

PN-ABF-006

65956

EVALUATION REPORT
CONTROL OF DIARRHEAL DISEASES
MAURITANIA

A Report Prepared By PRITECH Consultants:

FRANK D. CORREL

AGNES B. GUYON, M.D., M.P.H.

LONNA B. SHAFRITZ

During The Period:

DECEMBER 17, 1988

TECHNOLOGIES FOR PRIMARY HEALTH CARE (PRITECH) PROJECT

Supported By The:

U.S. Agency For International Development

CONTRACT NO: AID/DPE-5969-Z-00-7064-00

PROJECT NO: 936-5969

AUTHORIZATION:

AID/S&T/HEA: 9/12/89

ASSGN. NO: STP 002-MU

TABLE OF CONTENTS

	<u>PAGE</u>
GLOSSARY	i
INTRODUCTION	1
EXECUTIVE SUMMARY	3
RECOMMENDATIONS	6
1. <u>HEALTH POLICY</u>	17
CASE MANAGEMENT	17
ANTI-DIARRHEAL DRUGS	17
MEASURING THE SUGAR-SALT SOLUTION	18
CHOLERA EPIDEMIC CONTROL	18
SUPPLY MANAGEMENT OF ORS PACKETS	19
COST REDUCTION AND RECOVERY	20
2. <u>MANAGEMENT</u>	21
GENERAL MANAGEMENT	21
REGIONAL MANAGEMENT	23
HOSPITALS	24
PRE-SERVICE TRAINING	25
HEALTH INFORMATION SYSTEM	25
IEC - EXECUTION OF STRATEGY	26
COORDINATION AND INFORMATION	27
DISSEMINATION OF PRINTED EDUCATIONAL MATERIALS	28
AUDIO/VISUAL MEDIA	29
PUBLICITY	30
LOGISTICS	30
TECHNICAL ASSISTANCE: THE ROLE OF PRITECH	31
3. <u>OPERATIONS</u>	32
CASE MANAGEMENT	32
TRAINING	34
IEC - NATIONAL LANGUAGES	35
MATERIALS DEVELOPMENT: PRETESTING AND REVISION	36
USE AND COMPREHENSION OF MATERIALS	36
REACH AND COMPREHENSION OF MASS MEDIA	38
EVALUATION OF IMPACT	39
SUPERVISION	40
OPERATIONS RESEARCH	41
4. <u>FUTURE PROSPECTS</u>	43
ANNEX 1: PEOPLE CONSULTED DURING THE EVALUATION	46
ANNEX 2: INFORMATION REPORTING FORM	48
ANNEX 3: CONTENT OF TRAINING	49
ANNEX 4: SUPERVISION: STATEMENT OF OBJECTIVES AND CHECKLIST	50

GLOSSARY

CDD	Control of Diarrheal Disease
CREN	Nutritional Education and Rehabilitation Center
EPI	Expanded Program of Immunization
GIRM	Government of Islamic Republic of Mauritania
IEC	Information - Education - Communication
JSI	John Snow Incorporated
MCH	Maternal and Child Health
MHSA	Ministry of Health and Social Affairs
ORS	Oral Rehydration Solution
ORT	Oral Rehydration Therapy
ORU	Oral Rehydration Unit
PHC	Primary Health Care
PRITECH	Project for Technologies for Primary Health Care
PRSSR	Project de Renforcement Des Services de Sante Rurale - Rural PHC Project/USAID
PVO	Private Voluntary Organization
SSS	Sugar-Salt Solution
TBA	Traditional Birth Attendant
TV	Television
USAID	United States Agency for International Development
UNICEF	United National Children's Emergency Fund
VHW	Village Health Worker
WHO	World Health Organization

INTRODUCTION

This evaluation of the Control of Diarrheal Diseases Program of the Ministry of Health and Social Affairs (MHSA) of Mauritania was carried out during the period November 22 - December 18, 1988 with special reference to the role and impact of the PRITECH project. This evaluation endeavored to assess (1) what has been accomplished by the program so far and where the program stands today; (2) future plans and prospects, and (3) what experience to date shows about the strengths and weaknesses of the program and its management.

The evaluation was undertaken by a team composed of

Frank D. Correl, Management Specialist
Agnes B. Guyon, M.D., Specialist in Public Health
Lonna B. Shafritz, Specialist in Communications and Education
Ndiaye Amadou, MHSA, Government of Mauritania
Ba Abdoulaye Samba, MHSA, Government of Mauritania
Ahmed Salem O. Emir, Health Program Assistant, USAID

and was materially assisted by Mr. Ba Saidou, Coordinator of the CDD program of the Ministry and key members of his staff.

The team reviewed documentation in PRITECH's Washington and Dakar offices and on location in Mauritania. Members of the team interviewed key persons within the GIRM's Ministry of Health and Social Affairs and at health facilities in Nouakchott, the capital city, and in four of the twelve regions of Mauritania. The regions covered were Assaba, Brakna, Guidimaka and Trarza in the South of the country. In all these regions, diarrheal diseases are one of the major health problems and causes of child mortality. In Guidimaka and Trarza, the USAID-funded Primary Health Care project has been in operation for some time.

Originally, it had been planned that a study of ORT practice in health facilities would precede this evaluation and would assist materially in assessing the effects of the training carried out by the CDD program. Due to the 1988 cholera epidemic, this survey was postponed. The evaluation, therefore, has had to rely on a limited and very scattered observation of activities in facilities in areas visited. Our inquiry was hampered further by the absence of most regional chief medical officers and key senior staff at the regional and departmental level, either attending two health-related conferences in Nouakchott or on leave. Despite these handicaps, the team believes that it was able to obtain a reasonably accurate picture of the practices of health care, health training and education as carried out in Mauritania at present and the application of CDD policies and procedures.

In the course of the evaluation, the team interviewed an estimated 70 mothers, over 40 doctors, nurses and midwives and administrative personnel in regional and local health facilities, including maternal child health centers, nutrition centers and general out-patient clinics; and 12 village health workers and traditional birth attendants.

Throughout the course of the evaluation, we were impressed by high degree of cooperation we received from everyone - Mauritians, Americans and others - at all levels of responsibility and in all locations, and the seriousness and frankness with which our many questions were answered. We trust that our conclusions and recommendations will prove useful in future planning and operations of the Mauritanian CDD program and will lead to a strengthened program of providing care to children with diarrheal diseases.

EXECUTIVE SUMMARY

Five years after its inception the Mauritanian CDD program is at an early operational stage. A conceptual framework has been developed and a national coordinator's office established as a focal point which has performed planning and organization work and performs the vital function of searching for donor support. Coordination at the regional level exists in principle. Educational and informational materials have been produced and booklets, flyers and posters have been distributed to health facilities at regional and departmental levels for use in educating mothers in correct Oral Rehydration Therapy. However, the program has far to go to become fully operational and to have a significant impact on the health of the target population.

Four elements are essential for achieving a successful diarrheal disease control program:

- mothers' knowledge and use of appropriate fluids and feeding during acute episodes of diarrhea and understanding of when to seek help at a health facility;
- health providers' ability to correctly diagnose and treat children with diarrheal disease and other associated illnesses;
- the availability of appropriate materials and supplies at the point of use (home or health facility);
- adequate organizational means to monitor progress and produce knowledge and information to sustain and expand program coverage.

In Mauritania, judging from the observations of this Evaluation Team, few mothers have the knowledge to give their children appropriate treatment of diarrhea. Few health workers treat children with diarrhea according to WHO protocols. There are widespread chronic shortages of basic materials, particularly ORS packets needed for effective rehydration of children, and there is considerable recourse to inappropriate drugs. An organizational capability to achieve an effective program has yet to be developed.

In programmatic terms, the very modest level of achievement of the CDD program in Mauritania to date is due to inadequacy of coordination of the activities in the different program components. Changing the behavior of mothers and health care workers requires a coordinated effort of information dissemination, training, face-to-face communications, and availability of supplies. The effectiveness of each is diminished without timely reinforcement by the others. Many activities are technically related; they must be done in parallel, or in sequence with one following another in specific order and timing. If these technical relationships are not respected, the impact of the actions is reduced or even lost.

Yet, the essential planning and coordination of diverse but technically related elements has often not occurred. The result is that mothers and health workers alike receive mixed and often poorly timed messages unreinforced by necessary supportive materials. Under these circumstances, behavior change of mothers and health workers will be difficult or impossible to achieve.

In organizational and management terms, conflicting pressures, a chronic lack of financial and material resources, and a lack of adequate information make it virtually impossible to monitor implementation and gauge progress. Chronic shortages of ORS packets are due to a haphazard supply system. Such progress as has been achieved by the program so far is jeopardized by its total dependence on outside support and uncertain funding availabilities in the future.

The Team's recommendations are summarized in the following paragraphs and are listed individually in the section following this Executive Summary:

1. Develop and give wide dissemination to a clear national CDD policy. Build on progress to date in introducing ORT into the health system. This means incorporating the hospitals into the program, strengthening supervision, training service delivery staff in specific subjects, continuing teaching ORT at the pre-service school, and prohibiting the use of anti-diarrheals at public health facilities.
2. Ensure a regular supply of ORS packets through development of a functioning distribution and inventory control system and explore the practicability of (1) levying a small charge and (2) eventual private sector participation in the distribution system.
3. The effort to teach mothers what to do when their children get diarrhea, and to have them actually do it, needs considerable strengthening. This would involve better and more widespread training of health workers down to the village level and emphasis on communications skills, more involvement of non-health personnel, feedback through a functioning information system and KAP studies, and better management of an integrated IEC effort.
4. Strengthen program management through better definition of job responsibilities, upgrading of regional and local management capabilities, and providing CDD-specific training in management related topics. Development of improved communications between the national and subordinate levels is essential to achieve needed improvements in program supervision and the flow of information.

5. Integrate control of cholera outbreaks into the CDD program and put into place a consolidated annual plan of ORS supply, training and education, highlighting efforts before and during the season of high diarrheal disease incidence.
6. Future planning should be directed towards more integration of the CDD program with donor-supported programs integrating primary health care, maternal child health, nutrition and family planning. This should be done with the objective of strengthening overall national as well as individual-project-related capability. In this connection, the issue of long term achievement of program sustainability through increased GIRM budget allocations must be addressed.

RECOMMENDATIONS

1. POLICY

1.01 RECOMMENDATION: Define and publish the national CDD policy on case management of diarrheal diseases and distribute to all health personnel revised treatment guides, posters and materials required for the appropriate diagnosis and treatment of children.

1.02 RECOMMENDATION: Remove anti-diarrheal drugs from the list of drugs authorized for public health facilities and discontinue distribution by the National Pharmacy (PHARMAPRO). We also recommend that their importation be prohibited or severely restricted.

1.03 RECOMMENDATION: Circulate to MHSA personnel a personal memorandum from the Minister of Health clearly defining the policy on the use of drugs in the treatment of diarrheal diseases in children. Make it clear that very specific drugs are to be used ONLY in those cases where children either have blood in their stool, or have prolonged episodes of diarrhea, or have other associated illnesses such as pneumonia.

1.04 RECOMMENDATION: Undertake an operations research effort to identify a more reliable way to measure ingredients, in particular the correct proportion of salt and water with the least risk, and an effective means of extending the recommend method to mothers.

1.05 RECOMMENDATION: Compare those findings with operations research on home available fluids (see Recommendation 3.03). On the basis of the results, reconsider and revise as necessary the policy and the messages being communicated through training and IEC efforts.

1.06 RECOMMENDATION: Establish a national policy against cholera as an integral part of the CDD program. Consolidate training, education, management and equipment availability on a year-round basis, with particular emphasis on high-incidence cholera and other diarrheal disease months.

1.07 RECOMMENDATION: Mandate the inclusion of packets in the national drug package supplied by PHARMAPRO semi-annually as an indispensable first step to make adequate stocks of ORS packets readily available. The team believes that this is a matter of such fundamental concern that it recommends that the required directive be prepared for issuance by the Minister of Health, denoting his personal interest.

1.08 RECOMMENDATION: The CDD Coordinator should initiate a policy of active collaboration with FVO and other Primary Health Care projects to extend the use of ORS packets at the village level, and initiate appropriate procedures to implement the

policy. This should be reflected in provision for an increase of packet supplies in such departments where PHC projects are active to allow VHWS and TBAs to replenish their supplies more easily.

1.09 RECOMMENDATION: Undertake a study in one region or department, possibly in connection with donors' project design activities, to determine the technical and administrative feasibility of instituting a nominal charge for ORS and consider a pilot project to test such a scheme.

1.10 RECOMMENDATION: Consider a study and pilot activity to test-market ORS packets through participating pharmacists or general merchants in a small or medium sized urban center on a subsidized basis.

2. MANAGEMENT

2.01 RECOMMENDATION: In the near future, assign duties to each staff member of the Coordinator's office to relate specifically to the key functions of the office, with particular attention to program management, including information and analysis, logistics and ORS supply management.

2.02 RECOMMENDATION: Prepare appropriate written job descriptions to be distributed to each employee to permit guidance and evaluation of employees performance.

2.03 RECOMMENDATION: Develop a system of interchangeable responsibilities among staff to help ensure that key functions are carried out during staff absences for training or leave. This principle should also be extended to regional and subordinate levels.

2.04 RECOMMENDATION: In connection with continuing MHSA planning for decentralization of health services, the coordinator's office should develop a basic management package for inclusion as appropriate in training programs of personnel at regional and lower levels. This is particularly important with regard to the planned March 1989 training of regional CDD coordinators.

2.05 RECOMMENDATION: Secure commitment of operating funds for vehicles and their operation and maintenance from GIRM budgetary allocations.

2.06 RECOMMENDATION: Standardize, wherever possible, the position of the individual designated as regional coordinator and publicize the appointment, ensuring that local medical personnel understand his functions and responsibilities.

2.07 RECOMMENDATION: Proceed with the training for regional program coordinators to enable them to receive the specialized body of knowledge to carry out their CDD related duties. Incorporate the management component suggested in recommendation 2.04 above.

2.08 RECOMMENDATION: Organize a brief meeting in individual regions between the central CDD Coordinator and key regional health administrators to review the programmatic and management aims of the CDD program and to set an action agenda for improved operations. Besides regional-level personnel, departmental chief medical officers and their designee for CDD should be included and a clear chain of actions established to obtain improvements in key functions, e.g. record keeping, reporting, ORS packet management, vehicle repair and maintenance and the provision of feedback to subordinate levels.

2.09 RECOMMENDATION: Possibly within the terms of reference of the management adviser being assigned to MHSA under the USAID Primary Health Care project JSI contract, give priority consideration to assessing current administrative practices in the provision of health care at regional and subordinate levels. Such assessment might identify a possible agenda of improvements in key areas including budgeting, allocation of resources, the rudiments of systematic personnel administration and a program of effective scheduling of work. Quite obviously, the CDD program stands to derive substantial benefits from such an effort.

2.10 RECOMMENDATION: In the near future, integrate the hospitals, particularly Nouakchott central hospital, into the activities of the CDD program. Ensure the functioning of Oral Rehydration Units as a referral system and training facility for students.

2.11 RECOMMENDATION: Ensure the follow-up of the use of promotional material in the public health nursing school by (1) providing enough training modules for students, and (2) updating contents of the teaching program to reflect the national CDD Policy.

2.12 RECOMMENDATION: Ensure that each graduate has had practical experience in ORT at the Oral Rehydration Unit.

2.13 RECOMMENDATION: Ensure that all new physicians are instructed in the national CDD policy and have served a short tour at the Oral Rehydration Unit.

2.14 RECOMMENDATION: Ensure that the CDD reporting forms with appropriate instructions are available in all health facilities. Provide an explanation of the data needed and its purpose. Possibly make use of other programs such as EPI, PRSSR and UNICEF to distribute and collect the forms.

2.15 RECOMMENDATION: At the CDD Coordinator office, maintain a list of regions and departments, noting dates of receipt of each month's data as the reports arrive. Emphasize that collection and transmission of these standard forms to the central office is the responsibility of the regional CDD coordinator.

2.16 RECOMMENDATION: Designate a person on the CDD Coordinator's staff to be responsible for (1) gathering the information received, (2) analyzing the data and (3) sending back periodic feedback to the regions for wider distribution. If possible, such person should have some statistical training.

2.17 RECOMMENDATION: In the future, conduct more exhaustive formative research to select IEC priorities and determine what mix of materials and/or media would be most likely to achieve objectives.

- 2.18 RECOMMENDATION: In upcoming multi-channel campaigns or activities, synchronize the introduction of IEC elements in order to achieve maximum reinforcement.
- 2.19 RECOMMENDATION: Develop practical guides for use with all educational materials which will be used in training sessions. Provide special guidance to non-health personnel on how to organize health education sessions in their respective milieu. These guides should also contain recommendations for distribution and display of material.
- 2.20 RECOMMENDATION: Assign as part of the job description of a CDD staff member the role of coordinating with the Nutrition and Health Education Services to more smoothly develop, execute and monitor the IEC activities. This role should include monitoring the distribution of printed materials and whether the radio and TV spots were broadcast as scheduled.
- 2.21 RECOMMENDATION: Institute a formal mechanism for health personnel to request additional IEC materials from the central level.
- 2.22 RECOMMENDATION: Distribute materials more widely. The poster should be seen in all public places - the prefecture, city hall, in schools, pharmacies, youth centers, women's cooperatives, markets, movie theaters - as well as in offices and government buildings and everywhere throughout hospitals, dispensaries and MCH centers.
- 2.23 RECOMMENDATION: Assign responsibility for the distribution of materials to a senior health official in each department. This person would assure that all health personnel at the department and village levels received the appropriate number of materials. S/he should also facilitate the display of materials in such public places within each department as described in Recommendation 2.22.
- 2.24 RECOMMENDATION: Work with World Vision and the Health Education Service to encourage the Television Service to increase diffusion of the World Vision TV spots, since these well-produced spots promote the same message as the yet incomplete CDD spots.
- 2.25 RECOMMENDATION: Broadcast the CDD radio spots on a more regular basis throughout the year; the current gap of 6 months (between September and April) is too long for the public to remember the message. This would reinforce the concept that the CDD program is a year-round effort and not just specific to periods of cholera and major outbreaks of diarrhea.
- 2.26 RECOMMENDATION: Significantly increase the frequency of radio spots during the periods when broadcast, so that the message can be recognized and retained. If this is not possible,

then broadcast only two spots -- the one on prevention, with one of the three SSS spots -- during a given 2-month period.

2.27 RECOMMENDATION: The Pulaar interview should be rebroadcast. Also, similar interview programs should be held in other languages, taped and rebroadcast on a regular basis.

2.28 RECOMMENDATION: The use of 30 to 60 second spots for both TV and radio is encouraged to increase demand on where to get information on the prevention and treatment of diarrhea and dehydration.

2.29 RECOMMENDATION: Investigate the possibility of using audio/visual materials such as slide-tape for filmstrip programs, music videos, or live entertainment to reach a wider audience at fixed locations such as MCH centers or villages. Cooperate with World Vision in this effort.

2.30 RECOMMENDATION: Use print media, such as the daily newspaper more frequently. Frequent articles on the CDD program in the weekly health column serve to increase familiarity with the program among the Ministry of Health and other influential people.

2.31 RECOMMENDATION: Channel all articles and materials related to diarrheal disease and cholera through the CDD coordinator to ensure consistency with the program's policy.

2.32 RECOMMENDATION: Circulate press releases of CDD program activities to print and broadcast media. This would include announcements of training seminars, evaluation studies, etc. This would also be the most effective way to publicize an event such as National ORT days which have been planned for April 1989.

2.33 RECOMMENDATION: Establish a system of ORS inventory control with a procedure for time-phased distribution from regional and department stocks to subordinate levels, with records showing dates and quantities received and distributed. Instruct the person in charge of each facility to ensure that distribution is done on a first in, first out basis. The establishment of a more regular and systematic reporting system (see Recommendations 2.14 and 2.16 above.) should provide for coverage of ORS packet inventory information at all locations.

2.34 RECOMMENDATION: Issue instructions for destruction of spoiled packets at all locations.

3. OPERATIONS

- 3.01 RECOMMENDATION: Organize Oral Rehydration corners in the health facilities for the preparation and administration of ORT for the treating of moderate dehydration and for demonstrating the correct preparation.
- 3.02 RECOMMENDATION: Define and test a clinical evaluation and treatment form to be used routinely in all Oral Rehydration Units and health facilities, particularly for case management of moderate dehydration.
- 3.03 RECOMMENDATION: Include in the KAP survey research to assess the value of traditional treatment such as home available fluids in the case management of simple diarrheal disease.
- 3.04 RECOMMENDATION: Emphasize the nutritional aspect by (1) increasing collaboration with the Department of Nutrition, and (2) including in the scheduled KAP survey a nutritional component particularly concerning preparation of more nutritious available foods to feed children during and after diarrhea.
- 3.05 RECOMMENDATION: Organize annual brush-up training or training for newly assigned personnel targeting health agents who are more likely to practice ORT or be involved in ORT management such as regional CDD Coordinators, PHC coordinators, chiefs of MCH centers, chiefs of pediatric wards (ORU), and nutritionists. Include "Training of Trainers" components as well as training on Management (see also Recommendation No. 2.04).
- 3.06 RECOMMENDATION: Ensure that each trained person treat at least one child with diarrhea during the training session.
- 3.07 RECOMMENDATION: Consider using the CDD printed material in literacy programs. The accompanying guide recommended earlier would be useful in helping literacy trainers extend ORT education to a wider audience.
- 3.08 RECOMMENDATION: Add tag-ons to the Senegalese and Mauritanian media and TV spots specifying which country's SSS measurement system are being described. For example, the opening line of the radio spots which says that diarrhea is a serious disease in our country could be modified to say in Mauritania. This modification could help ameliorate the confusion.
- 3.09 RECOMMENDATION: Increase frequency of the TV and radio spots in Hassiniya to take advantage of the large amount of programming time in this language.
- 3.10 RECOMMENDATION: Consider developing French versions of the TV and radio spots (or short, 30 second to 1 minute editions) and air these around French programming, especially the news. Even

though not all Mauritanian understand French, this would be valuable for publicity and to promote awareness of the CDD program with influential people.

3.11 RECOMMENDATION: Pretest all IEC materials, including broadcast programs, with appropriate target audiences and revise according to results. Current materials should be tested prior to ordering additional supplies and revised to account for any CDD policy changes as well.

3.12 RECOMMENDATION: Provide accompanying guides for each item of educational material. This will help health personnel better utilize these materials. For example, the contents of the brochure should be taught in five different sessions instead of all at once. (See Recommendation 2.19)

3.13 RECOMMENDATION: Test all of the printed materials extensively with mothers of children aged five and under in order to make revisions that would promote greater comprehension of the material. Develop materials that can be understood by a low-literacy population; this usually calls for very realistic representations rather than abstract ones.

3.14 RECOMMENDATION: Revise the poster so that it is immediately recognized as a diarrhea and/or dehydration message. Consider using a still shot from the TV spot for the poster, to better integrate the overall IEC campaign.

3.15 RECOMMENDATION: When training mothers about ORS and SSS, stress that it is designed to stop dehydration due to diarrhea and not the diarrhea itself. Also, instruct health personnel to focus on the importance of overall level of fluid intake and to deemphasize the need for purifying the water.

3.16 RECOMMENDATION: Consider the possibility of lamination of flyers for demonstration purposes and the possibility of using decal materials.

3.17 RECOMMENDATION: Test the radio and TV spots with the appropriate public (i.e., people who have access to the particular medium) to refine messages so that they are better understood.

3.18 RECOMMENDATION: Only include one specific message per spot; consider developing separate spots for recognition of dehydration, preparation of SSS, administration of SSS and hygienic measures to prevent diarrhea.

3.19 RECOMMENDATION: In the radio and TV spots, reinforce the SSS recipe message for listeners by having the actor who is learning it repeat it after being taught.

3.20 RECOMMENDATION: Design the upcoming KAP study in the following way in order to measure the effect of the IEC program:

- a. Screen respondents so that only members of the target audience (mothers of children five years and under) are interviewed.
- b. Select sample sizes large enough to be able to reach regional breaks (at least 100-150 per region), but make sure that the regions are proportionally represented to the national population (or weight the data accordingly). This will provide regional level health officers with results specific to their region.
- c. Include questions about exposure to all channels of information (frequency of visiting and classes received at health centers; ownership/access to TV/radio; frequency of exposure to media in general; time of day TV/radio watched/listened; source of media--Senegalese and/or Mauritanian; languages understood and read), as well as exposure to CDD materials and media (including World Vision TV spots).
- d. Collect information on how long mothers have been using ORS or SSS and how and where they first heard about it, in order to determine possible linkages of IEC activities to behavior.

3.21 RECOMMENDATION: Future media and materials surveys should also follow parts a, c, and d in the above recommendations for the KAP study.

3.22 RECOMMENDATION: Revise the proposed supervision checklist by more objective and diagnostic indicators and provide for collection of data regarding the use of anti-diarrheal drugs, the case management of diarrhea, including the evaluation of different degrees of dehydration, quantity of fluids prescribed, and nutritional advice given to mothers.

3.23 RECOMMENDATION: At the MHSA level, assign a specialist in PHC management and an economist to work jointly on the integration of the different activities, particularly supervision.

3.24 RECOMMENDATION: The CDD central office should assign a person responsible for supervision within Nouakchott district where less logistical and resources support are necessary.

3.25 RECOMMENDATION: At the regional and department level, coordinate plans of supervision with other projects such as PVO's, PRSSR, EPI and UNICEF.

3.26 RECOMMENDATION: Undertake operations research, regarding the following topics:

- a. Need for more reliable epidemiologic data on morbidity and mortality related to diarrhea;
- b. Value of traditional treatment such as home available fluids in the case management of simple diarrhea (Recommendation No. 1.05)
- c. Measuring errors in the preparation of the sugar, salt, solution, and identification of a more reliable way to measure ingredients (Recommendation No. 1.04)
- d. Developing of nutritional aspects, particularly availability of more nutritious food to feed children during and after episodes of diarrhea.
- e. Assessment of current administrative practices in the provision of health care at regional and departmental level.
- f. Test marketing of ORS packets. (Recommendation No. 1.10)
- g. Practicability of instituting a charge for ORS packets dispensed at health facilities (Recommendation No. 1.09)

4. FUTURE PROSPECTS.

4.01 RECOMMENDATION: Undertake an initiative by the CDD Coordinator's office, with PRITECH help, to:

- a. Disseminate information regarding the CDD program and its training, education and care delivery system to donors.
- b. Review donor project plans to identify necessary elements for including a CDD program component in individual projects where appropriate.
- c. Designate Trarza region as a test region for initiating strengthened integration, coordination and management measures with a view to extending application of these measures to selected other regions, in particular in concert with new or existing donor projects.
- d. Prepare a revised program budget providing for increased funding for the initiatives covered by the Recommendations covered in this report, with special emphasis on actions to improve management effectiveness of the program.
- e. Prepare a proposal for funding of CDD operations beyond 1989 to the Common Fund (Fonds Commun), a pool of donor-generated local currency jointly programmed by the GIRM and a committee of donor representatives.
- (f) In concert with (d) and (e) above, secure a contribution from the GIRM budget -- from national revenues rather than donor sources -- to permit an increased allocation for program operations (other than personnel costs), to be followed by proportionate increases in subsequent years.

4.02 RECOMMENDATION: PRITECH endeavor to increase its recognition factor among donors and the MHSA by making a presentation to the MHSA Consultative Committee on Cooperation (CCC) and in meetings with individual donors or, preferably, a joint meeting of donors interested in health programs.

4.03 RECOMMENDATION: PRITECH assist the CDD coordinator's office to approach donors with proposals for obtaining foreign exchange funding of technical assistance activities associated with Recommendation 4.01 above.

4.04 RECOMMENDATION: USAID reconsider its decision concerning funding support to PRITECH, exploring jointly with AID/Washington and PRITECH possible financial support from Africa Regional and centrally-funded activities in the total absence of bilateral funds.

1. HEALTH POLICY

Ministry of Health CDD policy is set forth in the program planning document: PROPOSITION DE PROGRAMME NATIONAL DE LUTTE CONTRE LES MALADIES DIARRHEIQUES EN MAURITANIE, about 1985.

Experience suggests that there are aspects of the policy which should be reviewed, either clarified or modified, and clearly communicated to the public and public health prsonnel.

Case-Management of Diarrheal Disease. Correct case management of children with diarrheal disease begins with a clear definition of what correct case management is. On this issue, the national CDD policy is unclear. One can assume, looking at the training manuals, that the CDD policy on case management of diarrheal diseases conforms to WHO treatment standards. Yet, for whatever reason, these standard protocols are rarely available at the health facilities or seldom referred to.

1.01 RECOMMENDATION: Define and publish the national CDD policy on case management of diarrheal diseases and distribute to all health personnel revised treatment guides, posters and materials required for the appropriate diagnosis and treatment of children.

Anti-diarrheals. Many health agents told us of having learned during CDD training that anti-diarrheals should be avoided and said they use them less than previously, or not at all. At the same time, one finds such anti-diarrheal drugs such as Ganidan, Charbon, Immodium and Kaolin in health centers and posts; they are distributed through the national pharmacy (PHARMAPRO) on semi-annual allotments. Because of shortfalls in these allotments, these drugs quickly run out at health centers and posts and patients must obtain their drugs commercially by prescription. In Nouakchott, this issue is particularly critical due to the rapid and anarchic development of private pharmacies. The wide scale use of inappropriate and occasionally dangerous drugs for children with diarrheal disease is both alarming and counterproductive to the ORT effort. Mothers given both ORS and drugs will often choose to use the drugs and neglect the fluids since drugs are generally easier to administer and are perceived as being stronger.

The use of such products (antibiotics and other anti-diarrheal drugs) is often dangerous to small children and should be discouraged. Clearly, more work in this area is needed. One objective is to reduce the use and prescription of these drugs in hospitals, health centers and posts through training and information. A second is to make it clear that the policy of the Government is NOT to use drugs for cases of simple diarrheal disease. While anti-parasitics such as Metronidazole are indicated for dysentery as evidenced by blood in the stools,

these drugs are often dispensed without first confirming the presence of blood.

1.02 RECOMMENDATION: Remove anti-diarrheal drugs from the list of drugs authorized for public health facilities and discontinue distribution by the National Pharmacy (PHARMAPRO). We also recommend that their importation be prohibited or severely restricted.

1.03 RECOMMENDATION: Circulate to MHPA personnel a personal memorandum from the Minister of Health clearly defining the policy on the use of drugs in the treatment of diarrheal diseases in children. Make it clear that very specific drugs are to be used ONLY in those cases where children either have blood in their stool, or have prolonged episode of diarrhea, or have other associated illnesses such as pneumonia.

Measuring the Sugar and Salt Solution (SSS). Measuring errors resulting in an excessively salty solution are frequently encountered with the use of SSS (either by use of too much salt or not enough water). Observations made during the evaluation identified different reasons for errors: confusion in filling up a tea glass 12 times to get one liter, confusion between 2 pinches with 3 fingers and 3 pinches, use of big grains of salt instead of powdered salt, and confusion between the Senegalese recipe and Mauritanian one which is substantially different.

1.04 RECOMMENDATION: Undertake an operations research effort to identify a more reliable way to measure ingredients, in particular the correct proportion of salt and water with the least risk, and an effective means of extending the recommended method to mothers.

1.05 RECOMMENDATION: Compare those findings with operations research on home available fluids (see Recommendation 3.03). On the basis of the results, reconsider and revise as necessary the policy and the messages being communicated through training and IEC efforts.

Cholera Epidemic Control This has received highest political priority through the personal interest of the Chief of State. While cholera has been endemic in Mauritania for many years, with annual outbreaks, neither the central level nor regional and local levels have been prepared in advance and equipped to reduce the incidence of cases and mitigate the severity of epidemics. The CDD office is assigned operational and reporting responsibility of containment of the annual epidemic. During the 1988 cholera outbreak, the CDD office did issue guidance to clarify the national policy for dealing with the epidemic. In addition, the office had to reassign personnel functions and defer previously scheduled actions, e.g. training, for the absolute priority of countering the 1988 epidemic. The team

believes that overall Mauritanian capability to prevent and control periodic cholera outbreaks would be enhanced significantly if epidemic control concerns were incorporated formally within the established CDD program. Recognition of the endemic nature of cholera in Mauritania instead of treating individual outbreaks de novo would permit the pooling and more timely application of scarce resources, both human and logistic, to establish a system of greater overall capacity to reduce the incidence of all diarrheal diseases, including cholera, and to attenuate the severity of individual epidemics.

1.06 RECOMMENDATION: Establish a national policy against cholera as an integral part of an CDD program. Consolidate training, education, management and equipment availability on a year-round basis, with particular emphasis on high-incidence cholera and other diarrheal disease months.

Supply and Management of ORS Packets. Availability of ORS packets is the keystone to an effective CDD program. It is urgent that adequate stocks of ORS Packets be made readily available for distribution to mothers.

All ORS packets used in Mauritania are imported, a feasibility study having rejected the possibility of local production due to the small population. Although many donors have provided ORS packets from various sources, all are standardized for use with one litre of water.

PHARMAPRO distributes a standard package of medicines semi-annually to each region but this does not include ORS packets. ORS packets have only been distributed to regions or in some cases to departments directly as part of the anti-cholera campaign. The established policy is to require regions to requisition regular needs of ORS packets separately; however, according to PHARMAPRO, no such requisitions have ever been received. It is evident that there are severe chronic shortages of ORS packets in Mauritanian health facilities.

1.07 RECOMMENDATION: Mandate the inclusion of packets in the national drug package supplied by PHARMAPRO semi-annually as an indispensable first step to make adequate stocks of ORS packets readily available. The team believes that this is a matter of such fundamental concern that it recommends that the required directive be prepared for issuance by the Minister of Health, denoting his personal interest.

1.08 RECOMMENDATION: The CDD Coordinator should initiate a policy of active collaboration with PVO and other primary health care projects to extend the use of ORS packets at the village level, and initiate appropriate procedures to implement the policy. This should be reflected in provision for an increase of

packet supplies in such departments where PHC projects are active to allow VHWS and TBAs to replenish their supplies more easily.

Cost Reduction and Recovery. With the dearth of funds available to implement programs including the CDD program, the question of cost recovery and reduction assumes key proportions for program sustainability. GIRM policy has been to make free distribution of ORS packets and other drugs in all health facilities; however, in some villages, VHW's charge a nominal sum for ORS packets and drugs. It should be noted that, because of frequent unavailability of drugs at health facilities, Mauritians are accustomed to paying fees for drugs obtained either with or without prescription. In fact, these medications at times can be very expensive. With the development of a new primary health care proposal under the Bamako Initiative designed to achieve substantial recovery of costs, a convenient opportunity appears to exist for the introduction of a small charge for ORS packets. Similarly, World Bank priority consideration of health, family planning and nutrition projects in two regions should incorporate a feature to examine cost recovery. Given the modest production costs of ORS packets, an attractive sales price should be feasible. In line with previous research findings, this could serve to increase demand for ORS packets as a diarrheal disease treatment.

1.09 RECOMMENDATION: Undertake a study in one region or department, possibly in connection with donors' project design activities, to determine the technical and administrative feasibility of instituting a nominal charge for ORS and consider a pilot project to test such a scheme.

1.10 RECOMMENDATION: Consider a study and pilot activity to test-market ORS packets through participating pharmacists or general merchants in a small or medium sized urban center on a subsidized basis.

2. MANAGEMENT

General Management. In Mauritania, the focal point of the CDD program is the office of the Coordinator for the National Program of the Control of Diarrheal Disease which is a component of the Service Of Infectious Disease, one of six services of the Public Health Direction of the Ministry of Health and Social Affairs (MHSA). No central document exists that sets forth in one place the overall long term strategy, organization and course of action of the CDD. However, the 1985 planning document prepared with PRITECH assistance, provides a brief summary of the strategy.

The Coordinator's office is the focal point for the CDD program but actual operations of the program are subsumed under the general system of provision of health care. Thus, it is unreasonable to expect that the CDD program will function more effectively than the health system at large. The program must rely heavily on outside resources of funding material resources and technical assistance. Lacking the operational status of being a Service, the CDD program and its Coordinator are limited in action. The Coordinator's role thus becomes largely a matter of planning and reporting, training and furthering the preparation and dissemination of educational materials, and monitoring of program activities throughout the country. In addition, and perhaps most importantly, he is charged with the interminable search for funds from donors for carrying out these functions since the Ministry budget makes provision only for staff salaries and not for other costs of operations.

This is contrary to the budget proposal in the original program presentation which foresaw very substantial GIRM allocations from non-donor sources for operating expenses including vehicles, gasoline and maintenance.

The perennial shortage of funds and material and the search for more have put severe constraints on the ability of the Coordinator to supervise and monitor actual field operations of the program. Thus, he has not been able to tackle some issues of critical importance to the success of the program, such as the effective management and distribution of ORS packets within the country at large.

The Coordinator is also charged with the technical management of the campaign against cholera that is undertaken to combat annual outbreaks. Rather than reinforce the impact of the on-going national anti-diarrhea program, this extra duty has detracted from the ability of the Coordinator to carry out his CDD functions to strengthen the system's basic ability to treat all cases of diarrheal disease more efficiently and cost effectively.

Despite the slow start of the program and intermittent lacunae attributable to staff turnover and absences and reorganization in

the MHSA, there have been some solid accomplishments: development of work plans, functional descriptions and future plans; training of substantial numbers of physicians, nurses, midwives and other health personnel; development and distribution of educational materials, and the development of radio and television programs. As a result, there appears to be a degree of familiarity among personnel at regional and departmental health facilities with ORT and efforts at educating mothers.

However, much remains to be done. Regional coordinators have been designated but their training was postponed due to the 1988 cholera epidemic. Six persons have been assigned to the central office but only the Coordinator himself is covered by a job description. There is a chronic lack of information at all levels due to the incompleteness or irregularity of reporting and lack of feedback, and practically no effective systematic communication between the central office and regional and local levels due to inadequate coordination, supervision and monitoring of the program. In short, the concept of a program has been established with a central focal point; what remains to be done is to flesh it out and gradually build up its operational capacities.

2.01 RECOMMENDATION: In the near future, assign duties to each staff member of the Coordinator's office to relate specifically to the key functions of the office, with particular attention to program management, including information and analysis, logistics and ORS supply management.

2.02 RECOMMENDATION: Prepare appropriate written job descriptions to be distributed to each employee to permit guidance and evaluation of employees' performance.

2.03 RECOMMENDATION: Develop a system of interchangeable responsibilities among staff to help ensure that key functions are carried out during staff absences for training or leave. This principle should also be extended to regional and subordinate levels.

2.04 RECOMMENDATION: In connection with continuing MHSA planning for decentralization of health services, the Coordinator's office should develop a basic management package for inclusion as appropriate in training programs of personnel at regional and lower levels. This is particularly important with regard to the rescheduled training of regional CDD coordinators.

2.05 RECOMMENDATION: Secure commitment of operating funds for vehicles and their operation and maintenance from GIRM budgetary allocations.

Regional Management. The management of the CDD program at the regional level is at an embryonic stage. Program coordinators have been designated by the regional chief medical officer pursuant to a directive from the national level. Insofar as could be determined on site, the designation at this point is mostly a formality and appears to be made at random. Supervision of activities is virtually non-existent in most instances.

While job descriptions have been developed at the central office defining the CDD functions of the regional chief medical officer, coordinator, departmental chief medical officer, departmental coordinator, health practitioners and mobile vaccination teams, we were unable to locate anyone who had ever received them. In any event, except in Trarza region, the team was unable to uncover evidence that the CDD program received any particular emphasis in the planning or operations at regional or departmental level. Primary reliability for implementation of the CDD program, including training of subordinate staff and education of mothers, appears to depend principally on the degree of training and initiative of individuals. Unfortunately, a training seminar for regional coordinators originally scheduled for September was postponed until March 1989 so that familiarity by these persons with the program they are supposed to coordinate is sketchy to non-existent.

In Trarza region, the CDD program, not without its share of problems, has benefitted from the presence of the USAID Primary Health Care project into which it has been integrated. Given a high degree of leadership and initiative in the direction of health activities in the region, this has helped assure a degree of administration and supervision that appears to be unique in Mauritania and which also encompasses CDD activities. Trarza is one of only three regions nationwide that regularly collect CDD information and forward it to the Coordinator's office.

In other regions visited by the team, the CDD program and health care in general seemed beset by more problems. Lack of supervision was the acknowledged reason for many of these, with the blame attributed to lack of vehicles and fuel. Additional reasons evident to the Team appear to be the lack of available personnel due to vacancies, high personnel turnover involving considerable periods of on-the-job orientation before new staff become fully operational, abbreviated working hours, and absences on leave which can be for extended periods. Little effort seems to be made to coordinate absences and assure the uninterrupted performance of needed services and their supervision. The CDD program suffers proportionally from the general state of affairs.

2.06 RECOMMENDATION: Standardize, wherever possible, the position of the individual designated as regional coordinator and publicize the appointment, ensuring that local medical personnel understand his functions and responsibilities.

2.07 RECOMMENDATION: Proceed with the training for regional program coordinators to enable them to receive the specialized body of knowledge to carry out their CDD related duties. Incorporate the management component suggested in recommendation 2.04 above.

2.08 RECOMMENDATION: Organize a brief meeting in individual regions between the central CDD Coordinator and key regional health administrators to review the programmatic and management aims of the CDD program and to set an action agenda for improved operations. Besides regional-level personnel, departmental chief medical officers and their designee for CDD should be included and a clear chain of actions established to obtain improvements in key functions, e.g., record keeping, reporting, ORS packet management, vehicle repair and maintenance and the provision of feedback to subordinate levels.

2.09 RECOMMENDATION: Possibly within the terms of reference of the management adviser being assigned to MHSA under the USAID Primary Health Care project JSI contract, give priority consideration to assessing current administrative practices in the provision of health care at regional and subordinate levels. Such assessment might identify a possible agenda of improvements in key areas including budgeting, allocation of resources, the rudiments of systematic personnel administration and a program of effective scheduling of work. Quite obviously, the CDD program stands to derive substantial benefits from such an effort.

Hospitals - Oral Rehydration Units (ORU). Hospitals, including the central hospital in Nouakchott, have been left out of the CDD program thus far.

The initial CDD program consisted of countrywide extension of Oral Rehydration Units (ORU), following upon the previous establishment of three experimental units that were already functioning in Nouakchott. During the development of a new CDD approach in 1985, these oral rehydration units seemed inappropriate because they were not integrated with any other CDD components and all were closed down. The chief pediatric ward and also the only pediatrician in Mauritania were excluded from the CDD program. At this point, a dramatic gap developed between the hospital structure and the CDD program. The structure of the MHSA, where hospitals and public health programs are completely separated, has contributed to this situation.

While most health centers and posts use ORT for most cases of diarrheal disease, this seems not to be the practice at hospitals, where intravenous treatment and anti-diarrheals continue to be a common therapy. This represents a significant problem. While hospitals function as referral centers, children with diarrheal disease get less appropriate treatment there than at the health centers and posts. Thus, health personnel and

mothers receive an inappropriate message on how to treat children with diarrhea.

At present, the CDD program has planned with UNICEF support to reopen ORUs in Nouakchott central hospital and in six regional hospitals.

2.10 RECOMMENDATION: In the near future, integrate the hospitals, particularly Nouakchott central hospital, into the activities of the CDD program. Ensure the functioning of Oral Rehydration Units as a referral system and training facility for students.

Pre-Service Training. The major focus of the training program has been the retraining of those doctors, nurses, and other health agents who are already working in MHPA facilities. Pre-service training of staff is also important to ensure that as new graduates take up their posts at health facilities, the work which has begun through the CDD program will continue. This has been done in the training facility (Public Health nursing school) for mid-wives and nurses, where training modules have been distributed to students during their last year of study, and teachers in French and Arabic have been trained to use these modules.

Nevertheless, until doctors are taught to use ORT rather than anti-diarrheals and intravenous fluids, it will remain difficult to convince other health workers to do so. The institutionalization of ORT throughout the health system will continue to be an uphill battle until the training of new physicians stresses the importance and effectiveness of ORT.

2.11 RECOMMENDATION: Ensure the follow-up of the use of promotional material in the public health nursing school by (1) providing enough training modules for students, and (2) updating contents of the teaching program to reflect the national CDD Policy.

2.12 RECOMMENDATION: Ensure that each graduate has had practical experience in Oral Rehydration Therapy at the Oral Rehydration Unit.

2.13 RECOMMENDATION: Ensure that all new physicians are instructed in the national CDD policy and have served a short tour at the Oral Rehydration Unit.

Health Information System. In spite of the efforts of CDD Coordinator office to stay informed, the file of reports on the incidence of diarrhea, the use of ORS packets and the status of their stocks is very thin. Given the limited statistical information that reaches the central level, it is not possible to assess actual ORS consumption.

Each region is supposed to submit monthly report to the CDD central office on standard forms (see Annex C). Individual health facilities are expected to provide the data (including epidemiologic reports, EPI data, CDD data) to district and regional levels. Three regions, including Trarza, submit regular reports. Otherwise, some reports have reached the CDD central office, but they are few, irregular and, for the most part, incomplete.

During the evaluation, different reasons for this lack of reporting were identified: lack of forms at subordinate levels, shortages in their distribution, no understanding of what is asked in the reporting forms, delays at the regional level, and lack of interest in reporting information. No health agents mentioned receiving feedback on any reports sent. In several instances, they expressed discouragement at the lack of information provided to them from above and added that they saw no purpose in filing reports.

2.14 RECOMMENDATION: Ensure that the CDD reporting forms with appropriate instructions are available in all health facilities. Provide an explanation of the data needed and its purpose. Possibly make use of other programs such as EPI, PRSSR and UNICEF to distribute and collect the forms.

2.15 RECOMMENDATION: At the CDD Coordinator office, maintain a list of regions and districts, noting date of receipt of each month's data as the reports arrive. Emphasize that collection and transmission of these standard forms to the central office is the responsibility of the regional CDD coordinator.

2.16 RECOMMENDATION: Designate a person on the CDD Coordinator's staff to be responsible for (1) gathering the information received, (2) analyzing the data and (3) sending back periodic feedback to the regions for wider distribution. If possible, such person should have some statistical training.

Information, Education and Communication

A. Execution of IEC Strategy

The IEC strategy for the National CDD program (as defined in the August 1985 planning document) called for a comprehensive multiple-channel, multi-media campaign whose messages were to be derived from research studies. For greatest synergy, the introduction timing of the media/materials would be closely linked with the CDD training of health personnel and other people (such as teachers and rural development workers) at the departmental level.

Unfortunately, only parts of this integrated strategy were executed as planned:

1. Baseline research was minimal. Input for media/materials development was based mainly on standard Sahel PRITECH format modified only by a) a qualitative anthropological study of diarrhea nomenclature, and b) interviews with 10 mothers to determine the appropriate local recipe for the sugar salt solution.

The team feels that a quantitative Knowledge, Attitudes and Practices (KAP) study, for which preliminary questionnaires had been developed, would have been warranted not only for message development purposes, but also as a baseline against which the results of the whole program could be measured.

2. Due to delays in both training sessions and media/materials development, the impact of the campaign was unsynchronized - the radio spots started airing (in April 1987) before the departmental-level training sessions, and the printed materials were not available for use in these sessions until after 44% had been trained. As of the end of 1988, the CDD television spots have never been broadcast.
3. Though a large number of non-health personnel (mainly educational, rural development, local government and PVO) were included in the CDD training activities, there is little evidence of their participation in publicizing CDD activities or promulgating the educational messages. This is most likely due to the lack of practical takeaway information explaining how to implement these activities.

2.17 RECOMMENDATION: In the future, conduct more exhaustive formative research to select priorities and determine what mix of materials and/or media would be most likely to achieve objectives.

2.18 RECOMMENDATION: In upcoming multi-channel campaigns or activities, synchronize the introduction of IEC elements in order to achieve maximum reinforcement.

2.19 RECOMMENDATION: Develop practical guides for use with all educational materials which will be used in training sessions. Provide special guidance to non-health personnel on how to organize health education sessions in their respective milieu. These guides should also contain recommendations for distribution and display of material.

B. Coordination and Information

Effective action was hampered by lack of continued functional coordination (between CDD, Nutrition, Health Education and the media) which is crucial to develop and promulgate appropriate messages in an organized fashion.

Additionally, information regarding IEC activities is scant: 75% of the educational material has been distributed, without any records on how this was accomplished. Most health personnel interviewed by the Team claimed that they had received insufficient educational materials, and were not aware that additional materials are available upon request at the central level.

There was also little, if any, follow-up as to actual radio broadcast schedule vs. the planned schedule.

2.20 RECOMMENDATION: Assign as part of the job description of a CDD staff member the role of coordinating with the Nutrition and Health Education Services to more smoothly develop, execute and monitor the IEC activities. This role should include monitoring the distribution of printed materials and determining whether the radio and TV spots were broadcast as scheduled.

2.21 RECOMMENDATION: Institute a formal mechanism for health personnel to request additional IEC materials from the central level.

C. Dissemination of Printed Educational Materials

Except in one instance, CDD educational materials were only on display at health facilities (including the Red Crescent). Even in these health facilities, it was common to find materials displayed only in the MCH consultation room. The team rarely saw any materials in the dispensaries.

Exposure to the printed materials was lowest at the village level where a significant number of mothers and even some VHW's and TBA's interviewed by the team had never seen the material. Of the three items, the brochure was less likely to have been remembered than the poster or flyer.

Few mothers ever received a flyer to take home. Some of the health workers had not known that the flyers were to be distributed to the mothers. This situation is probably due to the small number of flyers received per health worker and also to the absence of explicit direction regarding their use.

2.22 RECOMMENDATION: Distribute materials more widely. The poster should be seen in all public places - the prefecture, city hall, in schools, pharmacies, youth centers, women's cooperatives, markets, movie theaters - as well as in offices and government buildings and everywhere throughout hospitals, dispensaries and MCH centers.

2.23 RECOMMENDATION: Assign responsibility for distribution of materials to a senior health official in each department. This person would assure that all health personnel at the department

and village levels received the appropriate number of materials. She/he would also facilitate the display of materials in such public places within each department, as described in Recommendation 2.22.

D. Audio/Visual Media

T.V. The CDD TV spots have not been broadcast because production was never completed. A substantial amount of work is still needed before they could be ready.

World Vision has developed ORT spots for television (one in each of the four national languages) in conjunction with the CDD program and the Health Education Service. These spots were broadcast several times in April and May 1988. The format of the World Vision spot is significantly more interesting and probably would be more effective than those being developed by the CDD program.

Radio. Four radio spots in each of the four national languages (a total of 16) have been broadcast in the weekly slots accorded to Ministry of Health messages. Three of the spots focus on ORS mixing and the fourth on diarrhea prevention measures.

The broadcast schedule has been for each language: one spot a week in April and May and one spot every two weeks in August and September in both 1987 and 1988. This timing was planned to coincide with high diarrhea and cholera periods. The spots are 10-15 minutes long and the format for all four is: music - narrator - music - situation - narrator - music.

Additionally, a 15 minute interview in Pulaar only about diarrheal disease was held with the program director, a health education specialist and a midwife. This program was rebroadcast several times.

2.24 RECOMMENDATION: Work with World Vision and the Health Education Service to encourage the Television Service to increase diffusion of the World Vision TV spots, since these well-produced spots promote the same message as the yet incomplete CDD spots.

2.25 RECOMMENDATION: Broadcast the CDD radio spots on a more regular basis throughout the year; the current gap of six months (between September and April) is too long for the public to remember the message. This would reinforce the concept that the CDD program is a year-round effort and not just specific to periods of cholera and major outbreaks of diarrhea.

2.26 RECOMMENDATION: Significantly increase the frequency of radio spots during the periods when broadcast, so that the message can be recognized and retained. If this is not possible,

then broadcast only two spots -- the one on prevention with one of the three SSS spots -- during a given two-month period.

2.27 RECOMMENDATION: The Pulaar interview should be rebroadcast. Also, similar interview programs should be held in other languages, taped and rebroadcast on a regular basis.

2.28 RECOMMENDATION: The use of 30 to 60 second spots for both TV and radio is encouraged to increase demand on where to get information on the prevention and treatment of diarrhea and dehydration.

2.29 RECOMMENDATION: Investigate the possibility of using audio/visual materials such as slide-tape or filmstrip programs, music videos, or live entertainment to reach a wider audience at fixed locations such as MCH centers or villages. Cooperate with World Vision in this effort.

E. Publicity

There have been several articles in the daily newspaper and recently in the Mauritanie Sante Review. Most of these articles have been contributed by the Coordinator of the CDD program. However, several have been written independently with treatments and recommendations that differ significantly from those promulgated by the CDD program.

2.30 RECOMMENDATION: Use print media, such as the daily newspaper more frequently. Frequent articles on the CDD program in the weekly health column serve to increase familiarity with the program among the Ministry of Health and other influential people.

2.31 RECOMMENDATION: Channel all articles and materials related to diarrheal disease and cholera through the CDD coordinator to ensure consistency with the program's policy.

2.32 RECOMMENDATION: Circulate press releases of CDD program activities to print and broadcast media. This would include announcements of training seminars, evaluation studies, etc. This would also be the most effective way to publicize an event such as National ORT Days which have been planned for April 1989.

Logistics. Regions and individual departments endeavor to obtain ORS packets supplies on an ad hoc basis from Nouakchott from the CDD Coordinator's Office, or UNICEF, or whoever else will supply them. Thus, availability becomes a function of proximity to Nouakchott and of individual initiative. Management of ORS packets, medicines and medical supplies in regions appears to be notional only. There is no central inventory or requisitioning system and only informal estimation of needs. The general practice is to await what Nouakchott provides in its shipments

which is never enough, at best a three month supply. The team found that stock facilities were dispersed and generally unsatisfactory, appalling in some place. With rare exceptions, storerooms were dirty and medicines, ORS packets (when available), bleach used for water purification, educational material and plain trash and debris scattered pell mell. The team frequently noted stocks of spoiled ORS packets.

At the village level, ORS packets were sometimes available in PVO or the PRSSR project-managed PHC programs. In most villages, however, shortages of ORS packets were noted. One of the reasons identified was the lack of packets available at the district level for distribution either to villages or to local clients directly. While distribution to mothers at health facilities is generally free when available, ORS packets and other drugs are sold by VHW's and TBA's to mothers in villages. Funds received are used to purchase drugs for the village or to provide a small compensation for volunteer workers.

2.33 RECOMMENDATION: Establish a system of inventory control with a procedure for time-phased distribution from regional and departmental stocks to subordinate levels, with records showing dates and quantities received and distributed. Instruct the person in charge of each facility to ensure that distribution is done on a first in, first out basis. The establishment of a more regular and systematic reporting system (see Recommendations 2.14 and 2.16 above) should provide for coverage of ORS packet inventory information at all locations.

2.34 RECOMMENDATION: Issue instructions for destruction of spoiled packets at all locations.

Technical Assistance: The Role of PRITECH. In the management of the CDD program, PRITECH appears to have played a key role by providing technical assistance and by acting as a catalyst and advocate for the program among donors and on occasion with other components of the MHSAs. The CDD Coordinator frankly acknowledges this role and gives PRITECH generous credit. At the same time, he cautions that without a future role by PRITECH, CDD program activities may have to be cut back by half.

PRITECH's key contributions have included:

- a. Helping the MHSA formulate the organization and plan for the CDD and in promoting the establishment of the full time coordinator's office at the central level and the designation of regional CDD coordinators.
- b. Assisting MHSA and the Coordinator in developing a program strategy, budget and work plans through 1992.
- c. Helping plan training activities at the national and regional levels and participating in the courses.
- d. Development of educational materials, radio and television programs.
- e. Generating support from donors, particularly UNICEF and WHO, for the operational CDD program resulting -- for better or worse -- in 100% coverage of operating costs other than personnel.

In addition, PRITECH through its regional coordinator has been a source of informal advice and support to the CDD Coordinator's office and has involved itself in helping break bottlenecks particularly in training and materials development. In this process, PRITECH has played a useful coordinating role among donors and the MHSA with regard to the CDD program.

It is obvious that the investment of \$100,000 has had a widely beneficial effect in getting the program to the point it has reached. Given the magnitude of the problems faced and all-pervasive need for management and technical assistance to the CDD program, the Team concludes that a substantially larger effort would be appropriate to move from a creditable beginning to an effectively functioning program. See Section 4, Future Prospects, below.

3. OPERATIONS

Case Management of Diarrheal Disease. Most of the health workers visited knew and often practiced ORT in the case-management of diarrheal diseases. However, during interviews and observations some problems were raised, particularly concerning the evaluation of the degree of dehydration and appropriate treatment. The classification of dehydration and the use of treatment protocols is still poorly understood.

The clinical evaluation to diagnose dehydration is often perfunctory if undertaken at all, so only two categories of dehydration are considered, either none or severe. Thus, two treatments are usually prescribed, either ORT at home or intravenous treatment in hospital. It is in the treatment of

children with moderate dehydration that our observations were the most disappointing.

The status of moderate dehydration is frequently ignored. Thus, approved case-management of diarrhea, such as administration of ORT ("Plan B") at the health center over a period of several hours, is not practiced. Moreover, in any case, it was noticed that very few health agents knew the quantity of fluids that children with diarrhea showing either no or moderate dehydration should receive.

All cases with severe dehydration were systematically referred to hospitals for intravenous treatment. According to the present policy, health workers are to prescribe the ORS packets. Because of the common shortage of ORS packets in health facilities, the prescription of domestically prepared sugar salt solution (SSS) is widely advised. However, because of the lack of equipment, demonstrations to teach mothers how to prepare and administer the SSS are rarely done.

SSS and ORS packets seem to be known to many women but used by relatively few. Most of the women questioned during the evaluation said they first gave traditional treatment when their children had diarrhea. Most of those treatments were fluid-based such as curdled milk, sugar and salt, rice or maize gruel and pain de singe (powdered baobab fruit). While only few women could remember the correct SSS recipe, ORS packet preparation was more easily understood. However, in all cases the quantity and timing of fluids to be administered to the child is unknown.

In the area of nutritional aspects of diarrhea disease management, there is also much that could be done, particularly in the rural areas where both acute and chronic malnutrition are prevalent and contribute significantly to diarrheal disease-related mortality in children. The program itself has focused less on the nutritional aspect of treatment than on the need for fluid replacement. Though most of the mothers and health workers are continuing to provide fluids during diarrhea, none of them stressed the importance of the quantity and the quality of intake.

3.01 RECOMMENDATION: Organize Oral Rehydration corners in health facilities for the preparation and administration of the ORT for treatment of moderate dehydration and to demonstrate the correct preparation.

3.02 RECOMMENDATION: Define and test a clinical evaluation and treatment form to be used routinely in all Oral Rehydration Units and health facilities, particularly for case management of moderate dehydration.

3.03 RECOMMENDATION: Include in the KAP survey research to assess the value of traditional treatment such as home available fluids in the case management of simple diarrheal disease.

3.04 RECOMMENDATION: Emphasize the nutritional aspect by (1) increasing collaboration with the Department of Nutrition, and (2) including in the scheduled KAP survey a nutritional component, particularly concerning preparation of more nutritious available foods to feed children during and after diarrhea.

Training

Mortality due to diarrheal disease will not be reduced unless good case management is achieved at all levels of health facilities. Focusing on this important aspect, the CDD program has emphasized training at each level, a curriculum and material (Appendix B) have been developed, and WHO training guides have been used as the basis of training.

During the past two years, the CDD program has made significant accomplishments in providing training regarding the importance and use of ORT and has organized three levels of training courses:

1. At the central level, one session of six days' training; 40 health agents participated, mainly regional medical officers, midwives and nurses, and chiefs of health centers.
2. At the regional level, four sessions of four days' training; 96 health workers participated, mainly midwives and nurses.
3. At the departmental level, 21 sessions of two days' training, 619 persons participated, including all health personnel and others.

As a result, the senior-level staff at nearly all health centers have been trained. The different categories of personnel trained are as follows: 42 physicians (47%), 82 midwives (87%), 175 nurses (66%), 247 auxiliary nurses (65%), and 73 others.

From the results of the Team's own observations, it appears that the training has had a significant impact on the workers who were trained, particularly in MCH centers. Unfortunately, the impact of the training was lower at the hospital level, where intravenous fluids and antidiarrheals continue as the common therapy. Health personnel who underwent training received limited materials. Very few told us that, during the course of the training, they had had practical experience how to prepare the solutions and that they had treated children with diarrhea. There was also some concern expressed about the fact that too many health agents were trained together, including too many persons from different health categories. With few exceptions,

health personnel who received training appear not to have formally trained their own subordinates or VHWS.

To encourage the involvement of hospitals in the use of ORT and the creation of Oral Rehydration Units, two physicians (the chief pediatrician of Nouakchott Central Hospital and the director of Public Health Direction) have received practical training in Zaire. However, no impact is evident so far.

It must be stressed that these training efforts, while commendable, have not included provision for brush-up training or for training of newly assigned personnel. This is particularly critical in a country of rapid turnover of health personnel.

3.05 RECOMMENDATION: Organize annual brush-up training and training for newly assigned personnel, targeting health workers who are more likely to practice ORT or be involved in ORT management such as regional CDD coordinators, PHC coordinators, chiefs of MCH centers, chiefs of pediatric wards (ORU), and nutritionists. Include "Training of Trainers" components as well training on management (see also Recommendation 2.04).

3.06 RECOMMENDATION: Ensure that each trained person treat at least one child with diarrhea during the training session.

Information, Education and Communication Operations.

A. National languages: All three printed materials have been produced in each of the four national languages with French explanations on each as well. The Hassaniya materials have been tailored to be culturally specific (with printing from right to left, and using appropriate materials, models and surroundings). The need for this degree of differentiation in printed materials should be assessed, due to the high level of illiteracy. Perhaps fewer words and more reliance on pictures would be warranted.

The use of national languages is more important when it comes to broadcast media. Some mothers interviewed especially mentioned that the radio spots were good because they were in their own language and therefore they could follow them.

The problem is that only a small percentage of the TV and radio broadcast hours are dedicated to programming in the three languages other than Hassaniya (12% for TV and 25-30% for radio). Additionally, none of the radio programming is after 7 p.m.; it mostly takes place during mealtimes when the women are likely to be busy with food preparation.

This situation makes it easy to understand why many of the Pulaar, Wolof and Soninke speakers prefer to listen to Radio and TV Senegal which is readily accessible in the southern part of the country. The main problem with this media spillover is that

the recipe for the sugar-salt-solution on Senegalese broadcast media is different from the Mauritanian recipe. There was consequently a high degree of confusion uncovered among mothers trying to explain how the solution is made.

3.07 RECOMMENDATION: Consider using the CDD printed material in literacy programs. The accompanying guide recommended earlier would be useful in helping literacy trainers extend ORT education to a wider audience.

3.08 RECOMMENDATION: Add tag-ons to the Senegalese and Mauritanian media and TV spots specifying which country's SSS measurement system is being described. For example, the opening line of the radio spots which says that diarrhea is a serious disease in our country could be modified to say in Mauritania. This modification could help ameliorate the confusion.

3.09 RECOMMENDATION: Increase frequency of the TV and radio spots in Hassiniya to take advantage of the large amount of programming time in this language.

3.10 RECOMMENDATION: Consider developing French versions of the TV and radio spots (or short, 30 second to one minute editions) and air these around French programming, especially the news. Even though not all Mauritanian understand French, this would be valuable for publicity and to promote awareness of the CDD program with influential people.

B. Materials Development - Pretesting and Revision. Only the brochure (which includes the flyer) was pretested and revised. Despite suggestions from PRITECH, the CDD posters, radio and TV programs have never been tested among target groups (World Vision did do some testing and revision with its TV spots among mothers at a health clinic).

Pretesting is an extremely important step and often consists of several rounds. Several of the problems with the materials uncovered during the study conducted in June and on our field trip during this evaluation might have been avoided through pretesting.

3.11 RECOMMENDATION: Pretest all IEC materials, including broadcast programs with appropriate target audiences and revise according to results. Current materials should be tested prior to ordering additional supplies and revised to account for any CDD policy changes as well.

C. Use and Comprehension of Materials: The printed educational materials seem to be used most often on an ad hoc basis during consultations. A number of health facilities conduct group sessions on a regular or irregular basis using the materials. These group sessions are often organized at the level of the CREN

(Nutritional Education and Rehabilitation Center) in the MCH Center, and are not too common at the village level, especially in those villages without VHW's. Few of the health workers indicated that they conducted home visits, thus mothers who are most likely to have been exposed to materials are those who frequent the health facilities.

Mothers' reactions to the printed materials were generally positive; they found them interesting, and full of useful information important for mothers to know. But, while many said the materials were easy to understand, comparatively few were able to adequately explain what they said (both during the Team's field trip and in the June 1988 study). Even one of the VHW's admitted that she herself did not understand what the pictures said.

The mothers' inability to explain the material was especially pronounced regarding the brochure. This is most likely due to the fact that this is a 15-page item which addresses at least five specific messages related to diarrhea.

However, there was also a significant lack of ability among mothers to explain the flyers, even among those who claimed to have seen them before and knew how to prepare the solution. The drawings appear to be somewhat abstract; quite a few mothers were not able to identify the salt, the sugar, or the ORS packets as such.

The main problem with the poster was that mothers who couldn't read had no idea that it was in any way related to diarrhea or dehydration. They generally thought it was a hygiene message or a mother preparing something for her child to drink. Again, as with the flyer, the sugar and salt were not identified as such or related to SSS. Mothers recognized the poster and thought it was pretty, but in general did not appear to comprehend the message.

In the Team's field visit, we noticed that there was too little stress that the purpose of ORS and SSS is to treat dehydration. In fact, many mothers said that ORS and SSS were very effective in curing diarrhea. In addition, the primary message on the need to augment the intake of fluids to prevent or treat dehydration is often lost in a myriad of other messages, particularly in stressing the importance of purified water instead of the overall importance of fluids intake.

Regarding the form of materials, some health personnel requested that they be more durable and easier to display.

3.12 RECOMMENDATION: Provide accompanying guides for each item of educational material. This will help health personnel better utilize these materials. For example, the contents of the

brochure should be taught in five different sessions instead of all at once.

3.13 RECOMMENDATION: Test all of the printed materials extensively with mothers of children aged five and under in order to make revisions that would promote greater comprehension of the material. Develop materials that can be understood by a low-literacy population; this usually calls for very realistic representations rather than abstract ones.

3.14 RECOMMENDATION: Revise the poster so that it is immediately recognized as a diarrhea and/or dehydration message. Consider using a still shot from the TV spot for the poster, to better integrate the overall IEC campaign.

3.15 RECOMMENDATION: When training mothers about ORS and SSS, stress that it is designed to stop dehydration due to diarrhea and not the diarrhea itself. Also, instruct health personnel to focus on the importance of overall level of fluid intake and to deemphasize the importance of purifying the water.

3.16 RECOMMENDATION: Consider the possibility of lamination of flyers for demonstration purposes and the possibility of using decal materials.

D. Reach and Comprehension of Mass Media. Diffusion of both the radio and TV (World Vision) spots has occurred very infrequently and not recently. Other factors impeding receipt of media messages is the less-than-total radio coverage and small (outside of Nouakchott) TV coverage in Mauritania, the day-time programming of radio spots (except Hassaniya) and the large proportion of the population who prefer Radio and TV Senegal. There is also often a problem with reception, especially in outlying regions due to terrain and weather disturbances.

Because of all the above, mothers tended to be less aware of the radio and TV spots than of the printed material. Among those who were aware, the reaction was the same; they said the message was important and educational but generally could not remember the message. Those who remembered something were most likely to talk about hygiene or the sugar-salt-solution which was often described incorrectly.

Some mothers noticed that the radio spots were not recently broadcast and thought they were too short. The latter is significant in that there are three messages contained in the radio spot (how to recognize dehydration, how to prepare SSS and how to prevent diarrhea) which are treated consecutively but not linked together - all in less than five minutes of text. Several mothers noted that radio and TV messages were good because they were in national languages and because the whole family listens together. One mother even picked up on the multi-

channel strategy of the campaign by noting that ever since the radio spot was broadcast, the MCH personnel have been providing the same information about diarrheal disease.

The radio spots were never evaluated among the target group, despite the recommendations of PRITECH.

3.17 RECOMMENDATION: Test the radio and TV spots with the appropriate public (i.e., people who have access to the particular medium) to refine messages so that they are better understood.

3.18 RECOMMENDATION: Only include one specific message per spot; consider developing separate spots for recognition of dehydration, preparation of SSS, administration of SSS and hygienic measures to prevent diarrhea.

3.19 RECOMMENDATION: In the radio and TV spots reinforce the SSS recipe message for listeners by having the actor who is learning it repeat it after being taught.

E. Evaluation of Impact. In June 1988, the CDD undertook a study of educational material use and exposure to the radio spots among 21 health personnel and 120 mothers in the Nouakchott district. While the sampling procedure and question order were not methodologically perfect, the results reported are consistent with those the Team found (using a similar questionnaire) in its informal study during our visit to the regions: health personnel received few educational materials and most mothers exposed to materials and radio messages had problems seizing the messages.

The explanations of these results and the recommendations made following the June media study are among those made in this document. Unfortunately, however, the June study did not ask about behavior related to diarrhea treatment in general or as a result of the IEC activities. The Team was able to get some idea, though, of the impact of the IEC program by asking questions on diarrhea treatment of both health personnel and mothers.

Modifying long-held attitudes and behavior is a long-term process; the upcoming KAP study is an appropriate instrument to measure the impact to date that the IEC campaign has had on mothers' practices regarding diarrheal disease.

3.20 RECOMMENDATION: Design the upcoming KAP study in the following way in order to measure the effect of the IEC program:

- a. Screen respondents so that only members of the target audience (mothers of children five years and under) are interviewed.

- b. Select sample sizes large enough to be able to read regional breaks (at least 100-150 per region), but make sure that the regions are proportionally represented to the national population (or weigh the data accordingly). This will provide regional level health officer with results specific to their region.
- c. Include questions about exposure to all channels of information (frequency of visiting and classes received at health centers, ownership/access to TV/radio, frequency of exposure to media in general, time of day TV/radio watched/listened, source of media--Senegalese and/or Mauritanian, languages understood and read, as well as exposure to CDD materials and media (including World Vision TV spots).
- d. Collect information on how long mothers have been using ORS or SSS and how and where they first heard about it, in order to determine possible linkages of IEC activities to behavior.

3.21 RECOMMENDATION: Future media and materials surveys should also follow parts a, c, and d in the above recommendations for the KAP study.

Supervision. During the evaluation, we often were told that supervision was very important and if supervision were done as planned, it would have made a big difference in the breadth and effectiveness of the program. The Team emphatically agrees.

The CDD program has developed work plans for supervision but none of them were implemented due to the lack of resources and logistical support, and due to cholera outbreaks. A list of objectives as well as supervisory checklists (Annex No. 4) were developed but have never been tested in the field.

At the MHSA level, the different services including EPI, Nutrition, CDD and MCH have attempted to coordinate integrated supervision visits but none have been implemented. Some reasons identified were:

- a. Lack of management skills to integrate all the different activities into one intervention.
- b. Demands and lack of flexibility of donors in the use of budget allowances.
- c. Lack of cooperation among the health services.
- d. Scarcity of resources creating a hoarding mentality.

Supervision of local health activities of all kinds at regional and departmental levels is spotty at best and near non-existent

in the main. Most frequently cited for this state of affairs is the lack of availability of vehicles and fuel. However, the Team believes that the overall state of personnel administration and effectiveness mentioned above under Regional Management is a significant cause as well.

3.22 RECOMMENDATION: Revise the proposed supervision checklist by more objective and diagnostic indicators and provide for collection of data regarding the use of anti-diarrheal drugs, the case management of diarrhea, including the evaluation of different degrees of dehydration, quantity of fluids prescribed, and nutritional advice given to mothers.

3.23 RECOMMENDATION: At the MHSA level, assign a specialist in PHC management and an economist to work jointly on the integration of the different activities, particularly supervision.

3.24 RECOMMENDATION: The CDD central office should assign a person responsible for supervision within Nouakchott district where less logistical and resources support are necessary.

3.25 RECOMMENDATION: At the regional and department level, coordinate plans of supervision with other projects such as PVO's, PRSSR, EPI and UNICEF.

Operations Research. There has not been any to date. The Health Facilities survey was planned for the summer of 1988 but was postponed due to the cholera outbreak. Also, a KAP survey was planned for 1988. These surveys should be valuable tools to evaluate, strengthen, reconsider and eventually revise the present CDD policy. Several concerns identified during this evaluation should be included in those surveys and/or should be subject of separate studies.

3.26 RECOMMENDATION: Undertake operations research regarding the following topics:

- a. Need for more reliable epidemiologic data on morbidity and mortality related to diarrhea;
- b. Value of traditional treatment such as home available fluids in the case management of simple diarrhea (Recommendation No. 1.05).
- c. Measuring errors in the preparation of the sugar-salt-solution, and identification of a more reliable way to measure ingredients (Recommendation No. 1.04).
- d. Development of nutritional aspects, particularly availability of more nutritious food to feed children during and after episode of diarrhea.

- e. Assessment of current administrative practices in the provision of health care at regional and departmental level.
- f. Test marketing of ORS packets. (Recommendation No. 1.10).
- g. Practicability of instituting a charge for ORS packets dispensed at health facilities (Recommendation No. 1.09).

4. FUTURE PROSPECTS

In the face of prodigious difficulties, the GIRM and the Coordinator of the CDD program are justified in feeling a certain pride in what has been accomplished. Recommendations for specific actions to improve future effectiveness are indicated in the separate sections above. However, planning must go beyond these actions to ensure that the momentum achieved so far is not dissipated.

The future of the program depends on the ability to attract donor financing beyond 1989. The only specifically-designated CDD assistance program, the modest PRITECH effort, has reached the end of its scheduled funding, and indications are that further support from AID will not be forthcoming.

Withdrawal of PRITECH support, without a doubt, will force a severe retrenchment of program operations, and will remove from Mauritania one of the most steadfast sources of support for locating financial and material support. The pending completion of USAID's Primary Health Care project also cuts off a possible alternate source of support.

The issue of the CDD program's future has been clouded by somewhat of a controversy over its identification as a separate effort instead of as simply one of many health problems to be approached in an integrated fashion. Putting theory aside, it must be recognized that in the Mauritanian context a CDD program can only function as part of a wider system since there are not enough resources to go around. If the CDD program is to survive, a serious effort must be undertaken to include it as one part of an overall strategy.

The experience in Trarza has shown that CDD efforts have benefitted from association with the USAID FHC project. Similarly, CDD activities should have a definite place in the forthcoming UNICEF child survival and development program for 1988-92 and in two World Bank projects to provide integrated primary health care, nutrition and family planning in selected regions of Mauritania. Other than USAID, donor interest in undertaking health activities in Mauritania remains at a high level. UNICEF, WHO, the World Bank, the African Development Bank and the Arab Bank for Development are some of the donors that have expressed interest.

The GIRM strategy study has been to interest each donor in targeting its project in one or two specific regions. Thus the opportunity exists for the CDD office to work with individual donors for inclusion of the program in their assistance projects, integrated with MCH, nutrition, safe water and sanitation activities, and ensuring that the necessary programmatic and management elements are provided for. In approaching donor

projects, it must be stressed that it is essential to think in terms of improving capability to carry out functions in national rather than only in project-specific terms.

This should be only one part of a concerted MHSA effort to coordinate the planning and implementation of donor projects to achieve maximum integration within a well-defined national health strategy.

In endeavoring to pursue this objective, the CDD program requires substantial technical advice and assistance. Due to PRITECH's association with the CDD program, it is in a preeminent position to provide needed support. However, the level of effort needs to be raised to address organizational and management issues in greater depth. To do this, PRITECH will need to refocus its activities accordingly. It should also seek wider public exposure to achieve a higher recognition factor in the donor community and the GIRM.

An important part of this effort needs to be a modification of the current GIRM budget approach through modest first steps towards eventual sustainability of the CDD activities. The Team is under no illusion that sustainability is within easy reach but we believe that it is vital to accept the principle and work toward it. In the absence of such a move, the Team is skeptical that further efforts at technical assistance by PRITECH are advisable or warranted in view of an unending future of financial crisis and total dependency on outside sources.

In the Team's opinion, it is regrettable that a decision has been reached not to renew USAID financial support for continued PRITECH assistance to strengthen the CDD program. While sympathetic to the funding, staffing and other management constraints that led to this decision, the Team believes that considerable benefit would accrue to the overall USAID image in Mauritania if PRITECH were to continue to shore up the CDD program's accomplishments and serve as a catalyst for future action, at the same time helping preserve an image of U.S. interest in improved health care in Mauritania.

Past experience indicates that PRITECH operations require virtually no monitoring or management input by USAID/Mauritania.

4.01 RECOMMENDATION: Undertake an initiative by the CDD Coordinator's office, with PRITECH help, to:

- a. Disseminate information regarding the CDD program and its training, education and care delivery system to donors.
- b. Review donor project plans to identify necessary elements for including a CDD program component in individual projects where appropriate.

- c. Designate Trarza region as a test region for initiating strengthened integration, coordination and management measures with a view to extending application of these measures to selected other regions, in particular in concert with new or existing donor projects.
- d. Prepare a revised program budget providing for increased funding for the initiatives covered by the Recommendations covered in this report, with special emphasis on actions to improve management effectiveness of the program.
- e. Prepare a proposal for funding of CDD operations beyond 1989 to the Common Fund (Fonds Commun), a pool of donor-generated local currency jointly programmed by the GIRM and a committee of donor representatives.
- f. In concert with (d) and (e) above, secure a contribution from the GIRM budget -- from national revenues rather than donor sources -- to permit an increased allocation for program operations (other than personnel costs), to be followed by proportionate increases in subsequent years.

4.02 RECOMMENDATION: PRITECH endeavor to increase its recognition factor among donors and the MHSa by making a presentation to the MHSa Consultative Committee on Cooperation (CCC) and in meetings with individual donors or, preferably, a joint meeting of donors interested in health programs.

4.03 RECOMMENDATION: PRITECH assist the CDD coordinator's office to approach donors with proposals for obtaining foreign exchange funding of technical assistance activities associated with Recommendation 4.01 above.

4.04 RECOMMENDATION: USAID reconsider its decision concerning funding support to PRITECH, exploring jointly with AID/Washington and PRITECH possible financial support from Africa Regional and centrally-funded activities in the total absence of bilateral funds.

ANNEX 1
PEOPLE CONSULTED DURING EVALUATION

MAURITANIA:

AMERICAN EMBASSY:	AMBASSADOR WILLIAM H. TWADDELL
USAID:	MR. GLENN SLOCUM, USAID REPRESENTATIVE
	MR. WALTER BOEHM
	MS. PAMELA MANDEL, USAID HEALTH OFFICER
	MS. DELIA PITTS
	DR. MICHEL VERNIER
	MS. TONIA MAREK
MHSA:	DR. IBRAHIMA KANE
C.D.D. COORDINATOR:	MR. BA SAIDOU
NUTRITION:	MS. SAKKO AMINATA
E.P.S.:	MR. DIA EL HOUSSEYNOU
PHARMAPRO:	DR. TANDIA
CHIEF PEDIATRICIAN HOSPITAL:	DR. GANDEGA
PUBLIC HEALTH NURSING SCHOOL:	MS. BOUSSALIF, ARABIC SECTION MR. GINET FALL, FRENCH SECTION
RADIO:	MR. HAMA OULD SOUEILEM, CHEF DE SERVICE, RADIO RURALE
T.V.:	MR. CHEIKH HABIB
UNICEF:	MS. DEBORAH DICHMAN
WHO:	MR. THEOPHILE GNAMBODOUE
WORLD BANK:	MR. ABDALLAH CHEIKH SIDYA, HEALTH PROJECT ECONOMIST
WORLD VISION:	MR. DAVID ROBINSON, DIRECTOR MR. JOHN SHADIP, MEDIA DIRECTOR MR. BILL CALL, PROJECT DIRECTOR

NOUAKCHOTT DISTRICT CHIEF
MEDICAL OFFICER:

DR. COULIBALY

TRARZA REGIONAL CHIEF
MEDICAL OFFICER:

DR. COULIBALY

BRAKNA REGIONAL CHIEF
MEDICAL OFFICER:

DR. NIANG SAIDOU

GUIDIMAKA REGIONAL CHIEF
MEDICAL OFFICER:

DR. ABDALLAHI TRAORE

ASSABA REGIONAL CHIEF
MEDICAL OFFICER:

DR. SIDI MOHAMED TEIB

PRITECH/DAKAR:

DR. SUZANNE PRYSOR-JONES
MR. M'BAYE SEYE

PRITECH/WASHINGTON:

MS. KAREN DAVIS
DR. ROBERT NORTHRUP
MR. ROBERT SIMPSON

AID/WASHINGTON:

MS. PHYLLIS DICHTER
MS. YVONNE JOHN
MS. NEEN B. ALRUTZ
MS. MARY ANNE MICKA

4 - EPS / NOMBRE DE PARTICIPANTS PAR SEANCE

Nombre de séance par mois	1ere séance	2eme séance	3ème séance	4eme séance	Observations
Présents (es) par séance					

5. CAUSES DES DECES PAR TRANCHE D'AGE

Tranche d'âge / mois décédés par	0 à 11	12 à 23	24 à 35	36 à 47	48 à 59	60 et plus	TOTAL	OBSERVATIONS
Diarrhée								
Diarrhées + Autres affections								
Autres affections								

COMMENTAIRES (DIFFICULTES - SUGGESTIONS).

48a

1. Type de matériel éducatif utilisé lors de la formation

Brochures
Affiches
Feuilles volantes

} Dans les 4 langues nationales
(Arabe, Pulaar, Soninke, Wolof)

2. Modules utilisés par formation

Formations	Modules utilisés
Primaire	<ul style="list-style-type: none">- Introduction- Participation communautaire- Traitement de la diarrhée- Formation- Objectifs- Surveillance du rendement- Surveillance et Evaluation de l'utilisation
Secondaire	<ul style="list-style-type: none">- Traitement de la diarrhée- Participation communautaire- Objectifs- Surveillance du rendement- Formation
Tertiaire	<ul style="list-style-type: none">- Traitement de la diarrhée- Participation communautaire- Information et Education pour la santé- Information sanitaire- Stratégie nationale de lutte contre le choléra

OBJECTIFS POUR UNE SUPERVISION D'UN CENTRE DE SANTE

- 1) - Aider les délégués du PNLMMD à assurer les supervisions régulières des agents de services de santé du niveau régional au niveau périphérique.
- 2) - Vérifier l'importance des cas de diarrhée dans les registres de consultation par rapport aux autres affections.
- 3) - Identifier l'impact de la formation sur les agents de santé ayant participé aux séminaires sur les maladies diarrhéiques.
- 4) - Vérifier le traitement prescrit aux enfants atteints de diarrhée.
- 5) - Apprécier sur le terrain l'évaluation de l'état de la déshydratation, la poursuite du traitement et des conseils que donnent les agents formés.
- 6) - Apprécier l'importance du problème nutritionnel des enfants qui ont la diarrhée.
- 7) - Evaluer l'utilisation du matériel éducatif disponible.
- 8) - Evaluer la compréhension du matériel éducatif par les mères (imprimés).
- 9) - Apprécier l'impact des messages radio et des séances d'E.P.S des services de santé sur le comportement des mères.
- 10) - Vérifier si la mère fait la relation entre diarrhée et l'hygiène.
- 11) - Recueillir au niveau du service de santé de base et au niveau des communautés toutes les informations relatives à la R.V.O.
- 12) - Proposer des solutions pertinentes aux problèmes *posés* par les *agents* de santé et la communauté dans le cadre de la lutte contre les maladies diarrhéiques.

HSAS
DHPS
SMT
PNLMD

République Islamique de Mauritanie
"_"_"_"_"
Honneur - Fraternité - Justice

Date :

ANNEX 4.
SUPERVISION CHECK LIST

Fiche de Supervision du programme national
de lutte contre les maladies diarrhéiques

Nom de l'agent de Santé Région de Centre de Santé de

Activités de l'agent de santé	Critères d'appréciations		Observations
	OUI	NON	
- Evaluation de l'état de déshydratation est-elle correcte ?	<input type="checkbox"/>	<input type="checkbox"/>	
- Préparation de la S.S.S est-elle satisfaisante ?	<input type="checkbox"/>	<input type="checkbox"/>	
- Préparation de la SRO est-elle correcte ?	<input type="checkbox"/>	<input type="checkbox"/>	
- Administration du traitement a-t-elle été bien faite ?	<input type="checkbox"/>	<input type="checkbox"/>	
- Conseils aux mères sont-ils pertinents?	<input type="checkbox"/>	<input type="checkbox"/>	
- Utilisation du matériel éducatif est-il adapté ?	<input type="checkbox"/>	<input type="checkbox"/>	
- Les thèmes utilisés au cours des séances d'EPS sont-ils pertinents ?	<input type="checkbox"/>	<input type="checkbox"/>	

Activités de l'agent de santé	Critères d'appréciations		Observations
	OUI	NON	
Le registre est-il bien tenu ?	<input type="checkbox"/>	<input type="checkbox"/>	
Les rapports sont-ils faits ?	<input type="checkbox"/>	<input type="checkbox"/>	
• Les rapports sont-ils envoyés au niveau supérieur ?	<input type="checkbox"/>	<input type="checkbox"/>	
• Existe t-il une fiche de stock de SRO ?	<input type="checkbox"/>	<input type="checkbox"/>	
• La fiche de stock est-elle bien tenue ?	<input type="checkbox"/>	<input type="checkbox"/>	
• Le stockage de médicaments en SRO est-il bien arrangé ?	<input type="checkbox"/>	<input type="checkbox"/>	
• Le thème a t-il été bien introduit ?	<input type="checkbox"/>	<input type="checkbox"/>	
• La parole a t-elle été donnée aux participants ?	<input type="checkbox"/>	<input type="checkbox"/>	
• Les mères se sont-elles bien exprimées ?	<input type="checkbox"/>	<input type="checkbox"/>	
• Le résumé de la causerie a t-il été fait ?	<input type="checkbox"/>	<input type="checkbox"/>	
• La démonstration a t-elle été bien faite ?	<input type="checkbox"/>	<input type="checkbox"/>	
• Les mères ont t-elles suivi la démonstration ?	<input type="checkbox"/>	<input type="checkbox"/>	
• La plupart des mères ont t-elles effectué la pratique ?	<input type="checkbox"/>	<input type="checkbox"/>	
• Les participants ont t-elles été remerciées ?	<input type="checkbox"/>	<input type="checkbox"/>	
• Une prochaine date et un thème ont-ils été retenues ?	<input type="checkbox"/>	<input type="checkbox"/>	

3.

Compréhension des mères	Critères d'appréciations		Observations
	OUI	NON	
La mère reconnaît t-elle une déshydratation ?	<input type="checkbox"/>	<input type="checkbox"/>	
Comment prévenir la déshydratation à domicile ?	<input type="checkbox"/>	<input type="checkbox"/>	
La mère peut t-elle prévenir la déshydratation ?	<input type="checkbox"/>	<input type="checkbox"/>	
Préparation de la SSS ?	<input type="checkbox"/>	<input type="checkbox"/>	
Préparation de la SRD ?	<input type="checkbox"/>	<input type="checkbox"/>	
Administration du traitement ?	<input type="checkbox"/>	<input type="checkbox"/>	
La mère a t-elle compris les messages éducatifs ?	<input type="checkbox"/>	<input type="checkbox"/>	
A t-elle entendu des thèmes d'EPS à la radio ?	<input type="checkbox"/>	<input type="checkbox"/>	
Peut -elle donner une alimentation correcte pendant et après une épisode diarrhéique ?	<input type="checkbox"/>	<input type="checkbox"/>	
Applique t-elle les mesures d'hygiène pour prévenir la diarrhée à la maison ?	<input type="checkbox"/>	<input type="checkbox"/>	

Description éventuelle des problèmes identifiés

Commentaires

Recommandations

Signature du Superviseur

54