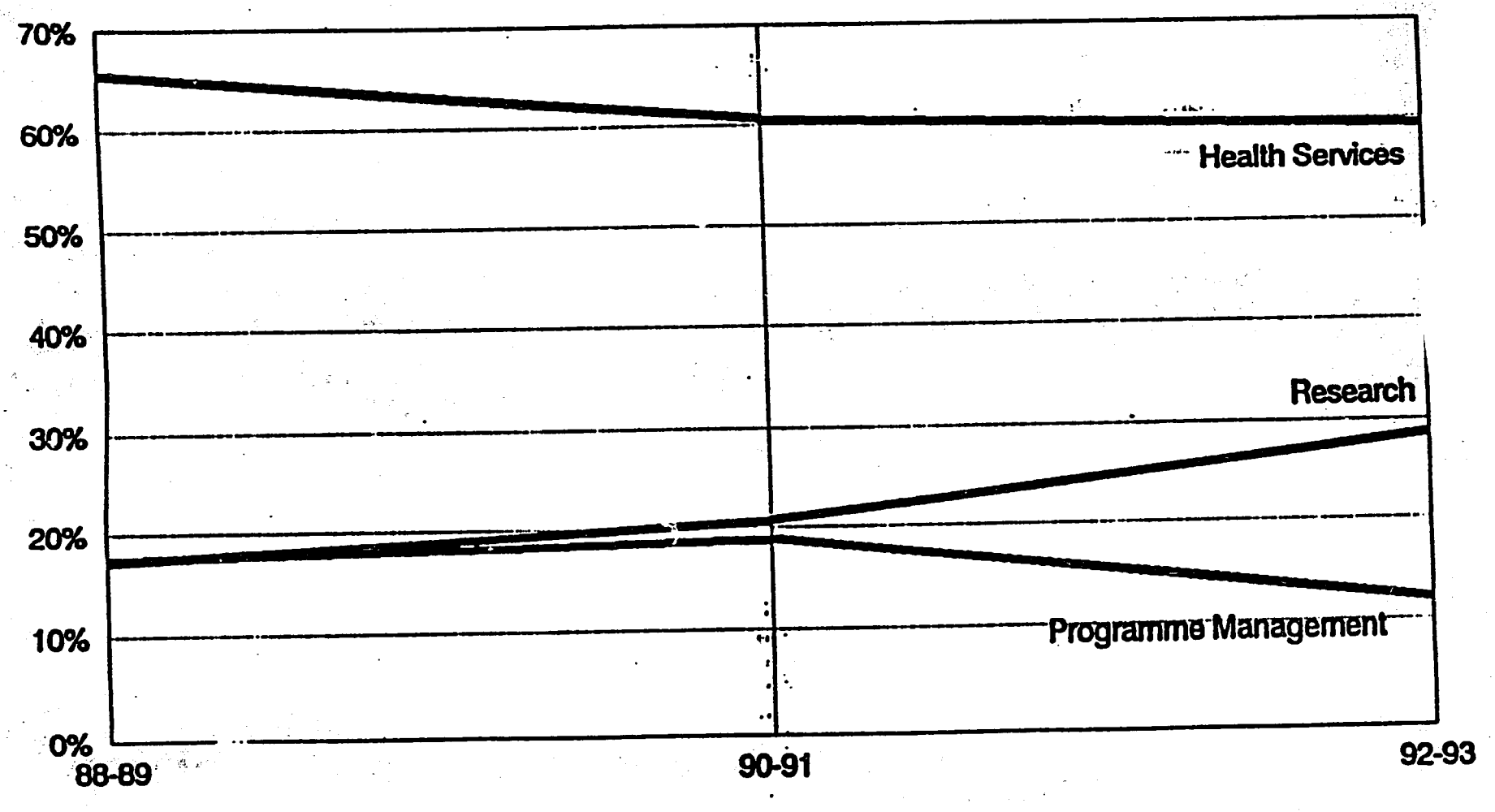
1982-1993

Financial contributions received by the ARI programme

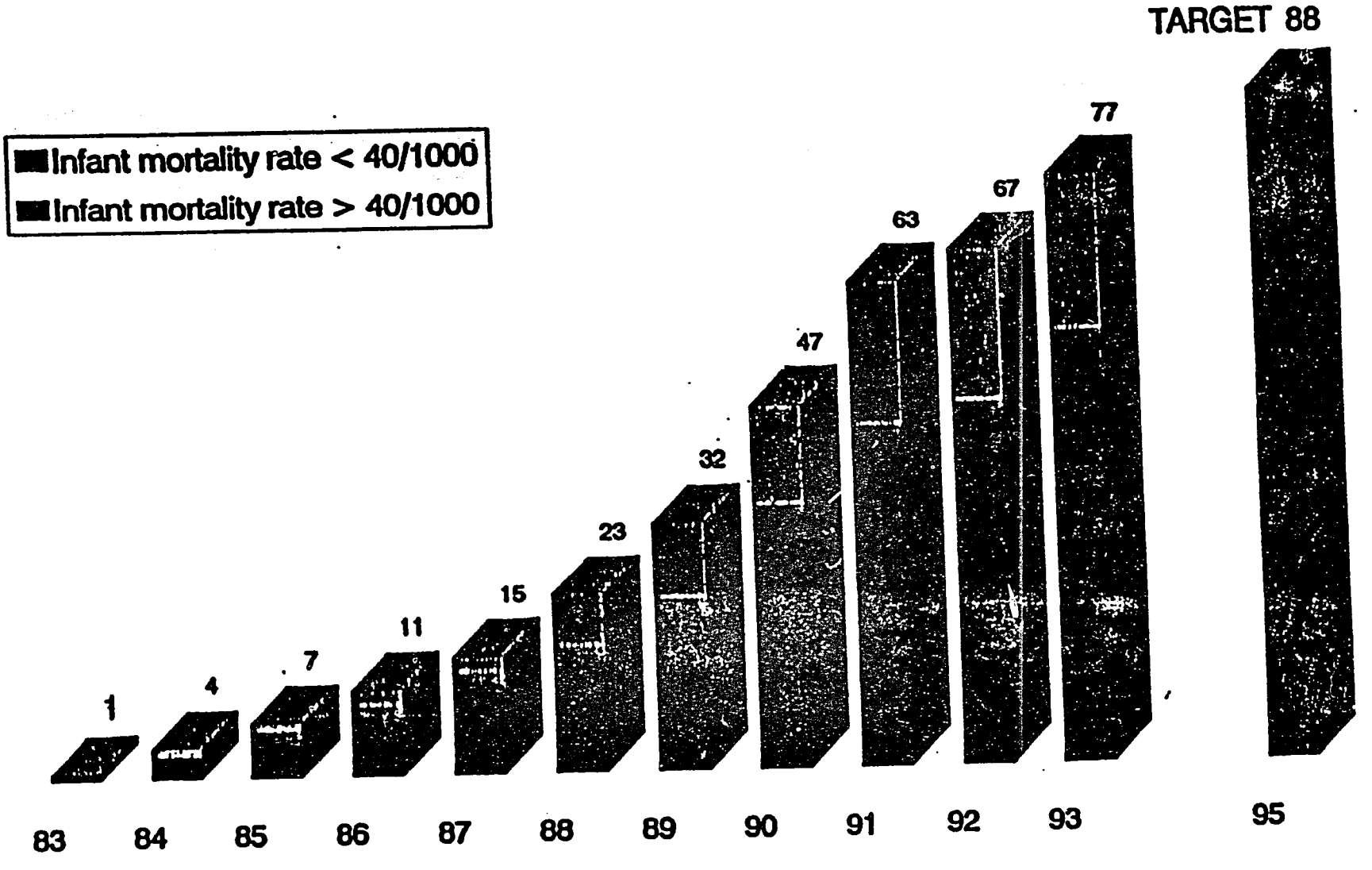


*Deflated using global GDP deflator index; IMF International Financial Statistics 1992

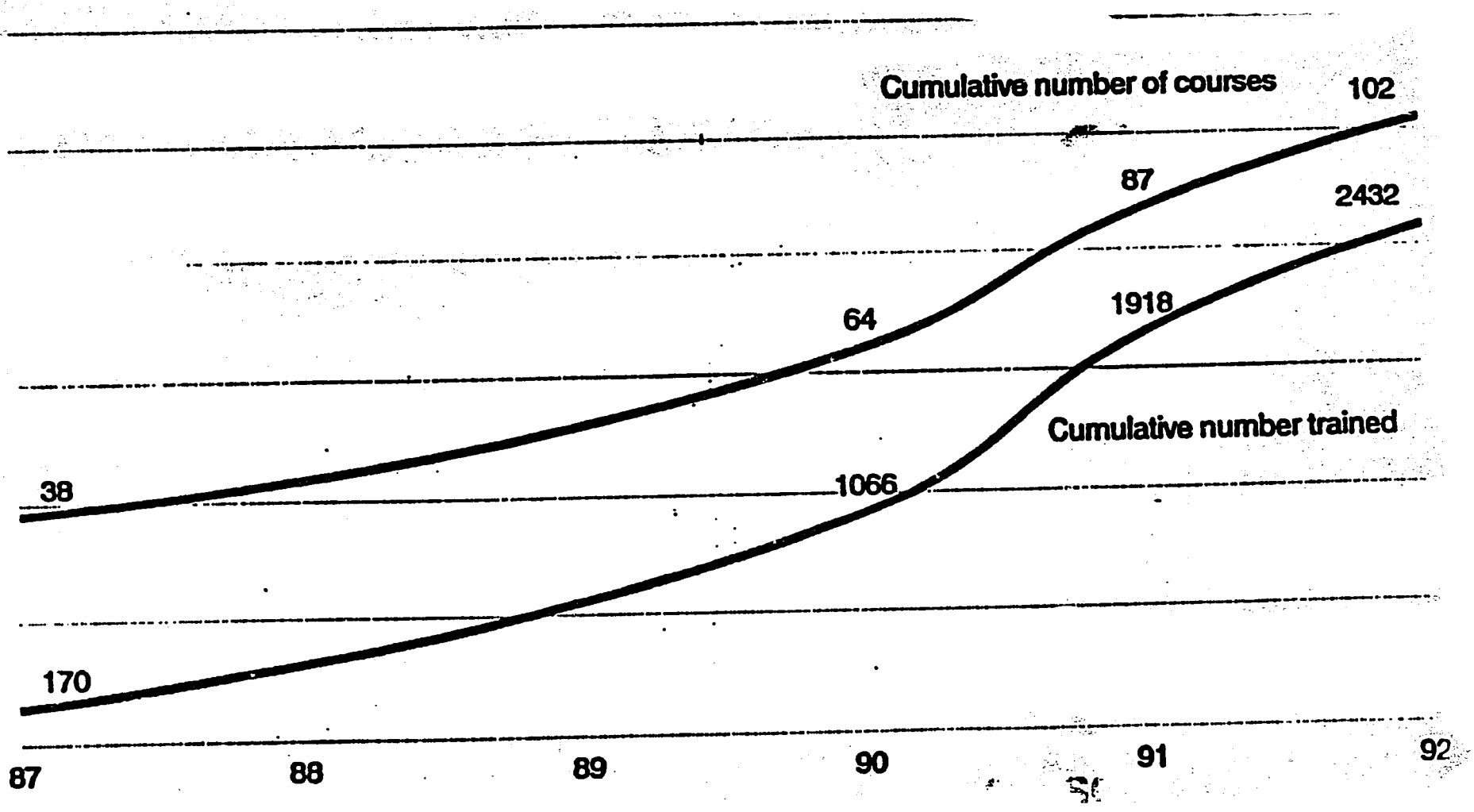
Distribution of ARI programme financial obligations by component



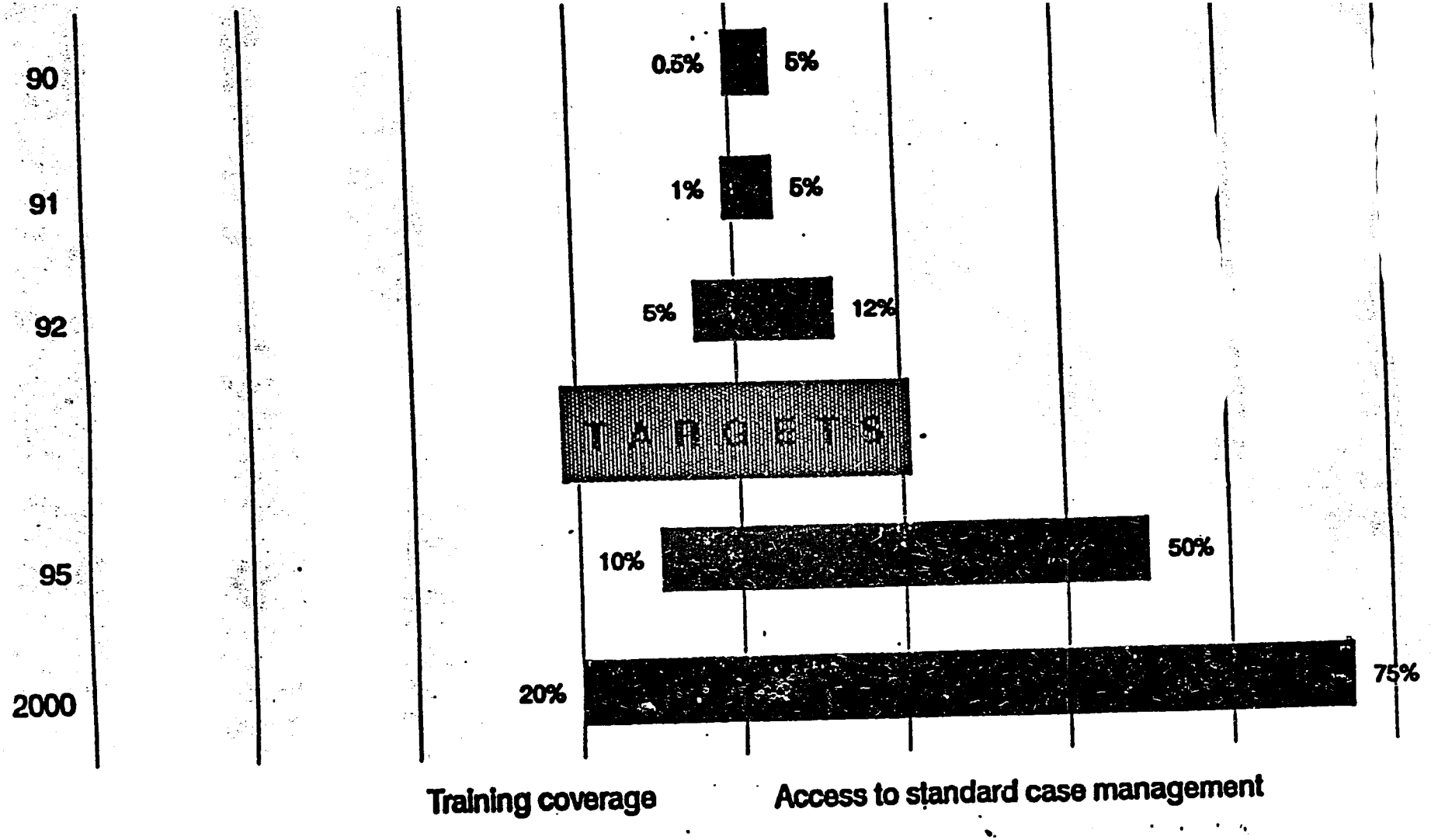
Countries with operational ARI programmes



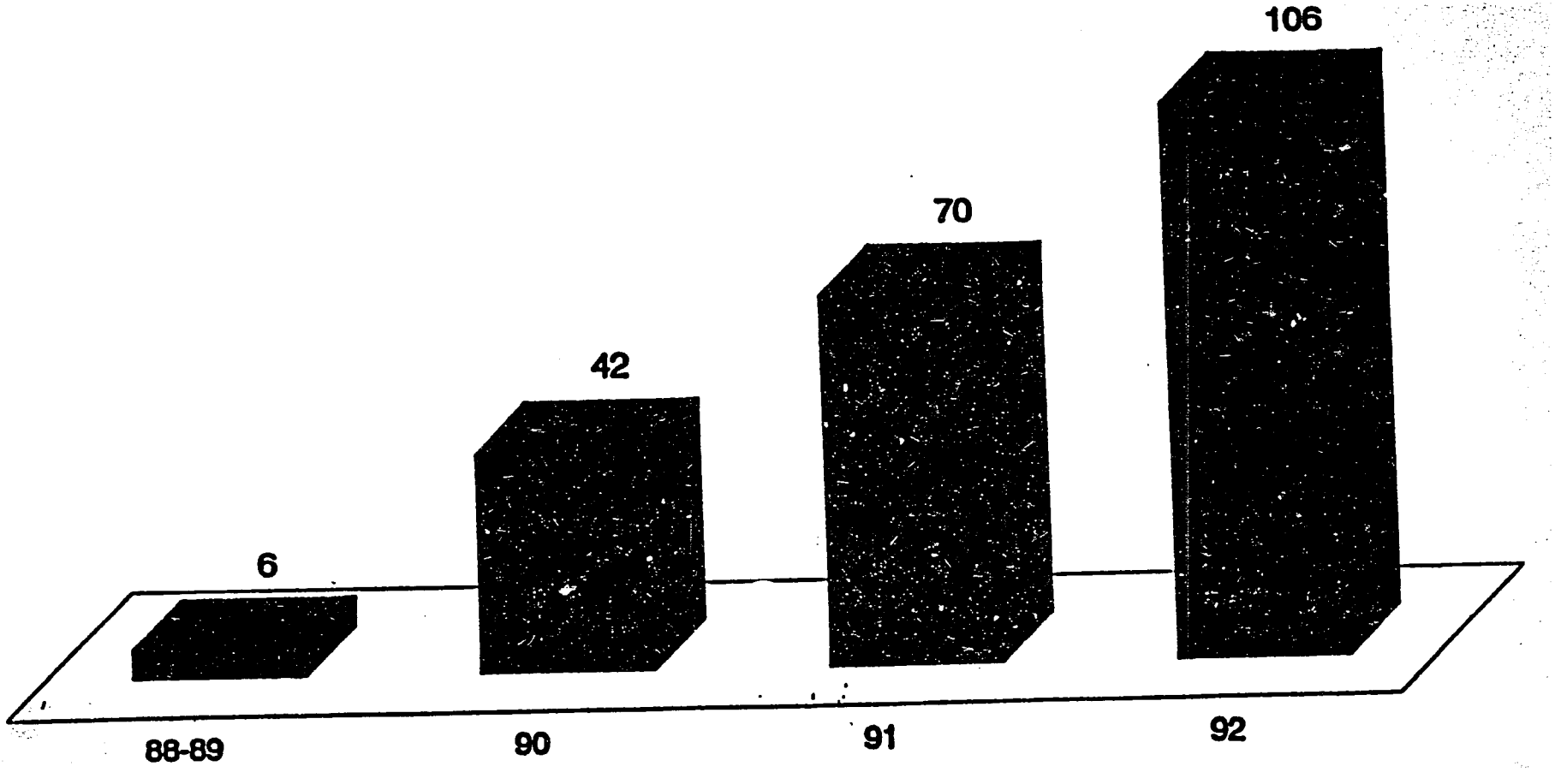
ARI Programme Managers Course



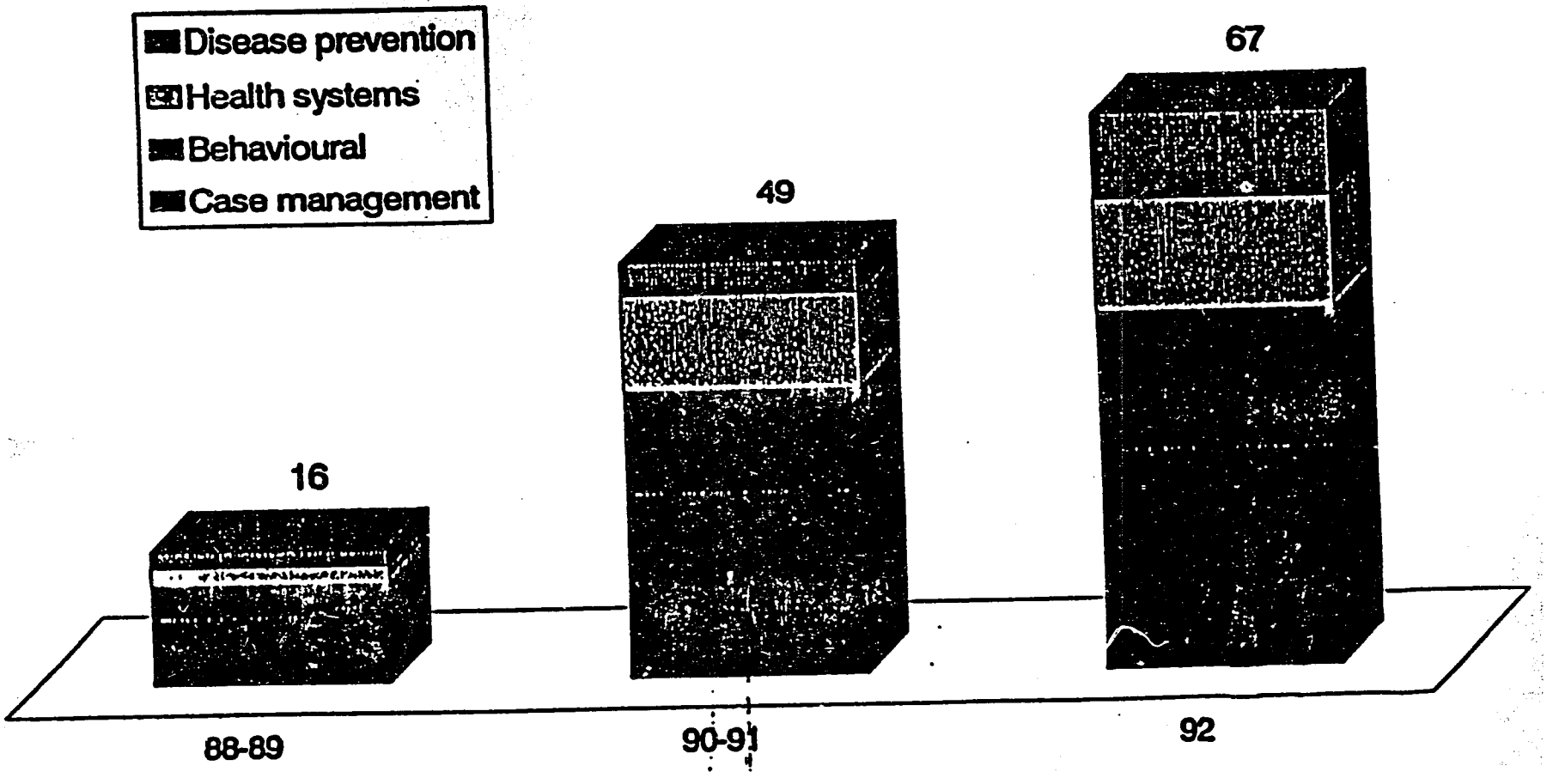
ARI training coverage and access to standard case management (SCM)



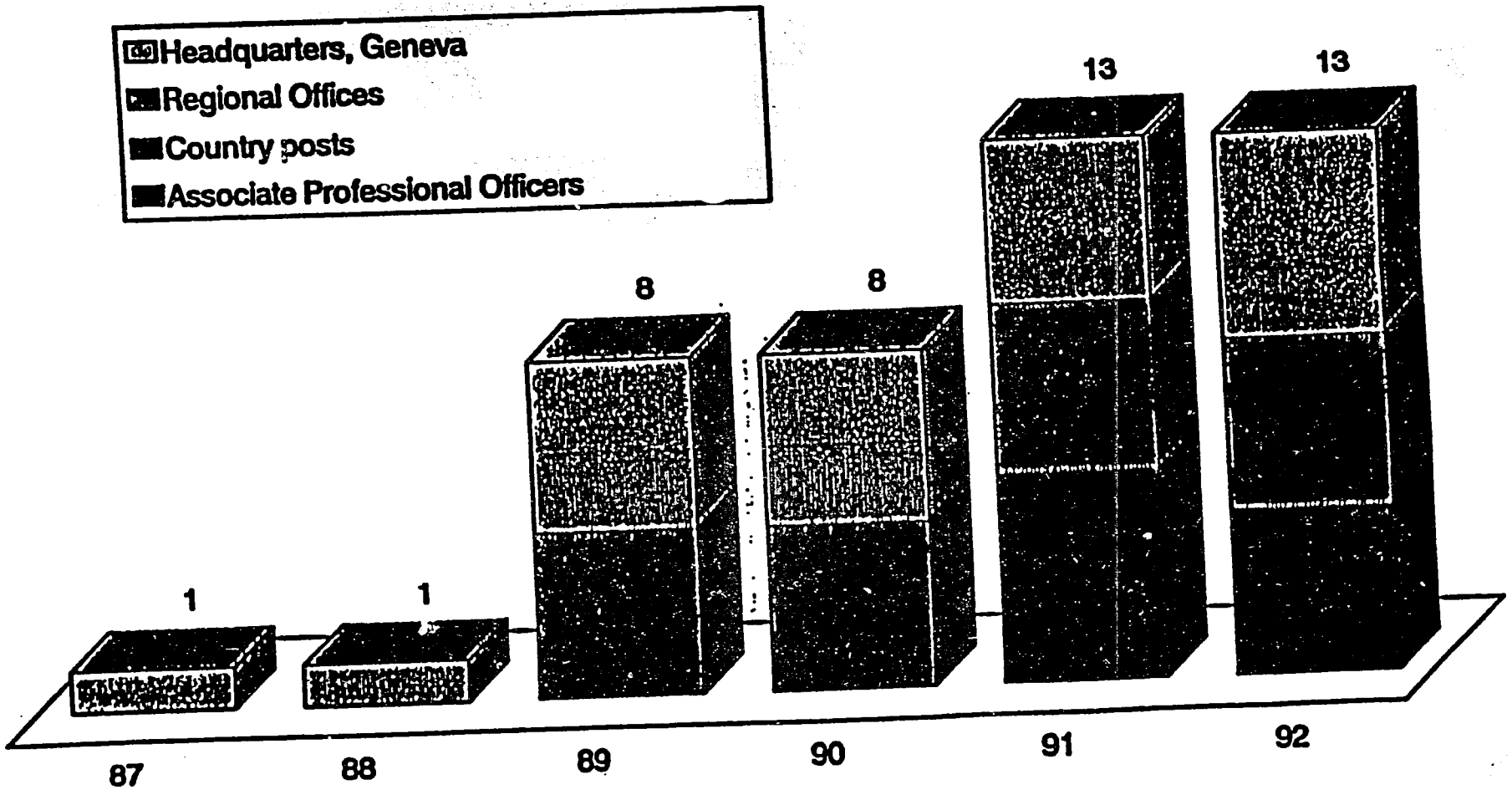
ARI Training Units (ATUs)



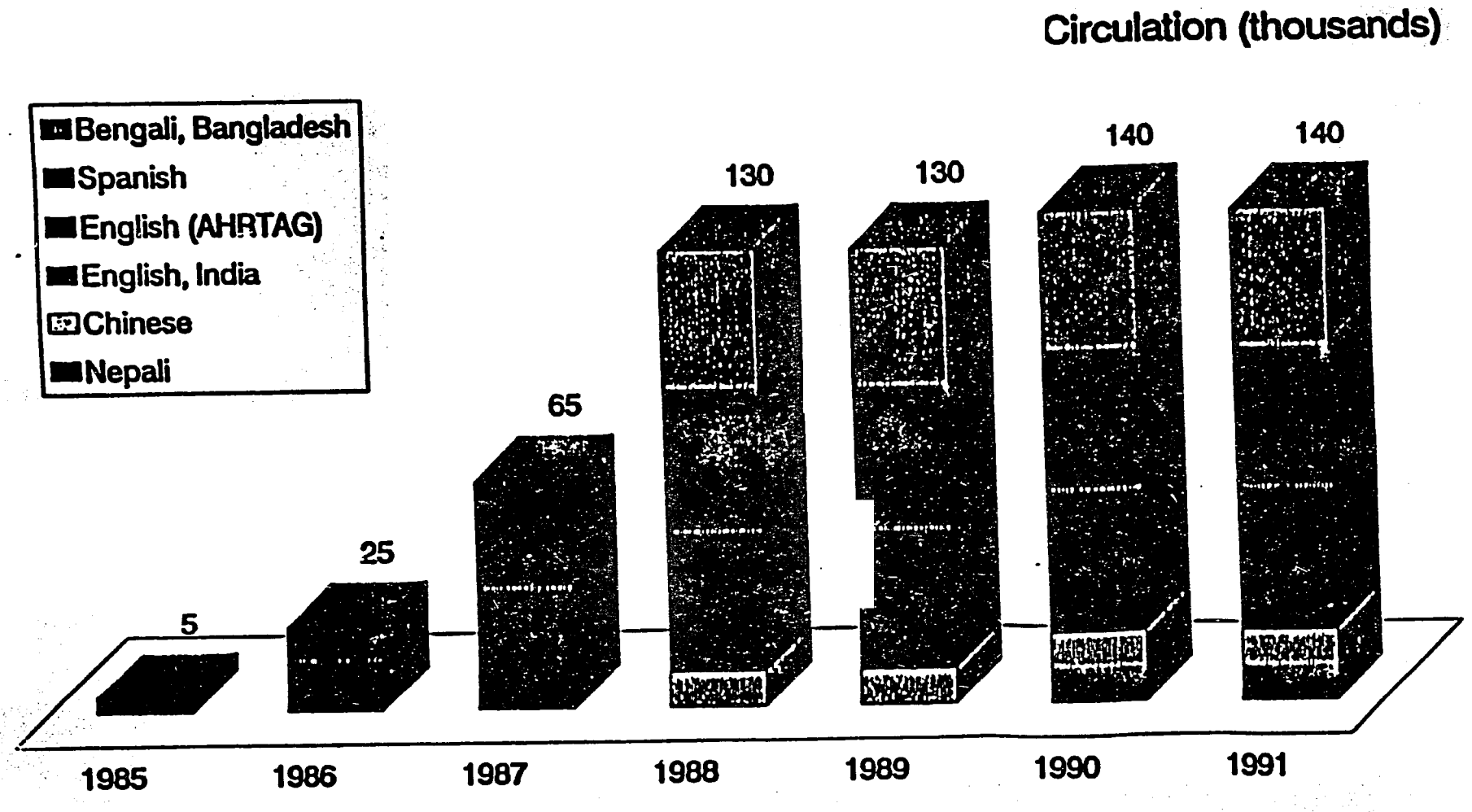
ARI Research Projects



ARI staff


Headquarters, Geneva
Regional Offices
Country posts
Associate Professional Officers
1
1
8
8
13
13
87
88
89
90
91
92

ARI News


Circulation (thousands)
Bengali, Bangladesh
Spanish
English (AHRTAG)
English, India
Chinese
Nepali
5
25
65
130
130
140
140
1985
1986
1987
1988
1989
1990
1991

Appendix

Bibiliography:

See Appendix B for a comprehensive list of annual and biennial reports, and reports of review committee meetings (TAG, MRC, and MIP) used in the preparation of this document.

APPENDIX F

REPORT OF THE MULTI-DONOR EXTERNAL REVIEW OF THE CONTROL OF DIARRHOEAL DISEASES AND ACUTE RESPIRATORY INFECTIONS PROGRAMS OF THE WORLD HEALTH ORGANIZATION

MANAGEMENT COMPONENT

Prepared by

Lawrence T. Cowper
Management Consultant
February/March 1994

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MANAGEMENT COMPONENT

I. Introduction

A Multi-donor External Review of the World Health Organization's (WHO) programs for the Control of Diarrhoeal Diseases (CDD) and the Control of Acute Respiratory Infections (ARI) is being carried out by a team of international medical and public health specialists both at WHO headquarters in Geneva and at field sites during the January-March period of 1994. Members of the review requested assistance for an overview of the management and organizational structure of these two major programs which are within the Division of Diarrhoeal and Acute Respiratory Disease Control (CDR). This report is prepared in response to the Team's request and for its consideration in preparing the final External Review Report. The report was prepared by a management consultant during the last week of February 1994 in Geneva through a series of interviews with the Director and staff of WHO/CDR and reviews of background documents prepared by the CDR Division and WHO. Background documents used as resource material are annexed to this report. The report was revised in March 1994 to incorporate editorial comments and suggestions by the Team and to incorporate additional data/documents received by WHO.

For the purposes of this report, the management aspects of both the CDD and ARI programs are reviewed as one management unit. In 1987, the Director-General (DG) of WHO proposed the integration of the two programs and since that time administrative linkages have become increasingly closer. In 1990-91 the CDD and ARI programs were established with the same administrative structure providing managerial direction and support to both programs. Where distinct managerial comments for the CDD or ARI programs are required, these comments will be identified. The technical aspects of the integration of the two programs are not reviewed or commented upon in the management component of this report.

II. Organization and Management

a. Organization

Both the ARI and CDD programs form elements of the Division of Diarrhoeal and Acute Respiratory Disease Control (CDR). The director of this division provides general direction and management support for both ARI and CDD. These programs also share divisional support services at the headquarters level including budget planning and monitoring. In the 1990-91 period, managerial materials for the two programs were developed and standardized using, for the most part, the terminology and patterns previously developed by the CDD, in order that they could be more easily combined in joint training, monitoring and evaluation activities at the country level. Since the

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1990-91 period additional efforts have been made to combine ARI and CDD documents such as the materials for household surveys on case management of the diseases.

The CDR Division is a major activity unit of the World Health Organization. It enjoys a reputation worldwide of a high standard of technical competency, scientific professionalism and management skills.

Annex 1 provides an overview of the organizational placement of the CDR Division within the WHO.

b. Personnel

Annex 2 of this report provides in detail the organization of the WHO/Geneva CDR Division with staff and supervision assignments. This innovative presentation illustrates a management tool developed in the CDR which could be used elsewhere. The focus on case management (CM) and the attention of a number of the staff on this aspect as presented in Annex 2 is an indication of the importance given this topic. As can also be seen, the entire staff is involved in national program implementation and reflects the Division's priority of servicing field programs. Out of these 22 personnel listed only four (4) are funded through the regular budget of WHO. The other personnel rely on extra budgetary sources. In the Regional programs, it was understood that only one (1) out of 14 personnel was supported by regular budget funding. All of the country assigned personnel are funded through extra budgetary sources which allows individual donor countries to fund CDR field personnel in a given country of interest.

Annex 3 provides an analysis of expenditures for both ARI and CDD programs in Geneva and in the regions. Total expenditures for each line item are broken down as regular budget (RB) and voluntary contributions (VC/extrabudgetary). Expenditures for services and research at headquarters are separated out from expenditures for services at the regional offices (no research funds are expended at the regional offices). A summary of the data for the CDR Division shows:

	RB % of total CDR expenditures	VC % of total CDR expenditures	Total % of total CDR expenditures
Salaries professional staff	7.4	20.5	27.9
Salaries general service staff	1.3	6.5	7.8
Salaries consultants/temporary advisors	0.8	8.5	9.3

Salaries temporary assistance	0.2	4.6	4.8
Staff travel	0.3	3.8	4.1
Grants/local costs developing countries	0.2	16.3	16.5
Grants developed countries	0.1	6.7	6.8
Publications/other	3.5	8.1	11.6
Meetings/surveys/courses	0.4	8.1	8.5

One can observe that salaries and travel for staff and various categories of external assistance account for approximately 54 % of the CDR budget for the biennium. The resources going directly to the countries and regions can be expressed as the total regional budget plus developing country grants and local costs; the percentage of the CDR budget for the biennium attributed to these categories is approximately 65 %. Further analysis of the expenditure data in annex 3 may be useful for CDR's programme planning and management of resources.

The CDR uses short term consultants from time to time on specific assignments. There are supportive documents at the CDR Division which present consultant use and costs. (Annex 3, Annex 4) The usefulness of specific short-term specialists for well designed and country-requested services is not challenged. Such consultants play an important role in the activities of the CDR worldwide and will continue to do so over the foreseeable future.

The question of whether short term consultants are more cost effective when compared to full time country assigned personnel is difficult to answer (Annex 4). The Director of the CDR stated that given a choice he would definitely increase his field staff in country programs, but such personnel especially medical officers are expensive. It was stated that the most successful CDR services activities are in countries where full time staff are in residence. For strictly research activities, in-country staff assignments are probably not cost effective. Short term consultants are used as required. The innovative use and funding of the Associate Professional Officers (APO) by the CDR is most noteworthy. The APOs are WHO members, who work for 2-3 years and are funded by individual donor countries. This management device represents an excellent example of innovative financing used to get field activities implemented. Another innovative mechanism for funding field staff is the Child Survival Fellows Program. Costs of these Fellows, APOs and other types of consultants are described in Annex 4.

The CDR is also using host country nationals to oversee, monitor and assist in the implementation of country projects. The importance of having staff "on the

ground" is considered more than good justification for placing such personnel into programs. This method has worked well in similar health programs funded directly by bilateral donors. WHO/CDR is having similar experiences with their locally hired national placements.

It would be appropriate to have more regular budget supported CDR personnel but fiscal constraints do not presently appear conducive to increasing this type of personnel. CDR staff has been reduced for the 1994-95 period, but reductions were made on Headquarters staff in order that the Regional/Country staff could continue their work. This action reflects the priority that CDR gives its field services. In making country assignments, the question of whether a program can be done vs. the question of need is reviewed in depth prior to any assignment. A country may have great health needs, but if the political and social conditions are not favorable to successful project implementation, personnel are assigned to other country projects where program implementation may be more successful.

It is the view of the consultant that CDR is fully aware of their personnel needs, have implemented a number of innovative management techniques "to do more with less" and will continue to operate in this manner.

c. Reporting

The background document given to the Review Team lists in some detail the major reports of the CDR over time. This list is attached as Annex 5.

In summary, there is a Bi-annual Report for the CDD and ARI programs which is produced in the even numbered years. In the odd numbered years, an Interim Report is presented which serves as an annual report for that year. The CDD and ARI reports are done separately and not as one division report. A review of the recent CDD and ARI reports was done and the presentations were excellent. It is clear that the division places real importance on producing timely, accurate and readable bi-annual and interim reports.

The adequacy of the reports from country activities appears to be mixed with some countries doing a good job and others not making a concerted effort on their reporting. This may be an area where more attention is required in the future. Each year a Country Program Profile questionnaire is sent by CDR to individual countries via the regional offices which requests information on the year's activities, training, achievements including Household Survey and Health Facility data. These questionnaires are very important and have substantial impact in the preparation of CDR's bi-annual workplan.

Annual workplan development is done through the regional offices. Each WHO Region now has ARI and CDD officers with four regions having a Technical Officer assigned. Each regional office submits an annual joint administrative, fiscal and activity report. Interestingly enough, these reports are not standardized and each Region has developed its own submission standard to present its information. The fiscal reporting method will be described in more detail in Section II-e of this report and is not provided in-depth at this point. A report of interest and usefulness to a variety of interested agencies and individuals is the "Diarrhoea Dialogue Newsletter" which reports on a wide range of CDD activities. There have been a number of comments on the good quality of this publication.

Research progress reports are requested on an annual basis. these reports are reviewed by CDR staff as well as two external experts. A sample report form is included as Annex 6. Two modifications are recommended for considerations. Different avenues of dissemination of information should be described beyond submission for publication; these include presentations at meetings, presentations to national policy makers etc. Secondly, there should be a place on the report to indicate whether co-funding for any part of this activity or related to this activity has been applied for and/or obtained in the past 12 months.

Trip reports are submitted in a prescribed format which contains essential information gathered during the trip. Reports are circulated to the Director of CDR as well as the ADG. Reports are required from all staff as well as consultants.

Additional reporting and monitoring requirements should not be imposed by donors because the systems currently in place are more than adequate and additional requirements would add unnecessarily to the management burden and costs of the CDR Division. Donors and other interested parties are reminded that reports are easily available on file in the CDR offices upon demand.

In brief, a review of the reporting mechanisms has shown that there is an adequate system in place and systematically operated. Required reports are made and submitted as proscribed by CDR's procedures.

d. Monitoring of Program and Research Activities

The monitoring of CDR activities begins with the Bi-annual Workplan. As each regional workplan is developed it is reviewed, modified if necessary, and incorporated into the CDR workplan at Headquarters. Workplans are reviewed and adjusted, if necessary, at the end of the first year of the bi-annual plan. These workplans form the basis for regular budget and extra budgetary allocations for the program. CDR headquarters may provide assistance to individual countries as well as to regional offices

in preparing these plans. The quarterly reports from the regions support requests for the release of funds from the CDR. These requests are carefully reviewed by CDR against the presentations made in the region's workplan.

Field and research programs are continuously monitored by headquarters, regional and in-country staff through reports and site visits.

The research reports have already been described. This reporting system is supplemented by site visits and technical meetings where the principal investigators report on progress.

Program implementation is monitored through informal on-site visits by CDR Staff, focused program reviews, desk reviews and surveys. The focused program review (FPR) is a structured approach to assess achievements and constraints to implementation based on available data. The FPR leads to the development of country work plans. During the last biennium FPRs were conducted in Kenya, Cameroon, Sri Lanka, Viet Nam, Ethiopia, Pakistan, Morocco, Egypt, Niger, Congo and Zimbabwe. A FPR in Indonesia was completed in early 1994. During 1994/1995, FPRs are planned for: Iran, Zambia, Mali, Nigeria, Malawi, China, Mexico and Madagascar.

The FPR is done in two phases. Phase I identifies problems in a national programs and is usually implemented by one or two people. Phase II is initiated by prioritizing the problems and identifying major areas of concern. A team is specifically selected for priority areas and this group makes focussed recommendations. A manual has been prepared by CDR on how to carry out these reviews. This type of review may be useful for other programs as well.

Site visits and desk reviews are a more informal way of assessing progress towards program targets, that does not involve data collection but does identify impediments to progress. Desk reviews of seven country programs were conducted 1992-93. Site visit reports of research projects are reviewed by external experts.

Through household and health facility surveys, specific outcomes (e.g. performance of trained health workers, home case management practices, etc.) can be monitored and evaluated. During the last biennium the Division conducted 37 household surveys and 29 health facility surveys.

There are other types of project reviews which cover the entire activity pattern and provide recommendations to the host governments. This type of review often leads to a large number of recommendations which may be difficult for host countries to meet. However, the broader review process has a definite place in the monitoring system and is a valuable evaluation tool under many circumstances.

There are also a number of review and monitoring committees which assist the CDR in its monitoring and evaluating efforts. One of these groups is called the Meeting of Interested Parties (MIP) which includes donors and developing country representatives. This meeting is usually held in the same time frame as the Tropical Disease Research (TDR) donor meeting to lower travel costs of participants. At this meeting CDR activities are reviewed to provide participants with an overview of recent progress, to generate interest in new activities and directions and to elicit input from donors and country representatives. Another group which assists in the monitoring process is the Management Review Committee (MRC) wich is composed of members from the World Bank, UNICEF, UNDP and WHO and three national government members with two year rotating terms. This group is primarily concerned with over-all CDR policy, donor coordination and management direction.

In addition, there are two Technical Advisory Committees (TAGs) consisting of 16 members for CDD and 12 members for ARI which meet for a week every other year to review technical program content and to provide scientific direction to the CDR. A smaller TAG for ARI and CDD meets for three days in the alternating years to review workplans and progress in both of these activities. The TAG reviews implementation, research, identifies gaps and approves budgets. The TAG does not review individual proposals.

An analysis of expenditures for the MIP, TAGs, and MRC over the biennium is found below. Both direct costs of participants and person months of CDR staff to prepare for the meetings are indicated.

ANALYSIS OF EXPENDITURES

Management Meetings 1992-1993	Attendance Participants & Regional Staff		Cost VC	Person-months CDR Staff**
	1992	1993		
13/14th Meetings of CDD TAG	23	24	172913	3
8/9th Meetings of ARI TAG	3	10	94339	3
12/13th Meetings of MIP	*65	*63	40580	4.5
12/13th MRC	3	4	-	0.5
* 15 paid directly by CDR [per diem only]			** not included in cost estimates	

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TAG costs appear to be high; the management group of CDR and MRC should develop a plan to trim these costs while providing the quality oversight and field input that is necessary. The plan might include reduction in the number of participants to not more than 8 technical experts with developing country public health experience. Regional staff might participate on a biennium basis or through means other than the TAG (eg. development of country workplans).

The CDR staff time devoted to preparation for the MIP needs assessment; perhaps specific process-related elements could be re-evaluated.

In summary, the monitoring process at CDR is very systematic and functions in a useful and productive manner. The advisory bodies as now formed meet the evaluation needs of the program. TAGs are necessary for such programs and should be continued as planned. Both TAGs and MIPs are necessary to assure transparency, to provide external advice, and to give the donors an opportunity to provide input into the program. The MRC has provided limited input for the program yet, as donor resources fluctuate, the management role of this committee is likely to be of greater importance. The Committee could be strengthened by adding 2 rotating members from the bilateral donors who are most familiar with the program and how it operates. To keep the total number of committee members the same, the multilaterals could retain two slots rather than three and the national members could also occupy two slots both on a rotating basis. To minimize CDR program costs and staff time, the Committee could be convened as a subgroup in conjunction with the MIP or TAG and their report be made part of the MIP or TAG report. Workplan monitoring is being accomplished not only by the staff of the CDR but by the TAGs. The Focus Program Review is considered an excellent evaluation tool. Reports indicate that on-site monitoring is being done but more could be done if additional funds were available.

e. Financial Management

1) Extrabudgetary/Regular Budget Resources Allocations

The CDR Division's funds come from WHO regular budget and from a number of countries and agencies as extrabudgetary funding. WHO funds derived from the regular budget represent about 16 per cent of total CDD resources. 24% of the ARI Program funds come from the WHO regular budget.

A more detailed breakdown of the use of regular budget funds vis a vis extrabudgetary funds is found in Annex 3.

A list of donors to the programs is found in Annex 7.

A per cent breakdown by category of the 1992-1993 revised budgets of the ARI and CDD programs is provided by program component in the table below:

Program Component	ARI	CDD
Health Services		
Global and Inter-regional	12.2	20.2
Regional	47.0	47.2
Research		
Global and Inter-regional	28.8	20.7
Program Management		
Global and Inter-regional	12.0	11.0
Total		
Global and Inter-regional	53.0	52.8*
Regional	47.0	47.2
	100.0%	100.0%

*Approximately 0.9% is to be added for Advisory and Mgt. meeting

Note: a) Total ARI budget estimates - $ 13,400,000.
b) Total CDD budget estimates - $ 22,278,000.

As can be seen, the Regional funds are entirely devoted to Health Services. Research represents 29% of the ARI budget and 21% of the CDD budget.

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A breakdown in the percentages of the Regional funds which are allotted by Region is presented on the table below for the 1992-1993 period:

Program Component	ARI	CDD
Africa	9.6	14.6
The Americas	10.7	9.6
South-East Asia	9.3	10.8
Europe	0.5	0.2
Eastern Mediterranean	5.9	5.3
Western Pacific	11.0	6.7
	47.0%	47.2%

The question of how regional allotments are made is based on (l) need (2) absorptive capacity of the country (3) national interest. Program funds might be used in an area where the need is not as great as in some other areas, but the national absorptive capacity to carry out the program is better and chances of success more assured. The regional breakdown follow similar patterns in other budgets reviewed.

The CDR Division as well as other programs in the WHO are attempting to increase activity funding through promotion of bi-lateral agreements between interested LDCs and donor countries. The WHO/CDR indicated that under certain conditions, the interested parties can be matched as to interests and agreements signed with WHO acting as a broker for the agreement. In some cases, a trust fund managed by WHO is set up and CDD operates the fund for the donor country. This procedure takes a great deal of staff time and increases the workload, but it is an example of creative financing which has become necessary in this period of scarce resources. It appears to be a workable arrangement, but very clear agreements are necessary for all parties to make this type of fiscal support work.

In summary, the percentage of present funding for health services out of the CDD program availabilities is approximately 70%. The research portion of the budget is approximately 20% which leaves 10% for management and advisory meeting costs. The ARI program reports approximately 60% for field programs and 29% for research leaving 10% for management and advisory groups. In the case of research approximately 25% of these funds are spent on HDQs oversight and 75% on research in Developed and Lesser Developed Countries (LDC) of which approximately 65% of availabilities are spent in LDCs.

It would seem that the larger proportion of funds spent in developed countries for ARI reflects the immaturity of that program. However, efforts should be made to strengthen developing country capacity by implementing a larger proportion of research in developing countries. Approximately two-thirds of health services availabilities is spent on field implementation and one-third on development activities under HDQ's guidance. This percentage breakdown of activity uses appears to be in accord with good management allocation of resources and presents an acceptable pattern of expenditures. Annex 8 presents actual financial patterns for both ARI and CDD programs.

2) Financial Reporting

During this review special attention was made to the financial reporting procedures and operation of the CDR. The Division has very strong control of its fiscal matters and makes decisions on allocations and re-budgeting. While there is a well established central WHO financial office which sets procedures and provides overview reports on a periodic basis, the CDR, for the most part, controls its finances after approved levels are set. There is good control of country and regional level funds as these are reported by the quarterly reports and reviewed for completeness in order to provide cash support to the field at the correct time and place. In discussions with one of the officers who is responsible for financial review and reporting, the "paper trail" appears to be systematic and would support responsible fiscal monitoring. Random selection of previous reports indicated an acceptable pattern of division control over its finances. The expenditure vouchers from the Region have from time to time been late in submission which delays the disbursement and re-disbursement processes.

One issue which is of concern is the earmarking of donor funds for health services and/or research which in the past has caused an unbalance CDR funding. Guidelines for designation of funding are found in Annex 9. It is understandable that some donors want their funds used for services and/or research. However, it should be recognized that donor funds provided for budget availabilities lose their identity and can not be easily tracked unless special procedures are enacted. Such procedures are not practical unless the funds flow through a financial mechanism such as a separate trust fund. It is to the benefit of the program that donors release funds to the CDR with the understanding that the funds will be used properly, accounted for in a systematic manner and not demand undue fiscal requirements which increase the cost of management.

A second issue of concern is the potential earmarking by donors of specific activities within research or services. Such earmarking would interfere with the coherency of the programs and should be discouraged; the guidelines for

lesignation of funds (Annex 9) make this policy very clear. Donors shoul adhere to this policy and not attempt to fragment the program by earmarking.

3) Audits

The WHO has audit capacity within its headquarters administration which has been developed and standardized over the last several decades. It was reported that the CDR is internally audited every year by the WHO Headquarters. Every two years there is an external audit done on WHO activities by an outside party. The CDR itself spends a great deal of time and effort in auditing program expenditures to ensure that funds are being spent on planned and approved activities in the Regions and in global/inter regional efforts.

Copies of the external and internal audit reports are available for review. The CDR reports that there has been no audit problems connected with their program. The audits as described are considered adequate for accountability.

The ARI and CDD have separate accounting systems and are not interlinked. It would appear that these two fiscal systems could be combined into one account. On the surface, this action would appear to lessen some of the accounting workload, but further consideration needs to be made on this decision before finalizing such fiscal integration.

f. Supply and Commodity Procurement

The WHO has a well-established supply and procurement capability within its organization which CDR relies on for its commodity/supply procurement. This central organization can often obtain major cost reductions from suppliers on specific orders. For this reason, WHO may agree to operate through a country trust fund set-up to take advantage of this buying power for a country's project supply needs. The CDR does not have large supply requirements. It was understood that approximately $50,000 was allocated over a recent two year period for such items as ORS. However, the CDR does exercise considerable management oversight on incoming requests from the regions even if the request is being supported by a trust fund arrangement. When the regional request is received in CDR it is carefully reviewed and, if found in order, it is approved. A purchase order with exact specifications is prepared and sent to the WHO procurement offices. This office will determine a suitable supplier(s) through a variety of procedures, do the purchasing and ship to specific locations as stated on the specifications in the approved purchase order.

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The report makes no comment on the CDR procurement mechanism except that it follows normal world-wide supply procedures as far as can be determined and WHO is an experienced supplier with a vast amount of procurement experience.

g. Special Research Issues - Present Status

1) Research review and selection process

Proposals are generated for both non-commissioned and commissioned research. Research proposals submitted directly to the programs are preceded by a Letter of Intent briefly outlining the proposed research. For certain areas of research which require rapid resolution or for questions requiring similar studies at multiple sites, selected investigators may be approached to submit detailed proposals.

After Letters of Intent are received from researchers, the proposal is carefully reviewed by CDR technical staff as to (1) the capability of the researcher and institution to carry out the study; (2) determination if the proposal fits into CDR research priorities; and (3) scientific merit. If approved, the researcher is asked for a detailed proposal which is reviewed by at least 4 external experts. When the comments from the external reviewers are received, the proposal may be turned down, approved or approved with modifications. The CDR may send a consultant to assist the researcher in modifying a proposal if required. The research proposal is then finalized. At this point the research is sent to the Sub-committee on Research and Human Subjects. This Committee does reviews for both animal and human use. The Committee's comments are made and the proposal then may be revised. After the Committee's approval the proposal is then reviewed by the Legal Department and, if approved, given authorization. The investigator is given a contract with expected outcomes and usually one year's funding. Progress reports are required and these reports are reviewed by CDR as well as outside reviewers. Additional year's funding may be provided. Approved research is usually limited to three years and $150,000 life of project funding.

WHO/CDR has streamlined the review process by eliminating scientific working groups and replacing them with external expert reviews usually implemented by mail. The new system provides programmatic/field input at an earlier stage. The system also provides CDR with increased flexibility both as to accessing the appropriate

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expertise and as to accomplishing the review in a timely cost-effective manner. However, CDR could broaden the base of researchers/institutions funded by soliciting proposals in a more open manner and by communicating research priorities more broadly in newsletters etc. Otherwise the programs risk narrowing their research base to a group of perceived "insiders".

2) Human and Animal Use Review

Protocols/proposals which have been externally reviewed and approved by CDR staff are sent to the WHO Sub-committee on Research and Human Subjects; this Committee reviews both animal and human use.

The research institution proposing use of laboratory animals must assure that living vertebrate animals required for use in research pursued under an agreement with WHO will be handled in accordance with locally existing statues and/or generally accepted principles for the humane treatment of such animals. In all cases, the avoidance of unnecessary suffering will be mandatory.

For research involving human subjects, sponsoring institution must safeguard the rights and welfare of human subjects involved in research supported in whole or in part by funds from WHO, in accordance with the appropriate national code of ethics or legislation. Funds may be used only to support investigations where, (a) the rights and welfare of the subjects involved in the research are adequately protected, (b) freely given informed consent has been obtained, and (c) the balance between risk and potential benefits involved has been assessed and deemed acceptable by a panel of independent experts at the Institution.

The Investigator must submit to WHO with the research proposal the written approval of an institutional, panel to carry out the proposed research involving human subjects.

For countries with national ethical review bodies for research involving human subjects, written agreement from such a body must also be submitted to WHO with the research proposal. In the absence of a national ethical review body, the Investigator shall be guided by the Declaration of Helsinki supplemented by the revised an extended version of the Declaration adapted by the Twenty-ninth world Medical Assembly in Tokyo (October 1975) and by Article 7 of the International Covenant of Civil and Political Rights, adopted by the United Nations General

Assembly on 16 December 1966. WHO will, on request, advise scientists regarding the ethical aspects of planned research projects.

Attached as Annex 10 is a copy of the WHO requirements for research involving human and animal use.

3) Safety Monitoring During Clinical/Field Trials Involving Human Use

Where invasive procedures are used and where experimental products (eg. vaccines) are administered to human beings, a safety monitoring committee is established. The committee reviews data from the trial on a regular basis and may recommend breaking the code and/or cessation of the trial based on data reviewed. The committee is international in representation and members do not have vested interest in the outcome of the trial.

During fieldsite visits, the CDR staff make it a point to determine if any deviation of the approved proposal has occurred and have the authority to withdraw support from a researcher if modifications have been made without CDR approval.

4) Environmental Impact

The research studies and proposals under the CDR program do not undergo routine environmental impact review by the WHO Environmental Committee. The research done by CDR is considered to have little or no environmental implications. In reviewing the present research activities, this appears to be the case, but care should be taken to ensure that environmental impact is taken into consideration for any CDR research activity. A form for an initial environmental assessment should be developed. If the assessment is positive, a full environmental impact assessment should be implemented.

5) Bio-safety

There are bio-safety considerations in many of the research activities carried out under the CDR program. This issue is addressed at the time of the proposal review, but CDR does not (and can not) maintain strict on-site supervision that would prevent all unforeseen bio-safety hazards. The judgments of the Committee on Research and Human Use and the CDR that the scientist in question understands bio-safety and that

procedures are in place to assure biosafety, are basic to approval. Consultation field visits also help to monitor biosafety.

ANNEXES

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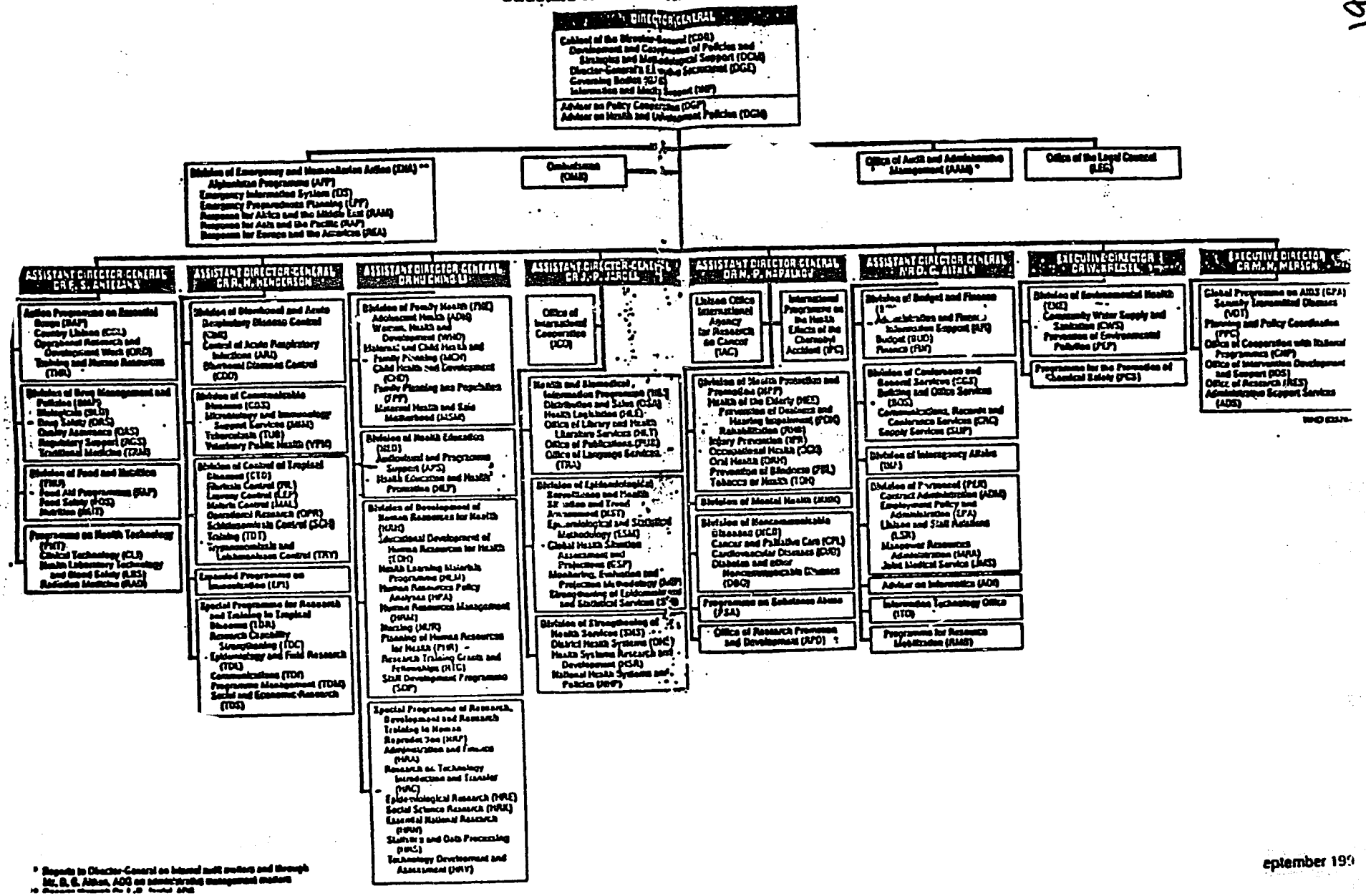
Structure of the Secretariat at Headquarters



* Reports to Director-General on internal audit matters and through Mr. R. G. Allen, ADG on administrative management matters

ASSIGNMENT TO MAJOR WORK AREAS OF THE DIVISION OF DIARRHOEAL AND ACUTE RESPIRATORY DISEASE CONTROL (CDR)

STAFF	MANAGEMENT COMMITTEE MEMBERS	NATIONAL PROGR. IMPL.	RESEARCH & DEVELOPMENT WORKING GROUPS			STAFF SUPERVISED BY
			CM IN THE HOME	CM OUTSIDE THE HOME AND NPM	PREVENTION	
J.Tulloch	X	X				
B. Hogan	X	X	X	X		JT
G.Hirnschall	X	X[a]	X	X		JT
S. Gove	X	X		X[a]	X	JT
J. Martines	X	X	X		X[a]	JT
A. Pio	X	X		X	X	JT
G. Pelto	X	X	X[a]		X	JT
N. Pierce	X	X		X	X	JT
D. Robinson	X	X[b]		X		JT
S. Aboubaker		X	X	X		DAR
A. Borra		X		X		GH
J. Bryce		X	X	X		BH
A. Cattaneo		X		X		DAR
F. Cardenas		X		X		JT
B. Daelmans		X			X	FS
H. Faust		X		X		GH
O. Fontaine		X		X		JM
I. Lejnev		X		X		GH
J. Lozano		X		X		SG
M. Neira		X			X	JT
F. Savage		X		—	X	JM
C. Wollheim		X	X	X		GH

[a] Programme Manager, CDD

[b] Programme Manager, ARI

ANALYSIS OF EXPENDITURES

CDD PROGRAMME	Source of funding RB	VC	TOTAL
PROGRAMME MANAGEMENT AND SUPPORT			
Salaries	320,391	557,535	877,926
Professional Staff	143,175	569,656	712,831
General service staff			0
Consultants/temporary advisers		220,674	220,674
Temporary assistance		57,568	57,568
Staff travel		127,040	127,040
Grants DC			0
Grants LDC			
Publications/other		654,582	654,582
	463,566	2,187,055	2,650,621

ANALYSIS OF EXPENDITURES

CDD PROGRAMME	Source of funding RB	VC	TOTAL
HEADQUARTERS			
SERVICES COMPONENT			
Salaries	219,674	1,575,931	1,795,605
Professional Staff	186,231	651,802	838,033
General service staff			
Consultants/temporary advis	88,966	290,515	379,481
Temporary assistance	64,278	479,855	544,133
Staff travel	57,732	128,347	186,079
Grants DC	18,889	244,966	263,855
Grants LDC		15,000	15,000
Publications/other*	115,853	591,867	707,720
Meetings/Surveys/Courses		236,020	236,020

NALYSIS OF EXPENDITURES

RI PROGRAMME	Source of funding RB	VD	TOTAL
ROGRAMME MANAGEMENT AND SUPPORT			
alaries			
Professional Staff	453,607	364,419	818,0
General service staff		411,317	411,31
Consultants/temporary advisers		2,608	2,60
Temporary assistance		133,965	133,965
taff travel		27,660	27,660
rants DC			0
rants LDC			0
ublications/other		91,921	91,921
	453,607	1,031,890	1,485,497

ANALYSIS OF EXPENDITURES

ARI PROGRAMME	Source of funding RB	VD	TOTAL
HEADQUARTERS			
SERVICES COMPONENT			
Salaries			
Professional Staff		221,889	221,8
General service staff		121,360	121,3
Consultants/temporary advisers	24,531	149,183	173,71
Temporary assistance		65,334	65,33
Staff travel	10,963	60,698	71,661
Grants DC	37,667	391,965	429,632
Grants LDC		3,900	3,900
Publications/other		276,783	276,783
Meetings/Surveys/Courses		190,072	190,072
TOTAL SERVICES	73,161	1,481,184	1,554,345

CDD PROGRAMME	Source of funding RB	VC	TOTAL
RESEARCH			
Salaries			
Professional Staff	262,632	408,223	670,855
General service staff		348,198	348,198
Consultants/temporary advisers		204,341	204,341
Temporary assistance		117,522	117,522
Staff travel		148,130	148,130
Grants DC		832,114	832,114
Grants LDC	28,300	1,548,271	1,576,571
Publications/other		21,136	21,136
Meetings		178,191	178,191
	290,932	3,806,126	4,097,058

ANALYSIS OF EXPENDITURES

CDD PROGRAMME	Source of funding RB	VC	TOTAL
REGIONAL/COUNTRY ACTIVITIES			
Salaries	879,974	2,852,201	3,732,175
			0
Consultants/temporary advisers	75,322	1,309,751	1,385,073
Temporary assistance		124,499	124,499
Staff travel	32,900	463,966	496,866
			0
Grants DC		1,577,037	1,924,957
Local costs subsidies/grants			
Publications/other	617,849	448,725	1,066,574
Meetings/Surveys/Courses		973,337	1,053,243
TOTAL CDD REGIONAL/COUNTRY	1,606,045	7,749,516	9,783,38

ARI PROGRAMME	Source of funding RB	VD	TOTAL
REGIONAL/COUNTRY ACTIVITIES			
Salaries	334,085	477,550	811,635
Consultants/temporary advisers	69,472	544,653	614,125
Temporary assistance		161,643	161,643
Staff travel	4,102	265,362	269,464
Grants DC			0
Local costs subsidies/grants	261,082	784,170	1,045,252
Publications/other	457,287	426,926	884,213
Meetings/Surveys/Courses	119,511	755,039	874,550
TOTAL ARI REGIONAL/COUNTRY	1,245,539	3,415,343	4,660,882

ANALYSIS OF EXPENDITURES

ARI PROGRAMME	Source of funding RB	VD	TOTAL
RESEARCH			
Salaries			
Professional Staff		329,623	329,623
General service staff	105,775	58,669	164,444
Consultants/temporary advisers		327,595	327,595
Temporary assistance		209,908	209,908
Staff travel		96,560	96,560
Grants DC	4,400	507,151	511,551
Grants LDC	28,700	672,146	700,846
Publications/other		184,708	184,708
Meetings		405,896	405,896
	138,875	2,792,256	2,931,131

DIARRHOEAL DISEASES CONTROL PROGRAMME (CDD)
PROGRAMME FOR THE CONTROL OF ACUTE RESPIRATORY INFECTIONS (ARI)

ALLOCATION AND USE OF EXTRABUDGETARY FUNDS

The following procedure is used for allocation and use of extrabudgetary funds in CDD and ARI and has been established to be both flexible enough to meet the needs of regional office and headquarters staff, as well as to provide sufficient accountability for use of extrabudgetary funds. For convenience, the description uses the 1994-1995 biennium as an example:

1. In November 1992 the regional offices and headquarters will prepare and submit detailed work plans and budgets for the 1994-1995 biennium. For the regional offices activities in the work plan will be divided into the categories of (a) planning, (b) operations, (c) training, and (d) evaluation. For headquarters, activities will be divided into the categories of (a) research and development (b) programme implementation. and (c) programme management and support. These budgets will indicate which activities will be supported by regular budget funds and which will require extrabudgetary support.

2. The regional workplans and budgets will be discussed with the regional offices, modified as necessary, and then used to prepare the official Proposed Programme Budget for 1994-1995. They will be presented in 1993 to the Technical Advisory Group (TAG) for approval, and to the Management Review Committee (MRC) and the Meeting of Interested Parties (MIP).

3. In November 1993, the regional offices and headquarters will review and update their workplans and budgets based on more current estimates, and a revised Programme Budget will be prepared for submission to the TAG's, MRC, and MIP in 1994.

4. In December 1993, based on (a) the availability of funds and (b) priorities as established by the TAG, headquarters will allocate funds for 1994 to the regional offices and headquarters according to the above categories. The regional offices and headquarters will then establish allotments for the 1994-1995 biennium within their allocations.

5. It is assumed that as the year progresses activities may need to be changed. When necessary, regional offices may shift funds within each allocation, keeping headquarters informed by forwarding the appropriate allotment revisions as soon as issued. However, when there is a need to shift funds between allocations (e.g. from training to evaluation) prior approval from Director CDR should be obtained. At no time should funds of different allocations be merged.

Because of the need to conserve the use of extrabudgetary resources for priorities of the Programme as outlined by TAG, extrabudgetary funds should not be used to support any fellowships without prior consultation with and approval by headquarters.

In the regional budgets, support for staff salaries and allowances should be included in the "Operations" category. This should include salaries for "interregional posts."

8. Guidelines for local costs expenditures will be the same as those applied for the regular budget, i.e. up to 15% of the amount in an allocation can be used for local costs. If more is needed prior approval should be requested from headquarters.

9. Activity reports should be submitted quarterly. For example, the report on the first quarter of 1994 should be submitted by 10 April 1994. These reports should indicate the obligations incurred in the preceding quarter as well as the specific activities in the workplan which were carried out. Reports should also indicate specific activities being carried out during the current quarter, and those planned for the next quarter. If these are the same as in the original workplan, regional offices need only indicate that activities are proceeding as planned. This opportunity can also be taken to indicate those activities which have been deleted from the workplan, as well as any new proposed activities not included in the original workplan.

10. In October 1994, a revised workplan for 1995 will be submitted by the regional offices. A revised 1994-1995 Programme Budget will then be prepared, and this revised budget will be submitted to the TAC, MRC, and MIP in 1995. The 1994-1995 allocations will be adjusted by headquarters to cover activities in 1995 in the light of the revised workplans and the availability of funds.

11. At the end of the 1994-1995 biennium unobligated balances will be recycled to the Programme as a whole and used to finance activities in the 1996-1997 biennium. There will be no carry-over of unobligated funds by individual regions at the end of a biennium.

Budget for 1992
Current Obligation Status and Expenditure Report
Summary
Regular Budget (RB) and Voluntary Contributions (VC)

VC: Through: 5 February, 1993

Printed on: 06-Feb-93

BUDGET LINE HEADINGS:	ALLOTMENTS TO DATE	OBLIGATIONS DISBURSEMENTS	OBLIGATIONS UNLIQUIDATED	TOTAL OBLIGATION	UNOBLIGATED BALANCE	BUDGETED (1992-93)	PERCENT SPENT	AMOUNT REMAINING
Planning								
VC	$21,306	$12,484	$1,153	$13,637	$7,669	$40,000		$26,363
RB	$0	$0	$0	$0	$0	$0		$0
Total	$21,306	$12,484	$1,153	$13,637	$7,669	$40,000	34%	
Operations								
SEARO	$457,416	$304,562	$54,758	$359,321	$96,096	$711,100	51%	$351,779
Bangladesh	$107,024	$68,134	$6,836	$94,770	$13,254	$181,500	52%	$86,730
Indonesia	$153,500	$116,421	$15,744	$132,165	$21,335	$260,000	51%	$127,835
India	$0	$0	$0	$0	$0	$45,000	0%	$45,000
Total VC	$717,940	$509,117	$77,139	$586,256	$131,684	$1,228,200	48%	$641,944
Total RB	$10,711	$5,800	$2,204	$8,007	$2,704	$17,575	46%	$9,568
Total	$728,651	$514,920	$79,343	$594,263	$134,388	$1,245,575	48%	$651,512
Training								
VC	$435,772	$249,503	$118,766	$368,269	$66,483	$550,000	67%	$180,711
RB	$217,137	$142,157	$30,887	$173,043	$44,094	$303,545	57%	$130,502
Total	$652,909	$391,660	$150,673	$542,332	$110,577	$853,545	64%	$311,213
Evaluation								
VC	$352,410	$287,233	$36,767	$324,000	$28,410	$362,000	90%	$38,000
RB	$9,961	$0	$0	$0	$9,961	$14,500	0%	$14,500
Total	$362,371	$287,233	$36,767	$324,000	$38,371	$376,500	86%	$52,500
Research						$0		$0
VC	$0	$0	$0	$0	$0	$0		$0
RB	$0	$0	$0	$0	$0	$0		$0
Total	$0	$0	$0	$0	$0	$0		
Total VC	$1,527,431	$1,058,337	$234,845	$1,293,182	$234,248	$2,160,200	59%	$667,018
Total RB	$237,809	$147,958	$33,091	$181,050	$56,759	$335,620	54%	$154,570
Grand Total (All VC and RB)	$1,765,240	$1,206,296	$267,936	$1,474,232	$291,008	$2,515,820	59%	$1,041,588

SUMMARY:

Percent of 1992-93 biennium now lapsed:	55%
Percent of 1992-93 biennium total VC funds now obligated:	59%
Percent of 1992-93 biennium total RB funds now obligated:	54%

South-East Asia Region CDD Programme
Voluntary Contributions Budget, 1992

Current Obligation Status and Expenditure Report

Through: 5 February, 1993 — Printed on: 06-Feb-93

Planning

SEJCP.CDD.001.VC.92-93.A — Budgeted for 1992-93: $40,000

	BUDGET LINE HEADING	ALLOTMENTS * TO DATE	OBLIGATIONS DISBURSEMENTS	OBLIGATIONS UNLIQUID'D	TOTAL OBLIGATION	UNOBLIGATED BALANCE
AAA	SALARIES AND ALLOWANCES				$0	$0
033	TEMPORARY ADVISERS				$0	$0
040	CONSULTANTS/TEMP ADVISORS				$0	$0
200	DUTY TRAVEL	$10,547	$11,048	$140	$11,188	$4,359
310	RESEARCH CONTRACTS				$0	$0
500	SUPPLIES AND MATERIALS				$0	$0
821	PARTICIPANTS				$0	$0
832	LOCAL COST SUBSIDIES/GRANTS	$3,310		$0	$0	$3,310
920	PROGRAMME SUPPORT COSTS	$2,449	$1,436	$1,013	$2,449	$0
	TOTAL PLANNING ALLOTMENT	$21,309	$12,484	$1,153	$13,637	$7,669

Percent of 1992-93 planning budget now obligated: 34% — Amount available for 1993: $26,363

Training

SEJCP.CDD.001.VC.92-93.C — Budgeted for 1992-93: $450,000

	BUDGET LINE HEADING	ALLOTMENTS * TO DATE	OBLIGATIONS DISBURSEMENTS	OBLIGATIONS UNLIQUID'D	TOTAL OBLIGATION	UNOBLIGATED BALANCE
AAA	SALARIES AND ALLOWANCES				$0	$0
033	TEMPORARY ADVISERS	$7,955		$0	$5,433	$2,522
040	CONSULTANTS/TEMP ADVISORS	$57,445	$29,612	$14,800	$44,412	$13,031
200	DUTY TRAVEL	$21,548	$14,871	$3,407	$18,278	$3,270
310	RESEARCH CONTRACTS				$0	$0
300	OTHER CONTRACTUAL SERVICES	$1,900	$935	$965	$1,900	$0
500	SUPPLIES AND MATERIALS	$10,518	$9,557	$354	$9,911	$607
821	PARTICIPANTS	$121,805	$91,919	$11,606	$103,524	$18,281
832	LOCAL COST SUBSIDIES/GRANTS	$164,470	$66,481	$67,217	$133,698	$30,772
920	PROGRAMME SUPPORT COSTS	$50,133	$28,691	$21,438	$50,133	$0
	TOTAL TRAINING ALLOTMENT	$438,778	$249,301	$119,788	$369,21	$69,483

Percent of 1992-93 training budget now obligated: 87% — Amount available for 1993: $180,711

* That portion of the 1992-1993 Budget authorized by CDR Headquarters.

Evaluation

SEJCP.CDD.001.VC.92-93.D — Budgeted for 1992-93: $362,000

	BUDGET LINE HEADING	ALLOTMENTS * TO DATE	OBLIGATIONS DISBURSEMENTS	OBLIGATIONS UNLIQUID'D	TOTAL OBLIGATION	UNOBLIGATED BALANCE
AAA	SALARIES AND ALLOWANCES				$0	$0
033	TEMPORARY ADVISERS				$0	$0
040	CONSULTANTS/TEMP ADVISORS	$48,948	$40,485	$3,750	$44,235	$4,713
200	DUTY TRAVEL	$33,835	$26,266	$1,078	$27,342	$6,493
310	RESEARCH COTRACTS				$0	$0
500	SUPPLIES AND MATERIALS	$32,235	$18,107	$9,148	$27,255	$4,980
821	PARTICIPANTS	$58,225	$42,833	$12,924	$55,757	$2,468
832	LOCAL COST SUBSIDIES/GRANTS	$130,625	$120,525	$2,544	$123,069	$9,756
920	PROGRAMME SUPPORT COSTS	$40,542	$33,017	$7,525	$40,542	$0
	TOTAL [illegible]	$352,410	$287,233	$36,767	$324,000	$28,410

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South-East Asia Region CDD Programme
Voluntary Contributions Budget, 1992

Through: 8 February, 1993

Current Obligation Status and Expenditure Report

Operations (SEARO)

(Excluding Bangladesh and Indonesia)
SE.ICP.CDD.001.VC.92-93.B

Budgeted for 1992-93: $711,100

	BUDGET LINE HEADING	ALLOTMENTS TO DATE	OBLIGATIONS DISBURSEMENTS	UNLIQUDTD OBLIGATION	TOTAL OBLIGATION	UNOBLIGATED BALANCE
AAA	SALARIES AND ALLOWANCES	$283,430	$183,814	$3,050	$186,864	$96,566
000	TEMPORARY ADVISERS				$0	$0
040	CONSULTANTS/TEMP ADVISORS	$96,692	$75,719	$20,973	$96,692	$0
220	DUTY TRAVEL	$291	$0	$0	$0	$291
310	RESEARCH COTRACTS				$0	$0
500	SUPPLIES AND MATERIALS	$14,389	$0	$13,150	$13,150	$1,239
821	PARTICIPANTS				$0	$0
832	LOCAL COST SUBSIDIES/GRANTS				$0	$0
920	PROGRAMME SUPPORT COSTS	$52,824	$35,038	$17,586	$52,624	$0
	TOTAL OPERATIONS ALLOTMENT	$457,418	$304,562	$54,759	$350,321	$98,095

Percent of 1992-93 SEARO operations budget now obligated: 51% Amount available for 1993: $351,779

Operations (Bangladesh)

SE.BAN.CDD.001.VC.92-93.B

Budgeted for 1992-93: $181,500

	BUDGET LINE HEADING	ALLOTMENTS TO DATE	OBLIGATIONS DISBURSEMENTS	UNLIQUDTD OBLIGATION	TOTAL OBLIGATION	UNOBLIGATED BALANCE
AAA	SALARIES AND ALLOWANCES	$83,594	$76,856	$1,963	$78,818	$4,776
000	TEMPORARY ADVISERS				$0	$0
040	CONSULTANTS/TEMP ADVISORS	$11,118	$1,140	$2,500	$0	$0
220	DUTY TRAVEL				$3,640	$7,478
310	RESEARCH COTRACTS				$0	$0
500	SUPPLIES AND MATERIALS				$0	$0
821	PARTICIPANTS				$0	$0
832	LOCAL COST SUBSIDIES/GRANTS				$0	$0
920	PROGRAMME SUPPORT COSTS	$12,312	$10,139	$2,173	$12,312	$0
	TOTAL BANGLADESH ALLOTMENT	$107,024	$88,134	$6,636	$94,770	$12,254

Percent of 1992-93 Bangladesh operations budget now obligated: 53% Amount available for 1993: $86,730

Operations (Indonesia)

SE.INO.CDD.001.VC.92-93.B

Budgeted for 1992-93: $200,000

	BUDGET LINE HEADING	ALLOTMENTS TO DATE	OBLIGATIONS DISBURSEMENTS	UNLIQUDTD OBLIGATION	TOTAL OBLIGATION	UNOBLIGATED BALANCE
AAA	SALARIES AND ALLOWANCES	$123,841	$102,229	27,702	$109,931	$13,910
000	TEMPORARY ASSISTANCE	$2,000	$523	$1,277	$1,800	$200
003	TEMPORARY ADVISERS				$0	$0
040	CONSULTANTS/TEMP ADVISORS	$10,000	$275	$2,500	$0	$0
220	DUTY TRAVEL				$2,775	$7,225
500	SUPPLIES AND MATERIALS				$0	$0
821	PARTICIPANTS				$0	$0
832	LOCAL COST SUBSIDIES/GRANTS				$0	$0
920	PROGRAMME SUPPORT COSTS	$17,859	$13,304	$4,265	$17,650	$0
	TOTAL INDONESIA ALLOTMENT	$153,500	$116,421	$15,744	$132,155	$21,335

Percent of 1992-93 Indonesia operations budget now obligated: 51% Amount available for 1993: $127,835

Through: 5 February, 1993

Voluntary Contributions Budget, 1992
Current Obligation Status and Expenditure Report

Operations (Total)

(All categories)
SE.ICP.CDO.001.VC.92-93.B

Budgeted for 1992-93: $1,152,800

	BUDGET LINE HEADING	ALLOTMENTS * TO DATE	OBLIGATIONS DISBURSEMENTS	OBLIGATIONS UNLIQUDTD	TOTAL OBLIGATION	UNOBLIGATED BALANCE
AAA	SALARIES AND ALLOWANCES	$500,855	$372,806	$12,715	$385,813	$115,242
030	TEMPORARY ASSISTANCE (HQ)	$2,000	$523	$1,277	$1,800	$200
033	TEMPORARY ADVISERS	$0	$0	$0	$0	$0
040	CONSULTANTS/TEMP ADVISORS	$90,892	$75,710	$30,573	$86,883	$9
220	DUTY TRAVEL	$21,409	$1,415	$5,000	$6,415	$14,994
500	SUPPLIES AND MATERIALS	$14,369	$0	$13,150	$13,150	$1,220
821	PARTICIPANTS	$0	$0	$0	$0	$0
832	LOCAL COST SUBSIDIES/GRANTS	$0	$0	$0	$0	$0
920	PROGRAMME SUPPORT COSTS	$82,595	$58,571	$24,024	$82,595	$0
	TOTAL OPERATIONS ALLOTMENT	$717,840	$509,117	$77,139	$586,256	$131,684

Percent of 1992-93 budget now obligated: 81%

Amount available for 1993: $566,544

Research

SE.ICP.CDO.001.VC.92-93.E

Budgeted for 1992-93: $0

	BUDGET LINE HEADING	ALLOTMENTS * TO DATE	OBLIGATIONS DISBURSEMENTS	OBLIGATIONS UNLIQUDTD	TOTAL OBLIGATION	UNOBLIGATED BALANCE
AAA	SALARIES AND ALLOWANCES				$0	$0
033	CONSULTANTS/TEMP ADVISORS	$1			$0	$1
040	TEMPORARY ADVISERS				$0	$0
220	DUTY TRAVEL	$1		$0	$0	$0
310	RESEARCH COTRACTS				$0	$1
500	SUPPLIES AND MATERIALS				$0	$0
821	PARTICIPANTS				$0	$0
832	LOCAL COST SUBSIDIES/GRANTS	$1		$0	$0	$0
920	PROGRAMME SUPPORT COSTS				$0	$1
	TOTAL RESEARCH ALLOTMENT	$3	$0	$0	$0	$3

TOTAL VOLUNTARY CONTRIBUTIONS

TOTAL (A-E)

SE.TOTAL.CDO.001.VC.92-93.

Budgeted for 1992-93: $2,104,800

	BUDGET LINE HEADING	ALLOTMENTS * TO DATE	OBLIGATIONS DISBURSEMENTS	OBLIGATIONS UNLIQUDTD	TOTAL OBLIGATION	UNOBLIGATED BALANCE
AAA	SALARIES AND ALLOWANCES	$500,855	$372,806	$12,715	$385,813	$115,242
030	TEMPORARY ASSISTANCE (HQ)	$2,000	$523	$1,277	$1,800	$200
033	TEMPORARY ADVISERS	$7,956	$5,433	$0	$5,433	$2,523
040	CONSULTANTS/TEMP ADVISORS	$203,083	$145,807	$39,523	$185,330	$17,753
220	DUTY TRAVEL	$92,339	$53,800	$9,623	$63,223	$29,116
300	OTHER CONTRACTUAL SERVICES	$1,900	$905	$905	$1,000	$0
500	SUPPLIES AND MATERIALS	$57,142	$27,864	$22,652	$50,516	$6,626
821	PARTICIPANTS	$180,030	$134,752	$24,529	$159,281	$20,749
832	LOCAL COST SUBSIDIES/GRANTS	$300,405	$195,006	$69,561	$264,567	$41,838
920	PROGRAMME SUPPORT COSTS	$175,720	$121,719	$54,000	$175,719	$1
	TOTAL FUNDS (ALL CATEGORIES)		$1,058,337	$234,845	$1,293,182	$234,249

Percent of 1992-93 total VC budget now obligated: 61%

Amount available for 1993: $811,418

* That portion of the 1992-1993 Budget authorized by COR Headquarters

South-East Asia Region CDD Programme
Regular Budget, 1992

Current Obligation Status and Expenditure Report

Through: 3 Febuary, 1993 — Printed on: 05-Feb-93

BANGLADESH

SE.BAN.CDD.001.RB.92-93 — Budgeted for 1992-93: $56,800

BUDGET LINE HEADING	ALLOTMENTS (1992)	OBLIGATIONS DISBURSEMENTS	OBLIGATIONS UNLIQUOTD OBLIGATION	TOTAL OBLIGATION	UNOBLIGATED BALANCE
33 TEMPORARY ADVISORS				$0	$0
40 CONSULTANTS/TEMP ADVISORS				$0	$0
300 CONTRACTUAL SERVICES				$0	$0
500 SUPPLIES AND MATERIALS	$1,270	$0	$0	$0	$1,270
550 ALL OTHER SUPPLIES FOR FIELD	$1,500	$0	$0	$0	$1,500
600 ACQIS. OF FURNITURE/EQUIPMENT				$0	$0
670 ALL EQUIPMENT: FIELD PROJECTS				$0	$0
810 FELLOWSHIPS				$0	$0
821 PARTICIPANTS	$40,365	$32,483	$7,849	$40,332	$33
832 LOCAL COST SUBSIDIES/GRANTS				$0	$0
833 DIRECT FINCIAL COOPERATION					
TOTAL BANGLADESH ALLOTMENT	$43,135	$32,483	$7,849	$40,332	$2,803
Percent Spent or Obligated (1992-93):	73%	Amount available for 1993:			$15,168

INDIA

SE.IND.CDD.001.RB.92-93 — Budgeted for 1992-93: $153,000

BUDGET LINE HEADING	ALLOTMENTS (1992)	OBLIGATIONS DISBURSEMENTS	OBLIGATIONS UNLIQUOTD OBLIGATION	TOTAL OBLIGATION	UNOBLIGATED BALANCE
33 TEMPORARY ADVISORS				$0	$0
40 CONSULTANTS/TEMP ADVISORS				$0	$0
300 CONTRACTUAL SERVICES	$750	$0	$0	$0	$750
500 SUPPLIES AND MATERIALS	$4,902	$4,878		$4,902	$0
550 ALL OTHER SUPPLIES FOR FIELD	$1,008	$0	$0	$0	$0
600 ACQIS. OF FURNITURE/EQUIPMENT				$0	$1,008
670 ALL EQUIPMENT: FIELD PROJECTS				$0	$0
810 FELLOWSHIPS				$0	$0
821 PARTICIPANTS	$98,354	$85,461	$1,800	$87,261	$11,300
832 LOCAL COST SUBSIDIES/GRANTS				$0	$0
833 DIRECT FINCIAL COOPERATION					
TOTAL INDIA ALLOTMENT	$105,104	$90,338	$1,814	$92,952	$13,152
Percent Spent or Obligated (1992-93):	60%	Amount available for 1993:			$61,048

INDONESIA

SE.INO.CDD.001.RB.92-93 — Budgeted for 1992-93: $35,000

BUDGET LINE HEADING	ALLOTMENTS (1992)	OBLIGATIONS DISBURSEMENTS	OBLIGATIONS UNLIQUOTD OBLIGATION	TOTAL OBLIGATION	UNOBLIGATED BALANCE
33 TEMPORARY ADVISORS				$0	$0
40 CONSULTANTS/TEMP ADVISORS				$0	$0
300 CONTRACTUAL SERVICES				$0	$0
500 SUPPLIES AND MATERIALS	$3,500	$0	$3,397	$3,397	$103
550 ALL OTHER SUPPLIES FOR FIELD				$0	$0
600 ACQIS. OF FURNITURE/EQUIPMENT				$0	$0
670 ALL EQUIPMENT: FIELD PROJECTS				$0	$0
810 FELLOWSHIPS	$15,778	$11,062	$1,720	$12,802	$2,976
821 PARTICIPANTS (GROUP ED ACTS)	$4,272	$4,271	$0	$4,271	$1
832 LOCAL COST SUBSIDIES/GRANTS				$0	$0
833 DIRECT FINANCIAL COOPERATION				$0	$0
TOTAL INDONESIA ALLOTMENT	$23,550	$15,332	$5,117	$20,469	$3,081

South-East Asia Region CDD Programme
Regular Budget, 1992

Current Obligation Status and Expenditure Report

Through: 3 Febuary, 1993 — Printed on: 05-Feb-93

MYANMAR

SE.MYA.CDD.001.RB.92-93 — Budgeted for 1992-93: $48,000

BUDGET LINE HEADING	ALLOTMENTS (1992)	OBLIGATIONS DISBURSEMENTS	OBLIGATIONS UNLIQUIDTD OBLIGATION	TOTAL OBLIGATION	UNOBLIGATED BALANCE
33 TEMPORARY ADVISORS				$0	$0
40 CONSULTANTS/TEMP ADVISORS				$0	$0
300 CONTRACTUAL SERVICES				$0	$0
390 OTHER CONTRACTUAL SERVICES	$27,000	$12,935	$0	$12,935	$14,065
500 SUPPLIES AND MATERIALS	$14,000	$0	$13,707	$13,707	$293
550 ALL OTHER SUPPLIES FOR FIELD				$0	$0
600 ACQIS. OF FURNITURE/EQUIPMENT	$2,000	$0	$0	$0	$2,000
670 ALL EQUIPMENT: FIELD PROJECTS				$0	$0
810 FELLOWSHIPS				$0	$0
821 PARTICIPANTS				$0	$0
832 LOCAL COST SUBSIDIES/GRANTS				$0	$0
833 DIRECT FINCIAL COOPERATION				$0	$0
TOTAL MYANMAR ALLOTMENT	$43,000	$12,935	$13,707	$26,642	$16,358
Percent Spent or Obligated (1992-93):	59%		Amount available for 1993:		$16,358

NEPAL

SE.NEP.CDD.001.RB.92-93 — Budgeted for 1992-93: $34,000

BUDGET LINE HEADING	ALLOTMENTS (1992)	OBLIGATIONS DISBURSEMENTS	OBLIGATIONS UNLIQUIDTD OBLIGATION	TOTAL OBLIGATION	UNOBLIGATED BALANCE
33 TEMPORARY ADVISORS				$0	$0
40 CONSULTANTS/TEMP ADVISORS				$0	$0
300 CONTRACTUAL SERVICES				$0	$0
390 OTHER CONTRACTUAL SERVICES	$4,312	$0	$3,436	$3,436	$876
500 SUPPLIES AND MATERIALS				$0	$0
550 ALL OTHER SUPPLIES FOR FIELD	$1,400	$0	$0	$0	$1,400
600 ACQIS. OF FURNITURE/EQUIPMENT				$0	$0
640 VEHICLE				$0	$0
670 ALL EQUIPMENT: FIELD PROJECTS	$10,288	$0	$0	$0	$10,288
810 FELLOWSHIPS				$0	$0
821 PARTICIPANTS				$0	$0
832 LOCAL COST SUBSIDIES/GRANTS				$0	$0
833 DIRECT FINCIAL COOPERATION				$0	$0
TOTAL NEPAL ALLOTMENT	$16,000	$0	$3,436	$3,436	$12,564
Percent Spent or Obligated (1992-93):	10%		Amount available for 1993:		$30,564

SRI LANKA

SE.SRL.CDD.001.RB.92-93 — Budgeted for 1992-93: $12,920

BUDGET LINE HEADING	ALLOTMENTS (1992)	OBLIGATIONS DISBURSEMENTS	OBLIGATIONS UNLIQUIDTD OBLIGATION	TOTAL OBLIGATION	UNOBLIGATED BALANCE
33 TEMPORARY ADVISORS				$0	$0
40 CONSULTANTS/TEMP ADVISORS				$0	$0
300 CONTRACTUAL SERVICES	$3,000	$2,919	$0	$2,919	$81
390 OTHER CONTRACTUAL SERVICES				$0	$0
500 SUPPLIES AND MATERIALS	$4,020	$2,493	$1,521	$4,014	$6
550 ALL OTHER SUPPLIES FOR FIELD				$0	$0
600 ACQIS. OF FURNITURE/EQUIPMENT	$0	$0	$0	$0	$0
670 ALL EQUIPMENT: FIELD PROJECTS				$0	$0
810 FELLOWSHIPS				$0	$0
821 PARTICIPANTS				$0	$0
832 LOCAL COST SUBSIDIES/GRANTS				$0	$0
833 DIRECT FINCIAL COOPERATION				$0	$0
					$87

South-East Asia Region CDD Programme
Regular Budget, 1992

Through: 3 February, 1993

Current Obligation Status and Expenditure Report

TOTAL

SE.TOTAL.CDD.001.RB.92-93 — Budgeted for 1992-93: $336,430

BUDGET LINE HEADING	ALLOTMENTS (1992)	OBLIGATIONS DISBURSEMENTS	OBLIGATIONS UNLIQUID OBLIGATION	TOTAL OBLIGATION	UNOBLIGATED BALANCE
33 TEMPORARY ADVISORS	$0	$0	$0	$0	$0
40 CONSULTANTS/TEMP ADVISORS	$0	$0	$0	$0	$0
300 CONTRACTUAL SERVICES	$3,750	$2,919	$0	$2,919	$831
300 OTHER CONTRACTUAL SERVICES	$27,000	$12,835	$0	$12,835	$14,065
500 SUPPLIES AND MATERIALS	$32,004	$7,371	$22,085	$29,456	$2,548
550 ALL OTHER SUPPLIES FOR FIELD	$0	$0	$0	$0	$0
600 ACQS. OF FURNITURE/EQUIPMENT	$5,906	$0	$0	$0	$5,906
640 VEHICLE	$0	$0	$0	$0	$0
670 ALL EQUIPMENT: FIELD PROJECTS	$0	$0	$0	$0	$0
810 FELLOWSHIPS	$26,066	$11,062	$1,720	$12,802	$13,264
821 PARTICIPANTS	$4,272	$4,271	$0	$4,271	$1
832 LOCAL COST SUBSIDIES/GRANTS	$138,719	$117,944	$9,430	$127,363	$11,356
850 DIRECT FINCIAL COOPERATION	$0	$0	$0	$0	$0
TOTAL FUNDS (ALL COUNTRIES)	$237,800	$156,521	$33,244	$189,765	$48,044
Percent Spent or Obligated (1992-93):	57%		Amount available for 1993:		$146,655

COMPARISON OF ESTIMATED PERSONNEL COSTS

1. The following estimates are for Geneva based staff. Post adjustment/per diem would change depending on country of assignment:

Short term professional staff
(includes 2.5 days paid leave)

grade	monthly salary/benefits US$
P2	4,415
P3	5,296
P4	6,280
P5	7,410

Short-term consultants
(no paid leave)

grade	monthly salary/benefits (1st 60 days)	monthly salary (after 1st 60 days)
P2	7,170	5,897
P3	7,770	6,497
P4	8,370	7,097
P5	8,970	7,697

Temporary advisors

Per diem only
$169 current Geneva rate — 5,070

Child Survival Fellow — 10 - 12,000

2. The following estimates are for country-based staff.

Associate Professional Officers

Estimated costs between $85,000 to $100,000 per annum including travel, installation and depending on country of assignment.

Child Survival Fellows

Estimated costs between $90,000 to $120,000 per annum including costs as under APO.

DIARRHOEAL DISEASES CONTROL PROGRAMME

CONFIDENTIAL

RESEARCH REPORT FORM

This form should be used:

a) to report on the progress (or conclusion) of a project presently receiving support;

b) to seek support for continuation of a project presently being supported by the Programme.

In principle, a project will not be renewed beyond a third year, or beyond the period covered by the original application. In such circumstances a new standard application form must be completed.

RETURN COMPLETED FORM TO : Research Coordinator
Diarrhoeal Diseases Control Programme
World Health Organization
1211 Geneva 27
SWITZERLAND

CDD
31 March 1986
R 1187

PART 1 - ADMINISTRATIVE INFORMATION[a]
(Please type or print clearly)

WHO USE ONLY
CDD No. _____
SWC _____
(Starting Date) _____

☐ PROGRESS REPORT - and application for extension of support
☐ FINAL REPORT

1. THE PROJECT

1.1 Project title:

1.2 (i) Project duration (from start to expected completion):

(Dates) From[1] _____ Total _____ years _____ months
To _____

(ii) Period of extension requested:

(Dates) From _____ Total _____ years _____ months
To _____

1.3 (i) Funds received to date:

Year 1 Dates: from[1] _____ to _____ US$ _____
Year 2 Dates: from _____ to _____ US$ _____

(ii) Additional funds requested:

Year 2 Dates: from _____ to _____ US$ _____
Year 3 Dates: from _____ to _____ US$ _____

2. PRINCIPAL INVESTIGATOR

2.1 Name:

_____ (Family name) _____ (First name)

2.2 Complete postal address and telephone number:

[1] For the purposes of this report the commencement date of the project should be taken as the date the funds are awarded to the Institute undertaking the research.

NOTE: Complete all parts in English.
Un formulaire en français vous sera envoyé sur demande par le Programme de Lutte contre les Maladies diarrhéiques, Organisation mondiale de la Santé,

PART II - PROGRESS SINCE LAST REPORT

(completed for ALL reports, including final reports)

Unless the investigator specifically requests otherwise, this summary may be edited and used in Programme documentation.

Provide sufficiently detailed summaries of work carried out and results obtained to date to permit informed critical scientific assessment of the work by the Scientific Working Group and outside reviewers. Where possible, results should be presented in tabular or graphic form. Describe project objectives and advances made (or problems encountered) towards achieving these objectives. Where papers have been submitted for publication to scientific journals as a result of this project, please give details.

(USE ADDITIONAL PAGES IF NECESSARY - MAXIMUM 6 PAGES)

PART III - FINAL SUMMARY OF PROJECT FINDINGS

(complete only if this is a FINAL report)

Unless the investigator specifically requests otherwise, this summary may be edited and used in Programme documentation.

Summarize briefly the objectives, principal findings and significance of the completed research project. This summary should cover the ENTIRE project.

PART IV - FURTHER RESEARCH PLANS AND OBJECTIVES

(Do not complete this section if this is a final report)

State the objectives of the research for the next year of the project, even if these are unchanged from those originally approved. Describe IN DETAIL any proposed changes from the research plan given in the original proposal. Reasons for the changes should be fully explained, new methods should be clearly described, and additional required documentation (e.g. ethical clearance if proposed changes relate to human subjects) should be provided. If there are no changes in objectives or methods, this should be clearly stated.

The budget for this research plan should be given in Part VI.

PART V - FINANCIAL STATEMENT OF INCOME AND EXPENDITURE DURING THE PERIOD COVERED BY THE REPORT[1, 2] (must be completed and signed)

Budget item	Period covered Dates: From _____ To _____			
	Amount brought forward from previous period[3]	Funds received	Funds expended[4]	Balance[5]
Personnel				
Operating costs				
Patient costs				
Animals				
Travel				
Other expenditures				
Sub-total - Recurrent costs				
Major equipment				
GRAND TOTAL				

Financial Officer of the Institution:

Signature _____

Name & Title (please type) _____

_____

_____

Date _____

Place _____

1 Amounts should be shown in US$; indicate the exchange rate used:..... per US$.

2 This section refers only to expenditures for work completed or in progress during the period covered by the report. Budget details relating to FUTURE research plans for which the applicant is seeking support should be given in Part VI.

3 Any outstanding funds not committed in the previous period, should be shown here. If this is the first year of the project, or if no funds are brought forward, indicate "NIL".

4 Include as funds expended those for which commitments have been made (e.g. salary obligation, accounts payable, etc.).

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PART VI - BUDGET FOR PROPOSED FUTURE RESEARCH

1. BUDGET SUMMARY (must be signed)

Provide here a summary of the proposed budget based on the detailed information given in Part VI, Section 2.

Budget Item	Costs per year in US$			
	Year 2 Dates: from ____ to ____		Year 3 Dates: from ____ to ____	
	Originally[1] proposed	Now proposed	Originally proposed	Now proposed
Personnel (2.1)				
Operating costs (2.2)				
Patient costs (2.3)				
Animals (2.5)				
Travel (2.6)				
Other expenditures				
Sub-total - Recurrent costs				
Major equipment (2.4)				
GRAND TOTAL				

1 As proposed in the application previously approved by the Scientific [illegible]. Reasons for changes (other than inflation) should be included in Part IV and in Part VI, Section 3.

Principal Investigator:

Signature _____

Name & Title (please type) _____

_____

_____

Date _____

Place _____

2. BUDGET DETAILS

2.1 Personnel

Category of personnel (list all participants, even if financial support is not required)	% of full time effort devoted to project	Year 1[1] US$	Year 2 US$	Year 3 US$	Total US$
Professional scientific staff (functional title and name - if available)					
1.					
2.					
3.					
4.					
Technical staff (functional title and name - if available)					
1.					
2.					
3.					
4.					
Other staff (functional title - if available)					
1.					
2.					
3.					
Sub-total (list in Budget Summary, Part VI, Section 1)					

2.2 Operating expenses

Budget item	Year 1 US$	Year 2 US$	Year 3 US$	Total US$
Chemicals				
Supplies				
Glassware				
List minor equipment[1]				
Gasoline or petrol				
Equipment maintenance				
Data analysis				
Other operating expenditures (specify)				
Sub-total (list in Budget Summary, Part VI, Section 1)				

[1] These are items costing US$100-1000 each. For items ordered from abroad, include shipment and freight insurance costs, usually approximated as 20% of catalogue [illegible] is available. Consolidate items costing less than

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2.3 Patient costs

Budget item	Year 1 US$	Year 2 US$	Year 3 US$	Total US$
Transportation				
Other (specify)				
Sub-total[1]				

2.4 Major equipment (specify)[2]

Budget item	Year 1 US$	Year 2 US$	Year 3 US$	Total US$
Sub-total[1]				

1 List in Budget Summary, Part VI, Section 1.

2 List items costing more than US$1000. For items ordered from abroad, include shipment and freight insurance costs, usually approximated as 20% of catalogue price, if no better estimate is available.

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2.5 Animals

Type of animal		Year 1 US$	Year 2 US$	Year 3 US$	Total US$
	Purchase				
	Maintenance				
	Purchase				
	Maintenance				
	Purchase				
	Maintenance				
Sub-total[1]					

2.6 Travel

Destination and purpose	Year 1 US$	Year 2 US$	Year 3 US$	Total US$
Sub-total[1]				

2.7 Other expenditures (specify)

Budget item	Year 1 US$	Year 2 US$	Year 3 US$	Total US$
Sub-total[1]				

3. BUDGET JUSTIFICATION

Briefly relate each item in the budget (personnel, supplies, equipment, animals, travel, etc.) to the activities outlined in the research plan, Part VI.. Items not adequately justified may not be allowed.

Item	Justification

4. EQUIPMENT AND SUPPLIES TO BE PURCHASED BY WHO

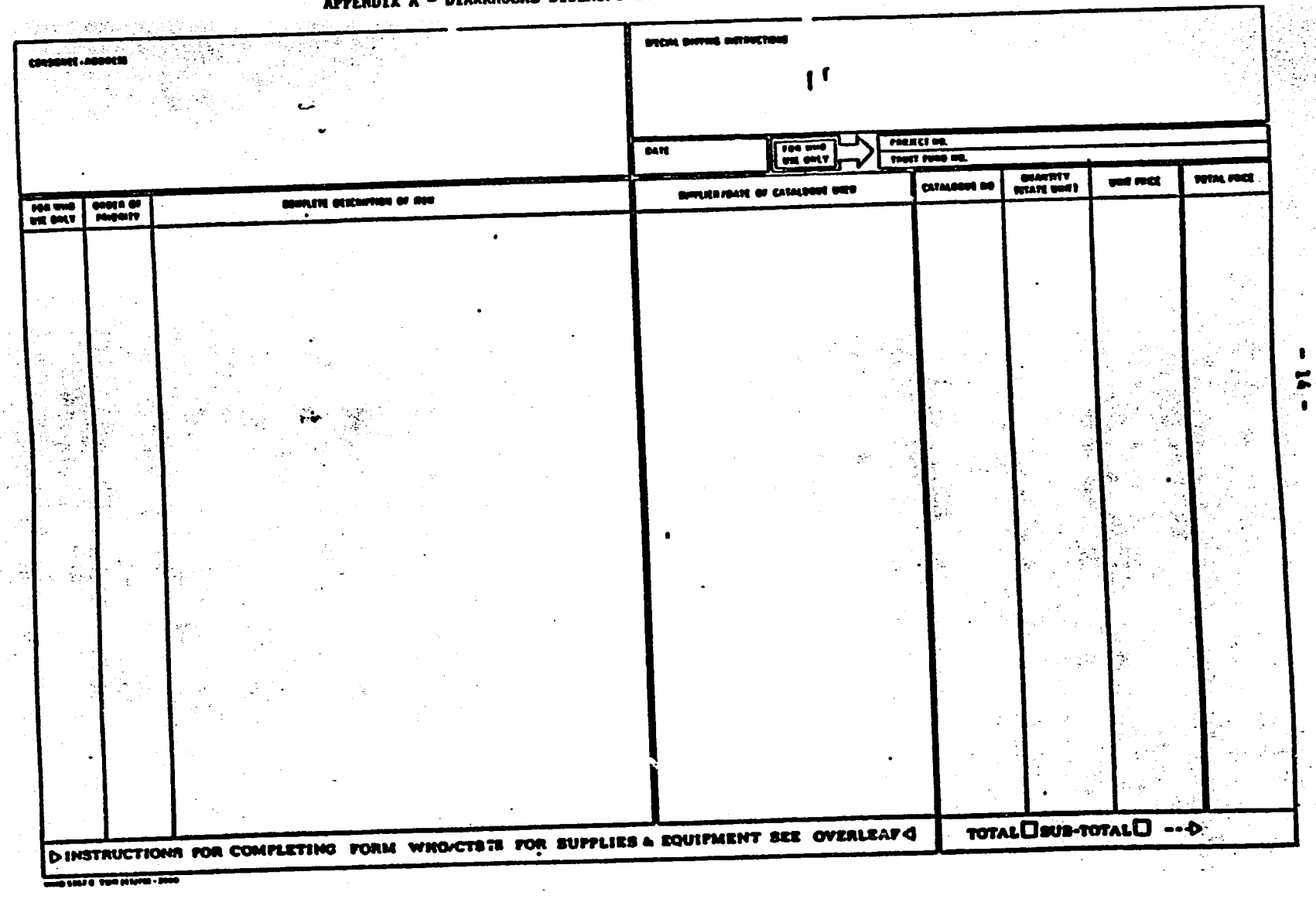
Appendix A is to be used when, for special reasons, it is preferable for supplies an equipment to be ordered directly from the manufacturer or local distributor by WHO rather than by the investigator. In that case, WHO will retain in a trust account a portion of the funds awarded to the project; the amount retained will be based upon an estimate of th purchase, shipping and insurance costs for the requested items.

Please list each item, quantity to be purchased, and cost on the form; include packing, freight and insurance charges, estimated as 20% of the purchase cost if no better estimate is available. The cost of these supplies and equipment (including freight and insurance charges) MUST be included in the overall budget.

Be certain that items are FULLY DESCRIBED as requested on the WHO order form (i.e. complete description, supplier/date of catalogue, catalogue number, etc.). Indicate the PRIORITY SEQUENCE in which items are to be purchased, in case funds held by WHO for the project are insufficient to purchase all items. If this sequence is not provided, items will be ordered in the sequence listed until funds are exhausted. If WHO assistance for purchase of supplies is not required, indicate "none" on the order form (do NOT remove th form).

NOTE: The above instructions should be followed carefully and completely. Failure to provide all requested information will cause long delays in arrival of supplies or equipment and may delay provision of project funds.

APPENDIX A - DIARRHOEAL DISEASES CONTROL PROGRAMME



CONSIGNEE ADDRESS

SPECIAL SHIPPING INSTRUCTIONS

DATE

FOR WHO USE ONLY

PROJECT NO.

TRUST FUND NO.

FOR WHO USE ONLY	ORDER OF PRIORITY	COMPLETE DESCRIPTION OF ITEM	SUPPLIER/DATE OF CATALOGUE USED	CATALOGUE NO	QUANTITY (STATE UNIT)	UNIT PRICE	TOTAL PRICE

▷INSTRUCTIONS FOR COMPLETING FORM WHO/CTS/78 FOR SUPPLIES & EQUIPMENT SEE OVERLEAF◁

TOTAL ☐ SUB-TOTAL ☐ --▷

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ANNEX 7

Financial resources: 1978-1992
Status at 31 December 1992

SOURCE	1978-1985	1986-1987	1988-1989	1990-1991	1992-1993 Available	1992-1993 Pledged
	US$	US$	US$	US$	US$	US$
REGULAR BUDGET						
Global and Interregional	2 948 454	979 951	1 090 897	1 203 888	1 453 900	
Regions	4 631 457	1 419 610	1 812 133	1 724 583	1 577 200	
TOTAL REGULAR BUDGET	7 579 911	2 399 561	2 903 030	2 928 471	3 031 100	
OTHER SOURCES						
Australia	700 877	268 442	418 665	505 570	223 350	
Belgium	163 916	24 390				
Canada (CIDA)	856 100	441 088	501 536	812 109	211 865	
China	100 000	50 000	50 000	50 000	25 000	
Denmark (DANIDA)	1 969 513	1 241 628	1 294 292	770 826	157 808	
Finland	402 050	727 049	940 797	1 204 948	235 018	
France	139 000	90 833	97 984	664 070	70 840	
India	60 000	40 000				
Italy		101 062	632 830	245 009		
Japan	425 000	300 000	300 000	150 000	50 000	
Kuwait	10 000					
Morocco	7 475					
Netherlands	1 855 433	910 617	971 829	1 170 641	346 821	
Nigeria	5 680				1 419	
Norway	189 884	276 507	299 406	1 780 980	773 994	
Sweden (SIDA/SAREC)	3 256 809	1 139 690	945 354	949 079	1 512 647	522 388
Switzerland	1 101 732	901 108	520 833	1 729 685	405 329	353 741
United Kingdom	1 019 380	330 320	1 200 977	1 653 775	947 750	
United States of America	1 574 300	3 200 000	2 153 450	2 076 223	1 250 000	1 000 000
Pan American Health Organization	49 695					
United Nations Children's Fund	1 734 238	866 945	705 837	771 973	363 880	96 150
United Nations Development Programme	7 546 111	2 177 004	2 055 500	3 143 659	728 750	667 000
Arab Gulf Programme for United Nations Development Organizations (AGFUND)	2 500 000		1 000 000			
International Development Research Center (Canada)	754 291	162 018	184 594			
Rotary International	56 135	5 000				
Sasakawa Research Fund	20 000	23 436				
Thrasher Research Fund						
Ciba-Geigy	757 576	2 579 365	2 650 970			
Special Account for the Cholera Programme	433 990					
Special Account for Miscellaneous Designated Contributions	333 707	732 653				
Other	5 640	549	800	154	4 950	
Interest	1 624 035	717 490	1 059 760	963 390	182 590	
TOTAL OTHER SOURCES	29 653 567	17 307 192	17 985 414	18 043 091	7 492 011	2 639 279
TOTAL	37 233 478	19 706 753	20 888 444	20 971 562	10 523 111	2 639 279

Table. 9

Financial resources: 1982-1993
Status at 31 December 1992

SOURCE	1982-1985	1986-1987	1988-1989	1990-1991	1992-1993 Available	1992-1993 Pledged
	US$	US$	US$	US$	US$	US$
REGULAR BUDGET						
Global and Interregional	—	857 008	624 365	601 924	712 012	485 970
Regions		808 636	560 311	1 072 837	1 318 948	639 600
TOTAL REGULAR BUDGET	1 665 642	1 184 676	1 674 761	2 030 960	2 125 570	
OTHER SOURCES						
Australia			291 218	850 010	223 000	
Canada				218 109	211 864	
Denmark				561 698	473 423	
Finland			229 489	437 022	235 018	
Germany			91 928			
Italy			641 892	245 008		
Japan		145 000	70 532	141 006	60 000	
Netherlands		175 951	357 850	468 257	462 428	
Norway					309 597	
Sweden	216 336	547 140	653 432	835 898	526 625	447 761
United Kingdom			1 154 780	616 850	483 353	
United States of America			66 391		000 000	
Pan American Health Organization		68 800				
United Nations Children's Fund			100 000	250 000	192 800	
United Nations Development Programme			399 316	1 073 500	452 000	450 000
World Bank					1 000 000	
Arab Gulf Programme for United Nations Development Organizations (AGFUND)	320 000					
Federation of Finnish Lung Disease Associations (FFLDA)				411 060	453 940	
Kellogg Foundation	34 000	68 000				
Sasakawa Health Trust Fund	885 854	156 300			180	
Other						
Interest			169 600	313 460	113 910	
TOTAL OTHER SOURCES	956 190	1 161 191	4 156 525	5 916 876	5 888 488	897 761
TOTAL	2 621 832	2 345 867	5 831 286	7 947 836	8 014 058	897 761

Source: Interim Programme Report 1992.

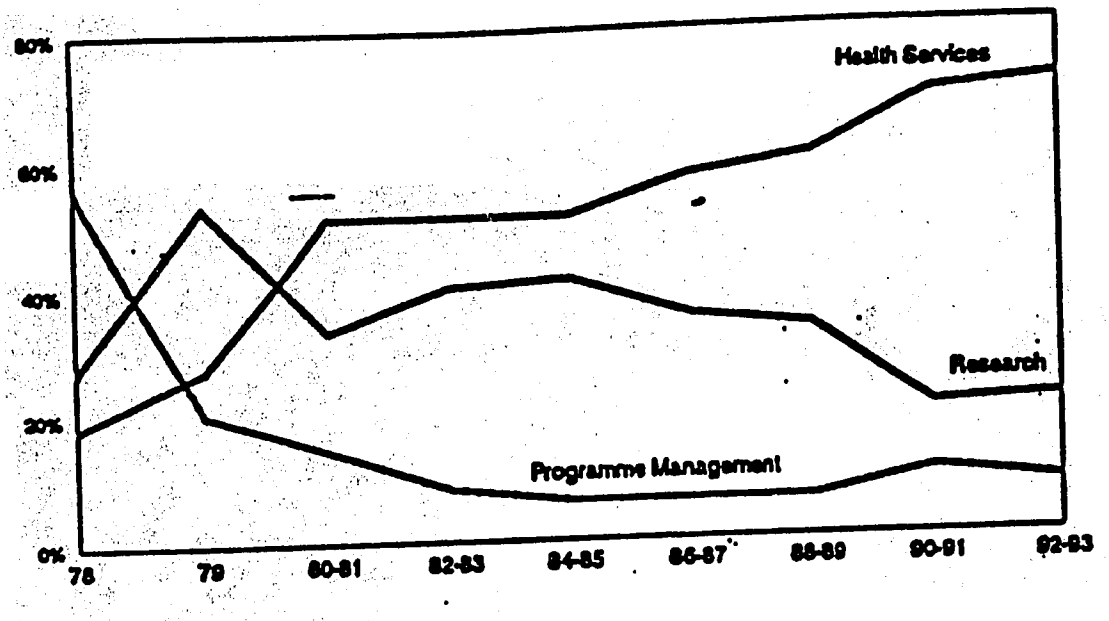
ANNEX 3

CDD Financial Resources

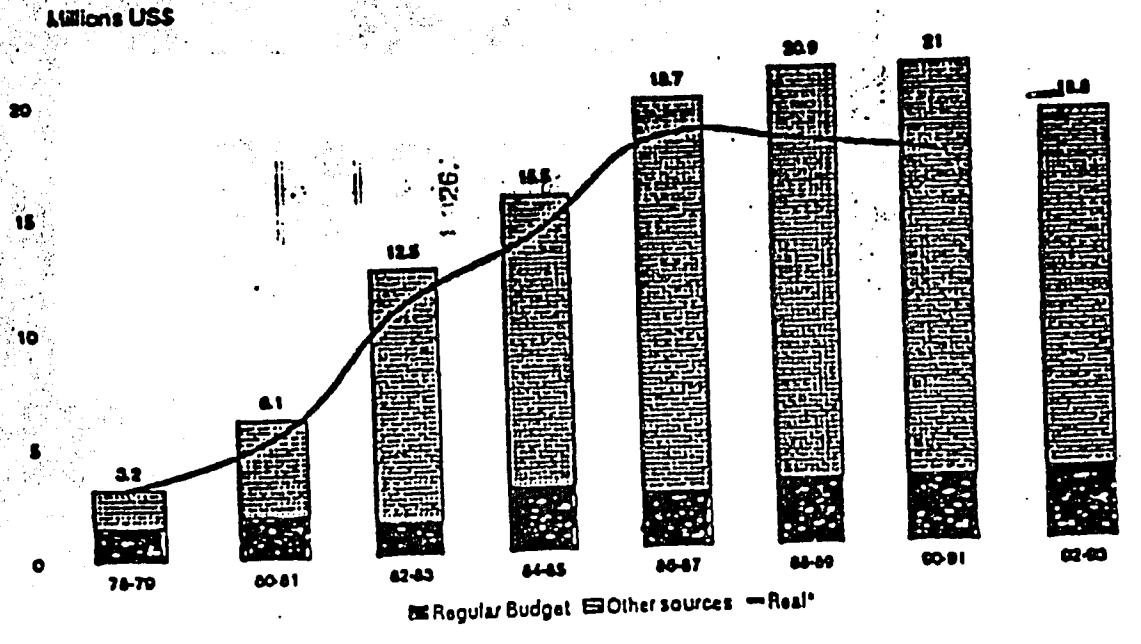
1978 – 1993
US$

Sources	1978–81	1982–83	1984–85	1986–87	1988–89	1990–91	Available 1992–93	Pledged	Total
WHO Regular Budget	3,331,783	1,438,231	2,809,897	2,399,561	2,903,030	2,928,471	3,031,100		18,842,073
Other Sources	5,914,347	11,023,914	12,715,306	17,307,192	17,985,414	18,043,091	7,492,011	2,639,279	93,120,554
Total	9,246,130	12,462,145	15,525,203	19,706,753	20,888,444	20,971,562	10,523,111	2,639,279	111,962,628

Distribution of CDD programme financial obligations by component



Financial contributions received by the CDD programme



ARI Programme Actual Obligations
In 1988–89, 1990–91, and Estimates for 1992–93
US$

ıme ıent	Actual Obligations 1988–89	Actual Obligations 1990–91	Estimated Obligations 1992–93	Total	%
h Services					
& Interregional	843,992	1,348,036	1,635,000	3,827,028	15
	1,951,291	3,588,516	6,302,000	11,841,807	46
	2,795,283	4,936,552	7,937,000	15,668,835	61
earch					
& Interregional	733,067	1,688,366	3,859,000	6,280,433	24
ogramme Mgt. l Support					
& Interregional	740,123	1,542,490	1,604,000	3,886,613	15
& Interregional	2,317,182	4,578,892	7,098,000	13,994,074	54
ıal	1,951,291	3,588,516	6,302,000	11,841,807	46
	4,268,473	8,167,408	13,400,000	25,835,881	100

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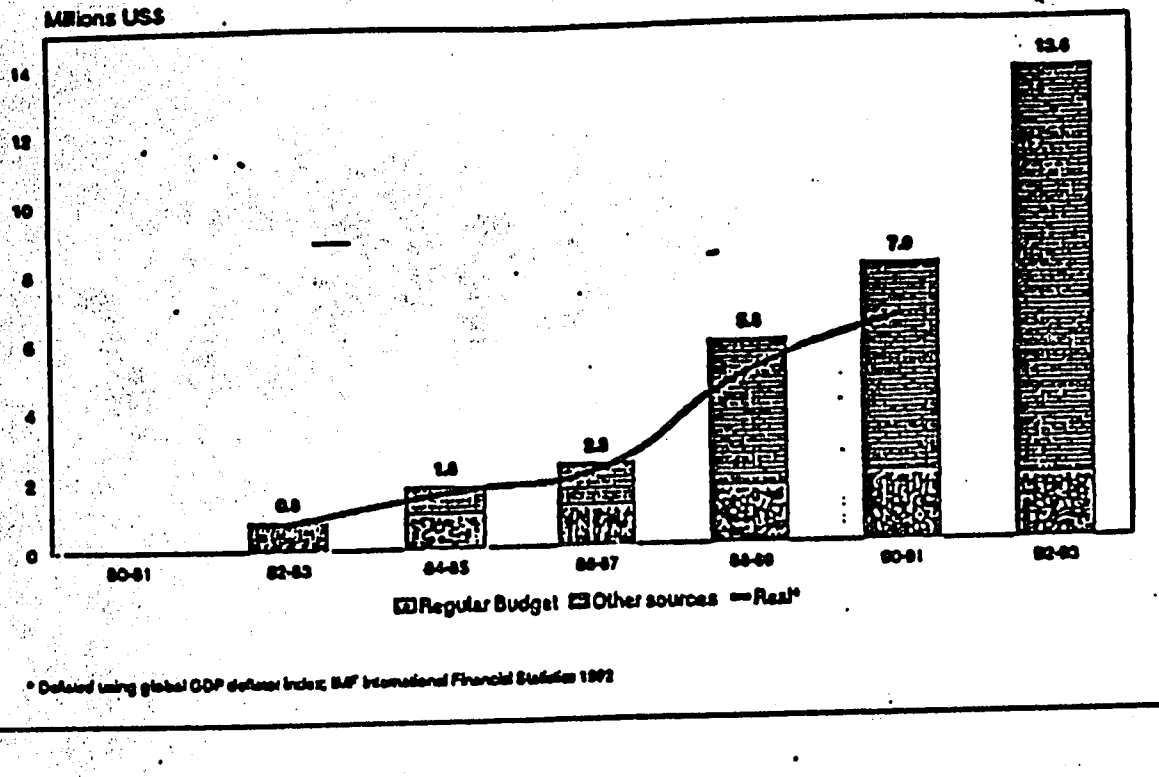
ARI Financial Resources
1982 – 1993
US$

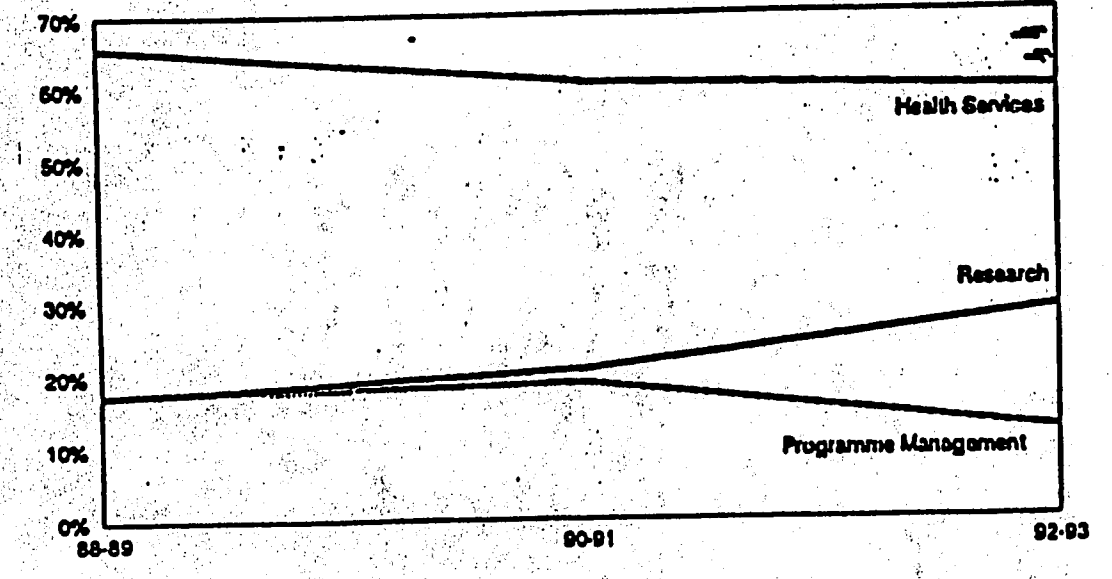
ource	1982–83	1984–85	1986–87	1988–89	1990–91	Available 1992–93	Pledged	Total
VHO Regular udget	638,900	1,026,742	1,184,676	1,674,761	2,030,960	2,125,570	-	6,556,039
Other Sources	206,050	750,140	1,161,191	4,156,525	5,916,876	5,888,488	897,761	18,977,031
Total	844,950	1,776,882	2,345,867	5,831,286	7,947,836	8,014,058	897,761	27,690,640

Financial contributions received by the ARI programme



* Deflated using global GDP deflator index; IMF International Financial Statistics 1992

Distribution of ARI programme financial obligations by component



ANNEX 9

DIARRHOEAL DISEASES CONTROL PROGRAMME
PROGRAMME FOR THE CONTROL OF ACUTE RESPIRATORY INFECTIONS

GUIDELINES FOR DESIGNATED FUNDING

1. Contributors are encouraged to designate their support to the Diarrhoeal Diseases Control Programme or the Programme for the Control of Acute Respiratory Infections as a whole, i.e., to provide unearmarked contributions.

2. Contributors who wish to do so may provide a single contribution to the two Programme to be divided at the discretion of the Secretariat.

3. Contributions to either Programme cam be earmarked for the services or the research component as a whole. No contributions cam be earmarked for a specific activity within a component.

4. A proportion of all funds earmarked for any of the above components will be utilized fo advisory and Management Meetings and for Programme Management and Support; this proportion will be equivalent to the proportion of the total budget allocated to these tw categories.

5. In the unique situation where sufficient resources have been received to meet the budge estimates for either the services or the research component of either Programme, any additional funds earmarked for that component will be considered unearmarked, and th contributor so informed.

·rs to visit one or more institutions in other
·ries working in similar or related fields [see
·. 1030-1210].

)LVING HUMAN SUBJECTS

r to survey the position and responsibility of the
. in any research project involving human subjects,
·General has appointed a Secretariat Committee on
·olving Human Subjects (SCRIHS). The function of
·ee is to review relevant protocols involving
human subjects and to examine their ethical
It has the authority to accept, reject or modify
ols. The Committee is composed of WHO technical
om different disciplines and a representative of the
he Legal Counsel.

undertaking the support of a research activity
·uman subjects, units should ensure that the
equirements have been met:

·search has been authorized by the competent health
·ity in the country concerned;

·re is a question of ethical judgement in any
imental undertaking in which WHO's name will be
iated, a clear and detailed description of the
imental scheme has been prepared by the unit and
tted to the Secretary of the Secretariat Committee on
·rch Involving Human Subjects and approval to proceed
·een received from the Committee;

liminary assurances have been received from
·aborators in the different countries where the work is

(c) it conforms to the principles set forth in the Declaration of Helsinki to the national ethical and/or legal requirements for such work, where these exist, and to any requirements imposed by SCRIHS and/or regional ethical review groups;

(d) the particular work in question has been reviewed by an appropriate committee, either at the institutional or governmental level, which will be responsible for ensuring that the ethical principles involved and any requirements imposed by review groups under WHO auspices, are carefully adhered to;

80.4 a provision has been included in the text of the agreement [see XII.3] that such research will be designed, administered and operated in such fashion that the rights of the subjects shall not be infringed, that their welfare shall be protected and that the potential benefits of the investigations shall justify whatever risks may be inherent in them.

Any significant changes in an experimental undertaking that has been approved by the SCRIHS as provided in sub-paragraph 80.2 should be referred to the Secretary of the SCRIHS.

LABORATORY ANIMALS

90 In any collaborative arrangements for research involving the use of laboratory animals, the relevant agreement [see XII.3] should include a provision along the following lines:

ANNEX 1(

"The (laboratory, investigator, etc.) undertakes that living vertebrate animals required for use as laboratory animals for the research to be carried out under this agreement will be handled in accordance with generally accepted principles for the humane treatment of such animals and the avoidance of unnecessary suffering."

WHO COLLABORATING CENTRES

General

100 Centres in any part of the world that possess the necessary expertise and facilities may be requested by WHO to participate in some way in the Organization's programme of activities. Only centres affiliated with formally recognized institutions such as ministries, academies, universities, or established research institutes may, either from the outset or after a preliminary period during which their value and capacity can be assessed according to certain criteria, be designated as a "WHO Collaborating Centre".

110 A WHO collaborating centre is defined as an institution designated by the Director-General to form part of an international collaborative network carrying out activities in support of the Organization's programme at all levels. A department or laboratory within an institution or a group of facilities for reference, research or training belonging to different institutions may be designated as a centre, one institution acting for them in relations with the Organization.

DIARRHOEAL DISEASES CONTROL PROGRAMME

APPLICATION FOR COLLABORATIVE RESEARCH PROJECTS

Section A

GENERAL INFORMATION

CDD, 29 May 1986
R 1187 - 789

1. Programme objectives

In May 1978 WHO initiated the Diarrhoeal Diseases Control (CDD) Programme, the main objectives of which are to decrease morbidity and mortality due to diarrhoeal diseases, particularly in developing countries. The Programme has two main components, one being a health services delivery component, and the other a research component. More information about the Programme is provided in the explanatory document included with this project application form.

2. Review of proposals

The purpose of this application form is to elicit a complete and accurate description of your research proposal. Research proposals received by the CDD Secretariat will be reviewed by independent reviewers who are experts in the relevant field. The final decision regarding funding of the proposal will be based on its scientific quality and on its relevance to the objectives of the CDD Programme.

3. Funding of approved projects

Approved projects are funded through a Technical Services Agreement (TSA) between WHO and the Institution responsible for the project. Funds are usually allotted on a yearly basis and projects may be renewed up to a total of three years (or longer for certain field studies), subject to satisfactory progress and the availability of funds. If further support is sought after three years, a new application must be submitted (see also section 8).

4. Payments

4.1 Payments are normally made annually in accordance with the TSA. Payments are usually in US dollars, unless requested otherwise. Special arrangements can be made for the purchase of supplies and equipment by WHO (see section 6).

4.2 A financial statement certified by the Institution is required by WHO for renewal of the project and at the conclusion of the Agreement. By accepting the research award, the Institution agrees to provide such a statement. It is agreed that the financial statement may be audited by WHO's auditors at the discretion of WHO.

5. Principal Investigator and Institution

The Principal Investigator is the individual who shall be responsible to the Institution for all technical aspects of the work referred to in the Agreement. The Institution is the organization with which the Principal Investigator is associated and to which he/she is responsible. In general, salary support will not be provided for the Principal Investigator or other senior professional staff.

6. Equipment and supplies

In the absence of a national [illegible]

Consumable supplies and equipment for the project, including medications, chemicals, reagents, animals and animal foods, and other special items, may be purchased with WHO funds. Equipment acquired under a WHO TSA shall normally become the property of the Institution. Transfer of equipment from the Institution prior to completion of the project requires prior approval of the Institution and WHO. WHO reserves the right to supply equipment to the Institution for a project instead of providing the Institution with the funds to make the purchase itself. The Principal Investigator and the Institution are responsible for ensuring that equipment provided receives proper care and maintenance; funds provided by WHO may be used to meet normal maintenance and repair costs.

WHO is obliged to impose certain time limits for its purchase of supplies and equipment for the Principal Investigator with funds provided by TSAs. Specifically, any funds that have not been utilized for purchases within one year of their availability will revert to WHO on the next 31 December, unless prior arrangements have been made with WHO.

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7. Administrative and overhead costs

WHO will consider financial support only for activities, services, or materials clearly itemized and justified in the budget of the proposal. Requests for "overhead", "administrative", or "miscellaneous" expenses will not be approved.

8. Reports

The Principal Investigator shall submit an annual progress report, in the required format and at the time specified, to the Research Coordinator of the CDD Programme. This report constitutes a part of the project evaluation and is essential for continuation of the support for the project. More frequent progress reports may be required, on request. Final reports are required on completion of the project and should summarize the course of the research and explain in some detail how the findings of the work relate to the objectives of the CDD Programme. The Research Coordinator of the CDD Programme must be informed promptly of any major changes or significant deviations from the activities covered by the original Agreement.

9. Publication

Institutions and/or Principal Investigators may publish in any journal the results of work supported by the CDD Programme. Responsibility for direction of the work should not be ascribed to WHO. In the case of a collaborative research project involving more than one institution, it is recommended that Investigators obtain the agreement of WHO prior to publication. All publications should have a footnote identifying WHO and/or the CDD Programme as having supported the research, for example:

> "This investigation received financial support from the Diarrhoeal Diseases Control Programme of the World Health Organization"

In the event of publication, five off-prints or photocopies should be sent to WHO unless another number is agreed upon. Project funds may be used for publication costs only when specific arrangements are made with the CDD Programme.

10. Departure or change of Principal Investigator

Should the Principal Investigator leave the Institution with which the Agreement is made or cease to actively direct the project, the Institution must notify WHO which shall have the right to terminate the Agreement. If another Principal Investigator is appointed by the Institution, the project may be continued provided the agreement of WHO is obtained

11. Employer's liability

When staff are paid from WHO funds, WHO does not assume any liabilities as an employer and the employees work under the Institution's normal regulations and discipline. Such staff are not entitled to describe themselves as WHO staff members.

12. Patent rights

The disposition and administration of rights for any invention, or patent issued thereon, resulting from or developed in the course of a WHO assisted project should (a) protect the public interest and (b) give the invention the widest possible royalty-fr distribution.

In particular, the Institution or the inventor shall be entitled to apply for national and foreign patents at his own expense on all inventions made, conceived, or developed during the course of, or that result directly or indirectly from, research or other studies funded in whole or in part by WHO. The Institution or the inventor shall notify WHO promptly of all such patent applications filed and of patents issued. Manufacturing techniques and technical know-how, as well as non-exclusive, royalty-free

licences to make, use, and sell the subject matter covered by such patents, shall be made available on request to WHO, the governments of WHO's Member States, and to non-profit organizations, or other arrangements shall be concluded to provide equivalent protection of the public interest.

If, in the opinion of WHO, the protection of WHO's interests will best be ensured by the taking out of patents and the Institution or the inventor does not wish to do so, then WHO may request an assignment of the rights for the invention to itself for this purpose. With regard to technical information and/or patents relating to preparation and/or administration techniques, apparatuses, or processes disclosed to WHO by the Institution, under projects for the purposes of which WHO has provided to the Institution medicines or devices made available to WHO under agreements with third party patent holders or their assignees, WHO may require that the Institution grant to such third party a non-exclusive licence in respect of such technical information and/or patents developed by it. Such licence shall be granted on a royalty-free basis or, if royalty is charged, at rates which shall be reasonable and non-discriminatory and shall be the subject of a separate agreement to that effect.[1]

13. Research involving the use of laboratory animals

The Institution shall undertake that living vertebrate animals required for use in research pursued under an agreement with WHO will be handled in accordance with locally existing statutes and/or generally accepted principles for the humane treatment of such animals. In all cases, the avoidance of unnecessary suffering will be mandatory.

14. Research involving human subjects

14.1 Ethical aspects

It is the responsibility of the Institution and the Principal Investigator to safeguard the rights and welfare of human subjects involved in research supported in whole or in part by funds from WHO in accordance with the appropriate national code of ethics or legislation. Funds may be used only to support investigations where (a) the rights and welfare of the subjects involved in the research are adequately protected, (b) freely given informed consent has been obtained, and (c) the balance between risk and potential benefits involved has been assessed and deemed acceptable by a panel of independent experts at the Institution.

The Investigator must submit to WHO with the research proposal the written approval of an institutional panel to carry out the proposed research involving human subjects.

For countries with national ethical review bodies for research involving human subjects, written agreement from such a body must also be submitted to WHO with the research proposal. In the absence of a national ethical review body, the Investigator shall be guided by the Declaration of Helsinki supplemented by the revised and extended version of the Declaration adopted by the Twenty-ninth World Medical Assembly in Tokyo (October 1975) and by Article 7 of the International Covenant of Civil and Political Rights, adopted by the United Nations General Assembly on 16 December 1966. WHO will, on request, advise scientists regarding the ethical aspects of planned research projects.

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[1] Special agreement can be undertaken for specific large-scale projects of research and/or development.

14.1.1 For all studies involving human subjects the Principal Investigator must:

(i) Clearly describe the benefits and any known risks or inconveniences to the subjects involved in the study.

(ii) Describe precisely the information which will be conveyed to potential subjects of the study and the manner, oral or written, by which this information[2] is to be conveyed. If a written consent form is to be used, a sample should be attached. Include the name(s) and status of the project staff member(s) who give(s) this information to potential subjects and who ascertain(s) that it is understood and that the consent is given freely by the subject.

(iii) Indicate any special incentives or treatment the subjects receive for their participation (e.g., money for transportation, stipends for participation, food or medication, etc.). Whenever a payment is involved, specify amounts, manner, and timing.

(iv) Indicate how the confidentiality of all information obtained during the course of the study, relating to participants included in the study, will be maintained.

14.1.2 The proposal should describe all drugs, vaccines, diagnostic or other procedures to be used, regardless of whether these are registered, unregistered, new, or already in current use in the country in question or elsewhere. State the manufacturers of each compound, vaccine, or agent.[3]

(i) New drugs: For new drugs, vaccines, or agents being used for the first time on man or still at an early stage of clinical study, or being used by a new route or dose schedule, state the chemical composition of the drug, the source of the drug to be used in the study, the amount given per dose, and the tests undertaken to establish and control the quality of the drug to be administered.

(ii) For all drugs to be used on man, the Investigator must describe concisely the main pharmacological actions of the compounds to be used and provide appropriate safety data, including results of studies already conducted in humans, if these are available. For new drugs, this type of information is required not only for the active compounds but also for the vehicle or carrier of such drugs, e.g., an adjuvant in the case of a vaccine.

14.2 Regulatory requirements for drugs and devices

It is the responsibility of the Institution and the Principal Investigator to comply with national regulations pertaining to clinical studies of drugs or devices. WHO shall, on request, arrange to make available information in WHO's possession as may be required by national regulatory agencies.

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2 Examples of information to be given to potential subjects include: aims of the research, the procedures which are experimental, any known or likely short or longer-term risks, possible discomfort, anticipated benefits from the procedures to the subject or others, expected duration of the study, alternative methods of treatment available if the study is a treatment procedure, and the freedom of the subject to withdraw from the study at any time.

3 For drugs or vaccines already widely used, the Investigator should give the proprietary names, composition, doses to be administered and the name and address of the manufacturer.

15. Miscellaneous

Funds available under the Agreement cannot be used for the construction of buildings, or attendance at meetings, unless specified in the Agreement. Travel may be paid from WHO funds only if the travel is essential to the successful execution of the work and itemized in the budget.

16. Submission of applications

Applications should be submitted using the appropriate proposal forms. Complete information is essential for rapid consideration of research proposals.

All applications should be addressed to:

The Research Coordinator
Diarrhoeal Diseases Control Programme
World Health Organization
Avenue Appia
CH-1211 Geneva 27
Switzerland

BIBLOGRAPHY:

Documents reviewed in preparation of this report are contained within Appendix B, Documents Reviewed

APPENDIX G

SUMMARY OF ISSUES FROM INTERVIEWS

The following material summarizes the most frequent or substantive comments from interviews carried out by the external review team. Its reproduction here does not reflect the opinions of the external review team, whose conclusions are stated in the Findings and Recommendations sections of this report.

1. Issues Arising from Interviews with WHO Headquarters Staff (CDR Programme and other Divisions/Units within WHO Headquarters)

1.1 In general, WHO programme staff stated that **programme targets can only be achieved if:**

a) Global commitment to child survival increases;
b) Available resources are used more efficiently;
c) More resources are given to WHO;
d) WHO places greater emphasis on integrated approaches;
e) Country activities are improved;
f) Duplication of effort is minimized or prevented.

1.2 Some individuals interviewed believed that **the present approach of CDD/ARI tends to be too clinical and classically medical.** Prevention of diarrhoeal diseases though modification of behavior within homes, which takes into consideration differences in culture and important environmental factors such as availability of safe food and water and their use, has to be emphasized.

1.3 **Collaborations within WHO and between WHO and other agencies must be undertaken.**

1.3.1 Intra-WHO collaborations

a) The present disease-specific approaches at WHO have made it difficult to persuade people to join together in integrated approaches. As a result, governments have been sometimes unwilling to embark upon what may be perceived as just another vertical programme. Poor marketing may also be at fault.

b) The activities of the recently instituted Task Forces on Cholera, Infant Feeding, and Integrated Management of the Sick Child are moves toward a more integrated approach. These task forces, both in their management and their programme direction, are hoped to: (1) reflect partnerships of a variety of programme divisions within CDR and (2) strengthen the activities of all related programme divisions.

c) Intra-WHO collaborations are impeded by: (1) negative staff attitudes, (2) lack of funds, (3) technical incompetence, and (4) conflicts between programme and infrastructure/policy units.

1.3.2 Inter-agency collaborations

a) Collaboration is frequently necessary for building effective programmes. WHO is weak in influencing change at the national level as it can offer neither manpower or financial resources to countries. Limits on manpower and other resources severely affect implementation of country programmes. Collaboration must include UNICEF and NGOs. Cooperation between UNICEF and WHO is good at HQ level but not always effective at the national level. A mechanism for the coordination of policies at this level needs to be instituted. Furthermore, WHO must devise a means to increase government and private sector commitments if major impediments, such as drug supplies, are to be overcome.

1.4 **Research should be given higher priority.** Research in social anthropology and behavior is most neglected, especially in areas related to home prevention and management of diseases. Recent initiatives are promising, but competency is lacking. Local research competency is also lacking, but recently instituted proposal-development workshops should lessen this problem.

1.5 **The numerous training programmes supported by CDD have had little impact at the community level.** The weakest part of all training programmes is getting doctors to communicate effectively. Supervision, monitoring and follow-up of community activities by ministries of health needs to be strengthened, be more pragmatic, and goal oriented. Training activities that focus on mothers' behavior need to be devloped. New approaches to evaluation must be found.

1.6 **Regional offices should coordinate more closely with HQ staff when allocating research funds.** Regional offices have budgeted funds for research, which often are spent without HQ involvement and assessment of priority and substance. Greater interaction in this regard is proposed.

2. Issues Arising from Interviews with Donor Agency Staff

2.1 **Donor agencies are highly pleased with their working relationships with CDR.**

2.2 **For the donors, the external review will enable them to:** (1) examine the lessons learned for the purpose of improving WHO, (2) take a fresh look at WHO policies, WHO regional and national roles, and programme performance in different countries, and (3) justify continued support.

2.3 **The organization of WHO programmes along vertical lines is of concern. WHO must begin to set priorities.** Initiatives such as the Integrated Management of the Sick Child and the Task Force on Cholera were welcomed steps toward more integrated programmes both within WHO and in countries. These initiatives could also facilitate designation of precise and realistic goals/objectives and strengthen whole health systems in addition to community/household health. Donors questioned, however, whether these initiatives would be sufficient to ensure the best possible management, coordination, and inter- and intra-sectoral integration, especially at the regional and local levels.

2.4 **Donors are also concerned about the mechanisms for the development of a research policy.** Social science research for prevention studies at the household level is seen as a promising sign, but even more emphasis on prevention research is needed. This research should strengthen local research capacity, human resources, and cooperation between NGOs and the private sector, as well as aim for sustainability.

2.5 **Streamlining of the mechanisms for programme planning and review should be considered, with the aim of increasing programme interaction with donors.**

2.6 **Donors need concrete outcomes for their investments.** Closer scrutiny of the funding input versus output is necessary, but evaluation of WHO interventions is problematic.

2.7 **WHO should collaborate more closely with NGOs in making decisions for national programmes so as to avoid duplication of effort and to achieve best results.**

2.8 **Programmes consistent with donor expectations and priorities could be expected to accelerate disbursement of or increase the amount of funds.**

2.9 **A joint TAG would be a worthwhile improvement. To cut expenses, the MRC meeting might be held just prior to the MIP. Some donors approved of the new format for research proposal review (ie. ad hoc), while others preferred the previous SWGs.**

3 Issues Arising from Interviews with WHO Regional Staff

3.1 **Regional staff believe that technical support and managerial direction from HO is very good.**

3.2 **Where possible, delivery of services is horizontal. The Programme has built an effective infrastructure for case management activities.**

3.3 **Good collaborations exist with UNICEF and member states for the sharing of resources, with local manufacturers for ORS production, and with some university pediatric departments. There should be more national input, however.**

3.4 **The Programme assists in building local planning and managerial capacity.**

3.4 **Dependence on external support renders programmes unsustainable. Furthermore, insufficient government funds limit programme expansion from pilot areas.** WHO should improve promotion to governments, especially promoting the goals and expected outcomes. WHO should disseminate results more widely.

3.5 **The Programme places too little emphasis on prevention, especially environmental activities.** Collaboration with other programmes is needed. However, a lack of consensus is recognized.

3.6 **Local programmes are insufficiently integrated. These programmes also place too little focus at the community and health worker level. However, caution is urged in implementing the Sick Child Initiative.** The initiative should build on existing programmes and avoid damaging successfull vertical and integrated programmes.

3.7 **Country programmes are understaffed and subject to high staff turnover.** Too few staff. However, limitation of resources is recognized.

3.8 **Regional staff need greater input in the selection of local research projects and more meaningful interaction with both HQ and local resarch groups as projects are conducted. Improved reporting of research progress to regional offices is also suggested.**

3.9 **Physicians do not know or do not use CDD/ARI strategies.** Greater attention should be placed on involving medical associations and especially, incorporating the case management strategies into medical training.

4 Issues Arising from Interviews with other Collaborators

4.1 The HQ staff are highly capable, committed, collegial, responsive, and receptive to new ideas but are also overworked and underfunded.

4.2 **The Sick Child Initiative shows great promise but caution is urged.** The Sick Child Initiative will improve training efficiency. Its guidelines for referrals should prevent overburdening health care workers. Some collaborators expressed reservations, however, particularly with respect to the length of time required to train health care workers and the difficult task of evaluating the training.

4.3 **The reliance on directed, sometimes commissioned, research is necessary when resources are limited. More funding for research is necessary, however, especially in the area of prevention.**

4.4 **The transfer of recommendations to field programmes should be improved.** New ways to accelerate implementation of guidelines must be found using research.

APPENDIX H

RECENT RESEARCH ACHIEVEMENTS

ACCOMPLISHMENTS OF THE CDD PROGRAMME IN 1992-1993 AND THEIR PROGRAMMATIC IMPLICATIONS.

- Breastfeeding was identified as of particular importance in the prevention of shigellosis among young and malnourished children. The risk of shigellosis was found to be 10 times greater during the first 3 months after cessation of breastfeeding (among malnourished children in Bangladesh).

  Shigellosis is a significant contributor to childhood diarrhoea. These research findings confirm the importance of prolonged breastfeeding and that mothers of malnourished children merit particular attention for breastfeeding counselling.

- Pacifier use was found to be associated with increased risk of early termination of breastfeeding.

  Pacifier use can serve as an indicator of children whose mothers should receive breastfeeding counselling. Health education messages should discourage pacifier use.

- Lactation management training was shown not only to increase trainees knowledge on breastfeeding but to improve practices at the health facility level and the duration of breastfeeding at the community level.

- Lactation counselling clinics were shown to be effective in increasing the prevalence of exclusive breastfeeding at the community level.

  These findings, showing that health workers can be effectively trained in breastfeeding counselling and that it can have an impact on practices, justify the Programme's investment in this type of training. The Programme's training course for health workers on breastfeeding counselling, completed in 1993, should be widely used.

- Vitamin A supplementation was associated with reduction in the incidence and duration of severe diarrhoea episodes.

  This finding supports the promotion of vitamin A supplementation in children over 6 months of age and of vitamin A rich foods.

- Three sets of hygiene behaviours were identified as of key importance for promotion in the prevention of diarrhoea: sanitary disposal of faeces, handwashing and maintaining drinking water free from faecal contamination.

  Hygiene promotion efforts should give priority to these 3 behaviours rather than trying to cover all areas of hygiene-related behaviour.

- The importance of early feeding in the treatment of diarrhoea was confirmed by completed studies.

  This finding supports the policy of continued feeding during diarrhoea promoted by WHO and most national CDD programmes.

- Supported studies showed that for infants under 6 months of age with diarrhoea whose only food is animal milk or formula, the milk or formula normally given does not need to be diluted and should be provided in full strength as soon as dehydration has been corrected. A review of all clinical trials on feeding milk during diarrhoea has confirmed the WHO's recommendations to continue giving undiluted milk to infants and children with diarrhoea.

  The WHO case management guidelines have been simplified by removing a recommendation to dilute milk feeds for children under 6 months of age. National CDD policies should also be modified.

- The key importance of increasing the energy density of weaning foods as a means to improve energy intake was demonstrated in a project from Peru.

- Viscosity reduction by the addition of amylase was shown not to improve the energy intake of young children in Jamaica. Its only advantage was a shorter time spent feeding.

  These findings demonstrate that increasing the energy density of complementary foods is an effective way to increase energy intake and that this can probably be achieved by promotion of semi-solid cereal foods without amylase-induced reduction in viscosity.

- The first version was developed of a Focused Ethnographic Study protocol to generate descriptive data on beliefs and practices related to diarrhoea for use in the implementation of national programmes.

- A training guide that aims to provide health workers' the necessary skills to effectively advise mothers on the treatment of diarrhoea was developed and integrated into CDD's Clinical Management Course.

- Packages of training materials were also completed and printed for improving teaching on diarrhoea in medical schools, for similar efforts in basic health worker training of other kinds, for changing the prescribing practices of pharmacists and drug sellers and for self instruction in diarrhoea case management.

  These materials add to the wide range of practical tools developed for use in national CDD programmes.

- An evaluation of the efficacy of tetravalent rhesus-human rotavirus vaccine was completed in Brazil and a large trial involving a higher dose of the vaccine was started in Venezuela.

  Results of the Venezuela trial will help considerably in defining whether the tested vaccine has potential as a public health tool.

- Improvements in diarrhoea case management in Northeast Brazil were identified as a major contributor to the reduction of almost 60% in diarrhoea mortality in infants observed in the region between 1980 and 1990. Other potential contributors for the decline, such as improvements in nutritional status, in water supply, vaccine coverage and breastfeeding duration could only account for approximately one-third of the observed reduction.

  The findings of this study can be used to advocate with donors and developing country decision makers the effectiveness of the promotion of correct diarrhoea case management.

- An algorithm for the management of persistent diarrhoea in hospitalized children was evaluated in a multicentre trial involving 6 countries. The overall success rate of this algorithm was found to be close to 90%.

  The algorithm can now be made available for use, assessed under usual health facility conditions and incorporated into WHO and national programme diarrhoea treatment guidelines.

- All Programme-supported studies on rice-based ORS were completed and analyzed. The results confirm that rice-based ORS does not offer any advantage over WHO-ORS solution in the treatment of non-cholera acute diarrhoea.

  There is no indication to change to rice-based ORS as the standard WHO recommended ORS formula.

- The Programme continued to provide information to countries seeking to achieve rational use of drugs in the management of diarrhoea. 16 countries have now taken action to ban or restrict the use of paediatric forms of a number of antidiarrhoeal drugs.

  This information can be used to advocate for changes in other countries.

ACCOMPLISHMENTS OF THE ARI PROGRAMME IN 1992-1993 AND THEIR PROGRAMMATIC IMPLICATIONS.

- By the end of 1993, 57 of the 88 countries with high infant mortality rates targeted by the Programme had operational programmes. This is an increase of 13 over the biennium. A further 13 have prepared national plans of operation.

  The challenge to the programme is to ensure implementation of existing plans and to increase coverage, which is still low in most countries. Active technical support to target countries has been increased with more country and regional staff working on ARI. More funds have been allocated, particularly to Africa where the programme has most ground to catch up.

- The WHO four-day course on outpatient management of the child with ARI was introduced as the standard course for medical and other health workers. It is in use in countries in all regions.

  An active programme of training of trainers is underway and will be reinforced. The course is also being made available for use through NGOs and with the support of other international agencies.

- A training course for Community Health Workers was completed and tested in 1992 and is being introduced gradually.

  In some countries, Community Health Workers are an essential link in the chain of management of the child with pneumonia. This course, suitably adapted for each country, will provide the basic training in ARI needed to reduce the fatal delay in obtaining treatment for the child.

- Operational manuals for a Household Survey and a Health Facility Survey were completed and introduced as standard tools for programme evaluation. Surveys were done in all regions.

  Health facility surveys provide valuable information on the effectiveness of national programme activities, and identify weaknesses in training, supervision and drug supply. Household surveys done so far have shown encouragingly high levels of understanding and care seeking practice by caretakers and emphasize the importance of ensuring good quality care in the health facilities to which children are taken.

- The programme has taken active steps through meetings, training sessions and joint activities in selected countries to increase the potential for collaboration between Non-governmental Organizations and government health authorities in implementing ARI control.

- Three technical guidelines were completed:

  "Oxygen therapy for acute respiratory infections in young children in developing countries",

  "Bronchodilators and other medications of the treatment of wheeze-associated illness in young children",

  "Management of fever in young children with acute respiratory infections in developing countries".

These guidelines add to the materials available for technical training of medical and health staff. They will provide the basis for some aspects of the upcoming training course for inpatient case management and the eventual development of material for undergradu and basic training.

- The study on ARI in severely malnourished children has been comple and showed, inter alia, that the respiratory rate threshold normal used is somewhat less sensitive for the detection of pneumonia in severely malnourished children.

This finding confirms the wisdom of the Programme's recommendatio to refer children with ARI who present with severe malnutrition. finding will be taken into account in framing recommendations and guidelines for the integrated management of the sick child.

- In the same study S. pneumoniae and H. influenzae were shown to be the most common organisms causing bacterial pneumonia in severely malnourished children (as in well-nourished children) but the proportion of pneumonia caused by gram-negative organisms and tuberculosis is higher in severely malnourished children.

These findings further justify the referral to hospital of severel malnourished children with signs of pneumonia. They suggest, however, that the choice of antibiotic for initial therapy can be for well-nourished children.

- The ARI Focused Ethnographic Study (FES) and workbook were complet after extensive fieldtesting. A meeting in May 1992 summarized th experience in the use of FES data in national programmes.

The FES method is now available to countries to use to obtain information on family behaviour related to pneumonia recognition, careseeking and treatment and to identify appropriate local terms. This information is important for effective communication with families.

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- Preliminary results from oxygen administration studies suggest that most children hypoxaemic from pneumonia can be adequately oxygenated with nasal cannulae which are less likely to cause serious complications than nasopharyngeal catheters.

  These findings support the recommended use of nasal cannulae for delivery of oxgen in the treatment of severe pneumonia.

- Laboratory standards were met by three brands of oxygen concentrato and fieldtesting was initiated in developing countries.

  The specifications of the three approved oxygen concentrators have been included in the widely distributed EPI product information sheets. They can be recommended as an alternative supply of oxygen where maintaining a supply of cylinders is a problem.

- Tests have been completed on a footpump and three nebulizers for th delivery of bronchodilators.

  This equipment is now recommended for use where electric pumps or metered dose inhalers are not practicable.

- A study on the relationship between laboratory resistance to cotrimoxazole and its clinical efficacy in treating pneumonia was completed. Despite extensive laboratory resistance, cotrimoxazole provided adequate treatment in most children with pneumonia while failing more often in the treatment of severe pneumonia.

  This finding supports the recommendation for use of cotrimoxazole i pneumonia even when there is laboratory evidence of bacterial resistance. For severe pneumonia an alternative oral antibiotic should be used when resistance to cotrimoxazole has been shown in l laboratory and parenteral therapy is not possible.

- Several simplifications of laboratory procedures in antimicrobial susceptibility testing have been developed or evaluated: goats' bl was found to work as well as sheep or horse blood in cultering bacteria; transport media for pneumococcal isolates were improved; and a simple lyophilizer (without freon or dry ice) has been teste

  These developments facilitate the setting up and maintenance of adequate laboratory testing of specimens.

- Four fieldtests of the antimicrobial susceptibility manual were carried out in Egypt, Pakistan, Thailand and Viet Nam.

  Problems and solutions identified will help to improve the methodology and its application in other countries.

- Preliminary results of the pneumonia prevention review suggest that Haemophilus influenzae type b (Hib) and conjugated pneumococcal vaccines and control of indoor air pollution could yield large benefits in the prevention of ARI.

  These vaccines should be given high priority in vaccine development work. The Programme has initiated studies to explore interventions to reduce indoor air pollution. None of the preventive interventions reviewed can replace standard case management as the primary strategy of the Programme for the immediate future.

- A trial of Haemophilus influenzae type b (Hib) vaccine was initiated in early 1993 in the Gambia.

  The results of this trial should indicate whether Hib vaccine can be of value in the prevention of pneumonia in developing countries.

- Review and meta-analysis of all available fieldtrials on Vitamin A supplementation suggest no beneficial impact on non-measles-related pneumonia deaths and suggest inadequate safety data to proceed with recommendations to supplement infants less than 6 months of age.

  Along with the CDD Programme, efforts are being made to test the safety and efficacy of vitamin A delivered along with vaccinations in the early months of life.

ADDITIONAL ACCOMPLISHMENTS OF THE CDR DIVISION IN 1992-1993

- The CDD and ARI Programmes, in collaboration with 8 other programmes in WHO headquarters and UNICEF, started to develop an integrated approach to the management of ARI, diarrhoea, measles, malaria and malnutrition. Treatment protocols summarized in 4 integrated charts were worked out and the first drafts of training modules prepared and reviewed. Several research studies were conducted to improve different aspects of the treatment protocol. Details of these activities are summarized elsewhere.