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REPORT OF THE JOINT MANAGEMENT REVIEW

OF THE DIARRHOEAL DISEASE PROGRAMME

SUDAN

A Report Prepared By PRITECH Consultant:
AGMA PRINS

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VISITS TO SUDAN/BACKGROUND

So far the Regional Program Officer in Nairobi has made two trips to Sudan. The first for a total of 7 days in October, 1988 resulted in an initial proposal to NCDD Sudan concerning PRITECH-NCDD/Sudan collaboration as well as a follow-up consultancy by Camille Saade to review ways and means of promoting local production and private sector marketing of ORS. The second, from January 6 - 28, 1989 was made with three objectives:

* to assist in the three year review of the NCDD program with a multi-donor team of WHO, UNICEF and USAID/Sudan evaluations;

* to gain a greater understanding of and insight about the Sudan CDD program;

* to firm up the preliminary outline defining the future relationship between CDD Sudan and PRITECH.

The evaluation confirmed previous impressions that the NCDD program in Sudan is a well-managed, balanced, throughtfully implemented and highly successful program which has achieved considerable progress since its inception in late 1985, despite political, economic and logistical constraints which could easily have overwhelmed less able and dedicated professionals. The findings of the evaluation team are annexed to this report. They will serve as the basis for the planning of the next three year phase of the Sudan NCDD program. One outcome of that planning process will be a schedule of activities requiring PRITECH assistance over the next year. However, while the exact calendar and content of PRITECH inputs to NCDD/Sudan over the next twelve months awaits completion of the planning process, the relationship between NCDD/Sudan and PRITECH has become much stronger as a result of the SPM's participation in the program evaluation. The professional collaboration during this visit as well as the last has engendered a very positive (and necessary) sense of mutual trust and confidence between PRITECH representatives (Prins and Saade) and NCDD staff and also between PRITECH and UNICEF.

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Concrete, if informal (e.g. verbal agreement was reached between NCDD and the PRITECH SPM on a number of issues:

* It is desirable to have a long-term PRITECH Country Representative in Sudan, working under direction of Dr. Magda M.A. Ali, the Director of NCDD and under supervision of SPM Prins.

* Short-term technical assistance from PRITECH should emphasize the areas of

  - CDD communications;

  - ORS local production and distribution;

  - Operations research.

* NCDD will telex a copy of its annual plan to Prins in Nairobi as soon as possible, indicating specifically which activities may require PRITECH assistance.

* PRITECH should work with UNICEF to develop appropriate communications strategies.

* Follow-up visits by Camille Saade to move along the local production/private sector marketing CDD component are desirable in the future. However, a first step toward moving ahead with local production will be the creation of a working committee with pharmaceutical company, CDD, and donor representatives who will lay out the next steps.

* A visit from Martita Marx would be desirable in the future to help develop strategies and protocols for CDD operations research.

Each of these agreements will be described more fully below.

PRITECH COUNTRY REPRESENTATIVE

The desirability of a long-term PRITECH Country Representative results from two

circumstances:

* NCDD/Sudan will soon face a management crisis due to the imminent departure of the two (WHO and IRC) expatriate advisors as well as two key Sudanese staff. The NCDD Director will need immediate support if the excellent program is to continue as planned.

* The positive working relationship which has developed between PRITECH and NCDD/Sudan has led to the definition of an increasing number of technical areas which would benefit from PRITECH assistance. Key among these is the Communications/Health education component of CDD which will be the principal focus of the Sudan program over the next three years. However, the regional program officer will be unable to provide the kind of regular consistent support that would be desirable. A resident PRITECH Representative would be more able to channel and coordinate PRITECH inputs.

NCDD, PRITECH SPM Agma Prins and USAID/Sudan Health Officer, Anita Mackie all agreed that a local PRITECH Representative would be a positive step. NCDD was so enthusiastic that they immediately identified a number of candidates. Under the circumstances the following actions were agreed to by all three parties:

* Dr. Magda and the NCDD staff will identify and review candidates for a possible PRITECH Country Representative. The candidates must be expatriates residing in Sudan, having experience in health-or development-related programs in Sudan, with good organizational and interpersonal skills and a university degree. Prior to final selection of a candidate, Dr. Magda will transmit a job description to SPM Prins in Nairobi, based in part on the standard PRITECH Country Representative job description, which will be sent to Dr. Magda in Khartoum. Final selection of the candidate of choice will be entrusted to Dr. Magda and her staff to be concurred by Dr. Mackie of USAID and PRITECH. The representative will work under direction of Dr. Magda and will be supervised by PRITECH from the Nairobi Regional Office.

* Although the intent is that the PRITECH representative should work with NCDD for 2 to 3 years, as necessary, at present funding is assured only for the initial three month trial period to start

as soon as possible and to be financed from the USAID/Sudan buy-in to PRITECH. Funding for the longer term contract is to be requested from S & T/Health central funds so as not to deplete all the buy-in money solely to pay for a resident PRITECH representative.

* Dr. Magda will transmit to Nairobi the CV and salary history of the selected candidate and the Nairobi Regional Office will inform Khartoum of procedures for contracting as soon as possible.

* PRITECH will provide in-service training for the candidate as needed (through field visits to other countries etc.)

PLANNING FOR THE "PRITECH PROGRAM" IN SUDAN

NCDD is currently engaged in the preparation of a detailed one year operations plan and a less detailed three-year mid-term plan as a follow-up of the evaluation. When complete, Dr. Magda will transmit these plans to the PRITECH Regional Office in Nairobi, indicating specific activities requiring PRITECH input. While these plans will serve as a blue print for a more formal agreement between NCDD/Sudan and PRITECH, preliminary discussion has deliniated future PRITECH involvement in NCDD Sudan as follows:

* a country representative to assist Dr. Magda in overall CDD program development especially in the areas of communication, program management and logistics;

* short-term technical assistance as necessary emphasizing, but not limited to, the areas of

  - Communications/health education;

  - ORS local production and distribution;

  - Operations research.

* regular backstopping visits from the Regional Program Officer as requested by NCDD and USAID/Sudan.

The USAID/Sudan health office intends to focus on the strengthening of health management at both central and peripheral levels of the MOH, specifically in

relation to PHC/CS programs. The PRITECH assistance outlined above should and does reflect these USAID priorities as well as responding appropriately to NCDD needs as identified in the evaluation report. Future visits by Camille Saade and Martita Marx will be determined by the operations plan now being prepared.

PRITECH COLLABORATION WITH UNICEF/SUDAN

Over the past two years, USAID/Sudan has channeled over $2 million of "Child Survival" funds through UNICEF/Sudan, some of it for CDD (see Annex II of Evaluation report). The relationship between UNICEF and NCDD and between UNICEF and USAID has not been a happy one due primarily to an ongoing question concerning the actual use of USAID funds intended for CDD and NCDD frustration with their lack of input into or control over the expenditure of funds designated for their program. (Nobody seems to know exactly how much has been spent). It is hoped that the recent change in UNICEF/Sudan top management and the departure of the health officer will lead to a more constructive relationship.

One known expenditure from the USAID grant to UNICEF is for the salary of a UNICEF communications officer, Mr. Gopal Dutia, one of whose principal assignments is to support CDD communications activities. Mr. Gopal has attempted to be more responsible to NCDD direction but is, of course, constrained by UNICEF policy. An example of this constraint is a recent directive from the UNICEF/Amman regional office insisting on a proposal for a CDD promotion activity to occur during this coming diarrhoea season, to produce immediate measurable results (preferably reduction of mortality) by October/November of this year, to emphasize dehydration exclusively.

Obviously, PRITECH expertise in the area of communications could be viewed as redundant or worse by UNICEF staff and others under these circumstances. Joint participation in the recent evaluation, however, has led to a constructive complementary working relationship between Mr. Gopal and Ms. Prins. This was demonstrated in a joint review of a proposed UNICEF-funded (from USAID grant) "model" communications activity including the socio-cultural research proposal submitted by Gezira University as a first step to the development of the integrated "social mobilization/health education" strategy to be implemented

in one region of Sudan this summer. It was agreed that there was a need for technical assistance in the preparation of focus group research protocols and the training of local researchers in the modern techniques of rapid ethorographic research for communications (especially in CDD). Mr. Gopal believed that UNICEF/Sudan would be able to pay for such a consultancy. MS. Prins agreed to locate an appropriate consultant and to pay for the consultancy through PRITECH funds if UNICEF should prove unable or unwilling to finance this job.

NCDD/Sudan would like to see this constructive relationship continue.

Report of the Joint Management Review of the Diarrhoeal Disease Programme, Sudan.

4 - 25th January 1989.

Khartoum

January 1989

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Report of the Joint Review of the Diarhoeal Diseases Control Programme, Sudan 4-25 January 1989

A. Introduction

From 4-25 January 1989, a review was conducted of all aspects of the management of the programme to Control Diarrhoeal Diseases (CDD) in Sudan.

The team consisted of members drawn from the Ministry of Health and the Ministry of Finance, Sudan, the University of Gezira, UNICEF, USAID(Sudan), PRITECH and WHO.
(Participants, Annex 1).

After an initial period of briefing, the team examined CDD management at the central level, conducted field visits to most Regions, where CDD-related procedures and management processes were observed and finally, reconvened in Khartoum to consider its findings and make recommendations. (Itinerary Annex I)

Before dispersal, the team discussed its findings with H.E the Minister of Health, senior officials of the Ministry of Health and CDD staff from the Central and Regional levels.

B. Main Findings

i) The national CDD programme in Sudan has achieved remarkable progress in its 3 years of existence. It has created an effective central unit able to develop relevant policies, training and health educational materials.
The policy of decentralisation of authority and responsibility for programme implementation and training has resulted in effective CDD programmes in most Regions of Sudan.

ii) Major success has been achieved in training, especially in management training of senior staff and in paramedical, nurse and community leader training in diarrhoea case management.

iii) ORS is now widely available in Sudan, knowledge of and acceptance of its use is increasing among the public and staff trained in its use are available in many health facilities. Efforts to ensure that one litre measures are universally available have met with some success.

iv) Success has been achieved in ensuring that all organizations concerned with health in Sudan are following nationally accepted guidelines. Much valuable experience has been gained from the efforts of small, local organisations and communities to develop CDD activities.

v) Central CDD staff has emphasised health education conducted by health workers during diarrhoea consultations at

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health facilities and has successfully produced numerous print and visual materials to support this effort. Other communications channels, especially at the community level have remained largely unused except for many scattered experimental activities originating from regional and local initiatives. So far, no comprehensive sommunications approach has guided these efforts.

vi) CDD has developed at the Central and Regional management levels as a largely vertical programme, with relatively little integration with other primary health care activities. The problem lies far more with the poor development of PHC than with any isolationist activities by CDD.

vii) Performance in training of physicians and pharmacists is poor, reflecting some resistance by these professions to adopting new simple tecniques plus difficulties in reaching them with training courses and materials. However, CDD has not yet developed a training programme, using tecniques and training entirely suitable for these professional categories, likely to influence their treatment of diarrhoea.

viii) Although ORS is widely available, the system is not dependable or wholly effective, resulting in irregular and uncertain supplies in most areas. The main problem appears to lie in the national medical supplies system, but some corrective action will probably be needed from CDD staff if an effective diarrhoea treatment service is to be maintained.

ix) Data collection and analysis and its use nationally or locally for planning is not presently effective. As a result, it is difficult yet to measure programme impact.

x) Problems in surveillance and supervision, which are both difficult programme elements in establishing a CDD programme in a country as vast as Sudan, with its communication difficulties, have not yet been adequately resolved.

C. Major Recommendations

Recommendations of the Management Review team are included in this report in the sections dealing with specific aspects of the programme.

The following are the most critical recommendations aimed at strengthening the national CDD programme:

1.) The central CDD unit should be strengthened by appointment of able and experienced staff to key positions.

2.) Additional positions should be created for logistics, for nutrition/ORT, for communications, and for surveillance, monitoring, evaluation and research.

3.) CDD should be maintained as a strong central technical

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unit, but operationally, at all levels, should move towards being part of an integrated PHC service. In order for this to happen, it is necessary for PHC to promote several key activities including developing a system for central level coordination, management training at all levels, appointment of inter-disciplinary staff at the Regions and Districts, joint supervision, field visits, surveillance, training and evaluation.

4.) The CDD programme should aim to consolidate and expand gains achieved by health education/communications activities, by evaluating past activities and developing a cohesive, multi-channel communications strategy, emphasising regional responsibility for activity development based on local socio-cultural realities.

5.) Physician and pharmacist training in CDD should be reviewed, leaders of the professions more involved in an advisory capacity in developing a more effective training package and programme. Regional DTU's with defined responsibilities for staff training and practical training in effective PHC (Health Area) units should be developed.

6.) CDD training at all levels which has already been conducted should be evaluated.

7.) The ORS and Intravenous infusion supply system needs to be critically reviwed. CDD must ensure its staff are fully involved in establishing a system that guarantees supplies. However, if review shows that the present major problems lie in the National Medical Supply system, as suspected by the Review Team, the Ministry of Health must urgently improve that system.

8.) Present systems of data collection and analysis, including routine reporting, epidemic surveillance, staff and community training, ORS and equipment supplies need evaluation and strengthening. The Ministry should ensure that the CDD computers already procured, is established in a suitable place and rapidly brought into use.

9.) Feedback to staff through the newsletter, production of training guidelines and materials should be continued and extended, basing further development on the result of evaluation and field testing.

D. Management Structure of the CDD programme

The CDD Headquarters team, although progressively strengthened during the period 1986-88, remains numerically small. (Figure 1 & Annex 2). The Programme Director supervises the work of an assistant director who controls support services and a Deputy Director who leads two technical units, communication/training and ORT/nutrition.

The excellent results already achieved in diarrhoeal disease control reflect able leadership of the Central Level CDD Team and

a high level of enthusiasm and commitment from all its members. The central level team, working through that commitment has initiated a wide range of activities, assisting an increasing number of Regions to establish full CDD programmes, while also providing training, technical guidelines, logistic support and health education.

The CDD Programme has reached the stage, where, if existing levels of support to the Regions are to be maintained, some strengthening of existing units is necessary. Additional strengthening of the CDD unit, including the creation of two technical posts will be necessary if existing services are to be improved to provide a wider range of support to the Regions and to facilitate integration within Primary Health Care (PHC).

Annex 2 shows organogram of CDD, PHC and relationships of CDD with Regional Ministries of Health.

Figure 2 reflects the management structure of the CDD recommended by the Review Team.

The two expatriate staff working in the CDD unit are both scheduled shortly to leave Sudan. Both occupy key positions which should not be left vacant. While the technical adviser position may be filled by an experienced national, the Medical Officer should be replaced by another WHO adviser for one further 2 year contract.

The informal management approach adopted by CDD at the central level, depends on both medium term and short (3 months) forward activity planning and is based on team discussions, experience sharing and feedback. This management style has major advantages, especially in the early stages of programme development and should be preserved.

Recommendations concerning CDD Central Level Management Structure

10. The Central CDD unit should be strengthened by creation of the following additional staff posts:

    - a full time post to provide logistic support including strengthening of the ORS Supply and storage system;

    - an additional nutritionist post for the ORT/nutrition unit;

    - separate communication - training units even if under a joint director;

    - staff to create a unit to monitor progress towards national CDD targets; strengthen surveillance, supervision, evaluation and operational research;

Figure 1 Organogram of the Present Central CDD Unit

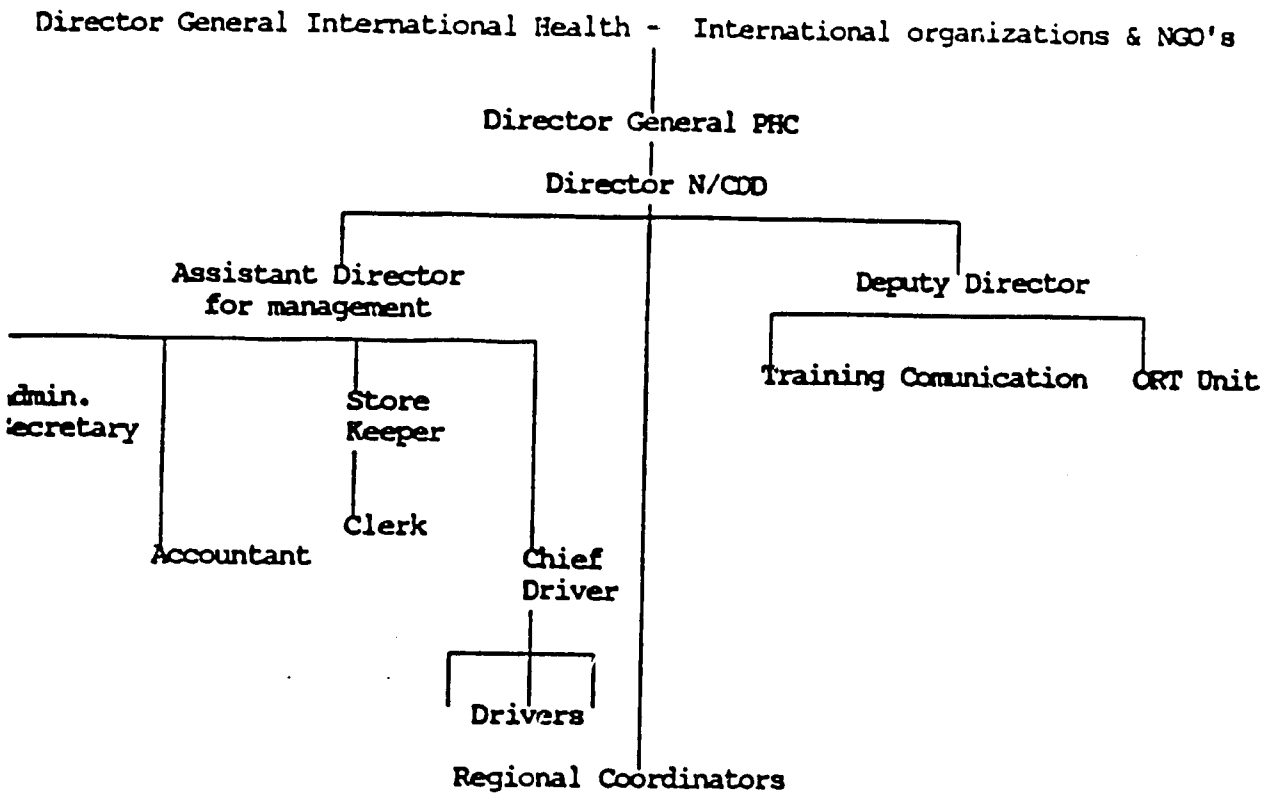
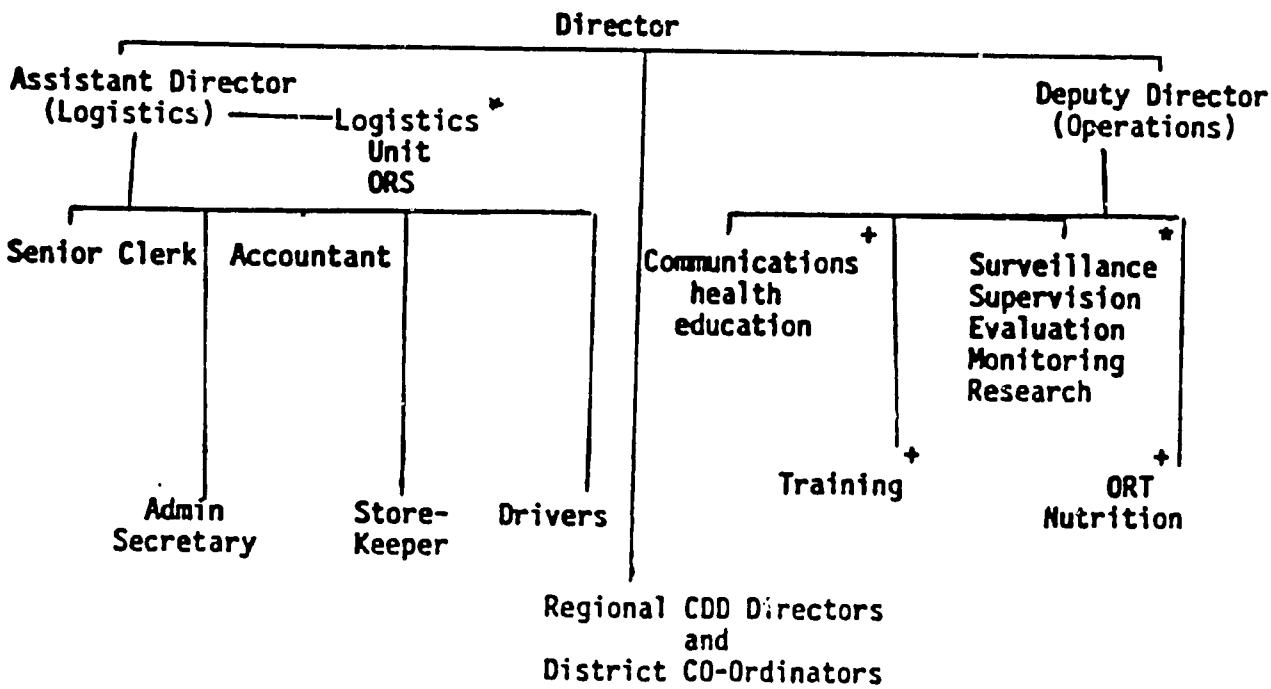


Figure 2 Proposed Organogram of the Central CDD Unit



* New Units
\+ Strengthened Units

11. The WHO Medical Officer position should be refilled with the minimum delay.

12. The training officer position should be refilled by a suitably qualified official.

13. The management process producing medium term (5 year) and short term (3 month) activity plans should be continued.

14. Space available for the CDD central unit is extremely limited.. The Ministry of Health, considering the importance of the programme in potentially reducing the major cause of child mortality in Sudan, should ensure the urgent availability of significantly more room for offices, storage and computer facilities.

E. Place of CDD within the Management Structure of the Ministry Of Health.

The Review Team considered that CDD represents a significant success for the Ministry of Health. It has demonstrated the potential within Sudan for delivering health promoting interventions through a well planned, effectively managed programme.

The absence of readily quantifiable impact indicators make it difficult to assess the success of existing CDD activities in reducing diarrhoeal disease morbidity and mortality in Sudan. However, the proven efficacy of CDD interventions, combined with the demonstrable achievement of indirect indicators such as training, ORS availability and use, make it highly probable that the CDD programme is being effective in at least reducing child mortality from diarrhoea.

The Review Team, basing its opinion on these conclusions, was convinced of the need to maintain a highly effective technical CDD unit within the Ministry of Health. However the target of providing CDD services through a fully integrated PHC system was unreservely endorsed.

It is apparent that the development of PHC in Sudan, as proposed in the "Health Area" concept remains some distance in the future. In the meantime, limitations on PHC development are likely to produce equal limitations on further CDD development. Promotion of the "Child Survival" unit within PHC will prove unrewarding unless five major management processes are implemented:

i) the factual development of a Consultative Group within the Minstry, consisting of senior project staff from CDD EPI, Nutrition, MCH and ARI, able to coordinate advice to and activities at the Regional level.

ii) convening of a Technical Advisory Committee at the

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Ministry level, consisting of Project Directors CDD EPI, Nutrition, MCH, ARI, with paediatricians, obstetricians, community physicians, social and behavioural scientists, etc, able to advise on which PHC/Child Survival activities should be implemented, provide strong professional support and to advise on research.

iii) development of the concept of a single coordinator heading a Child Survival unit for all PHC child survival interventions at the Regional and District level, with strong management training and broadly based technical experience.

iv) acceptance by the technical units within PHC/Child Survival at the Central level of joint technical staff more with geographical responsibilities than specific technical duties. Their main function would be to improve all aspects of coordinated supervision of PHC at the Regional level. The Central level units, such as CDD, should be maintained at high effectiveness and still be available to resolve specific technical problems when so required.

v) planning, supervision, training, logistic support, evaluation, staff travel, reporting should become integrated activities.

Recommendations concerning CDD/PHC/Child Survival

15. In spite of the major success it has already achieved as a largely vertical programme, CDD should promote its future development as an integral part of PHC.

16. A Central CDD Unit staffed by highly qualified health professionals should be maintained and further developed as a support to PHC and Regional CDD activity.

17. CDD should support creation of an inter-disciplinary child survival group able to coordinate joint activities at least in planning, training, supervision, evaluation, surveillance and research.

18. For CDD, integration activities should be coordinated by the Deputy Director and the health officer directing the unit responsible for surveillance, monitoring, supervision, evaluation and research.

19. CDD should promote the use of Central level - Regional coordination through multi-disciplinary staff with geographical responsibilities.

20. CDD should provide and participate in a PHC Technical Advisory Committee consisting of programme directors, Community physicians, paediatricians, obstetricians and social and behavioural scientists able to advise

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on policy development and research. The committee would not have management responsibilities beyond policy advice and progress monitoring.

F. Training

i) Training of health staff to equip them with the skills necessary to allow them to work effectively in CDD has been a major programme activity (organogram Annex 7). It has been provided at several levels:

- senior level management training for central level staff and Regional Coordinators, either in Sudan or on short courses/fellowships in other countries.

- management training for Regional Coordinators on the 3 weeks PHC course at Gezira University.
- diarrhoeal disease case management training for all levels of health personnel.

- training on case management for community leaders and other non-health personnel.

The Review Team was satisfied that the materials developed to support training were relevant to participants' needs in developing skills for their future work. In case management training, although inadequately observed, due to the low seasonal incidence of diarrhoea, is strongly practical. There is evidence, in terms of impact and subsequent staff knowledge, that training has proved effective, notably for rehydration and promotion of breast feeding, but less so for encouraging feeding during diarrhoeal episodes and hygienic practices.

ii) Paramedical/Nurse/Community leader training in Case Management

This type of training represents a major success for the CDD programme, with an estimated 28% of targeted health workers having received training in the diagnosis of dehydration and the case management of diarrhoea.

There is a need for an evaluation of this type of training, specifically on whether training fully provides for discussion on how actually to implement an ORT programme in the trainees' workplace.

Greater emphasis in the courses should be placed on the inter-relationship between diarrhoea, nutrition and hygiene, with stress on the need for continued feeding, extra feeding after recovery and personal hygienic practices.

The element of "health education" in the course should be strengthened to emphasize the specific exchanges necessary between staff and patients. Development of role playing as a learning

method is likely to lead to better mental retention and more effective exchange of information between health personnel and mothers concerning key health messages.

A clearer definition of those fluids which are locally available and appropriate for maintaining hydration during diarrhoea may be needed. Defining such fluids and their traditional uses would be a suitable subject for operational research.

When the proposed evaluation of paramedical training has been conducted, it will be necessary to revise the basic course curriculum and to establishing appropriate follow-up or in-service staff training.

iii) Physician and Pharmacist training in clinical case management of diarrhoea

Training of physicians and pharmacists has lagged behind that of other concerned health professionals. In general, treatment of diarrhoeal disease is less effective, even for the same degrees of severity of dehydration, in hospitals and health units directed by physicians than in units run by nurses and paramedical staff. Only in the relatively few health units where the medical staff have attended courses in case management in a DTU are standards satisfactory.

The reasons underlying the relative failure of physician training are diverse, eg. omission of ORT training in the basic medical curriculum, lack of involvement of most paediatricians in case management training, the unwillingness of physicians to attend extended training on a simple, low technology intervention, an illogical but persisting belief in the efficacy and necessity of drug therapy for most cases of diarrhoea.

The original DTU conducted phycisian training on an occasional basis. Better results would probably be achieved by developing Regional or District DTU's with a defined responsibility to provide essential training for all concerned health staff in the catchment area.

The Review team, understanding the problems faced by CDD in training physicians and pharmacists including assistant pharmacists, drug firm representatives, drug sellers and counter staff, believe that innovative thinking and planning is essential to reach these groups. It may have to be accepted that, in general, these categories will only attend training lasting 6-7 hours in total, with a need for explicit, targeted information packages, slanted towards the physiological, pathological or pharmaceutical aspects of diarrhoeal disease control, but with clear emphasis on sound management practices including ORT. The Review Team endorsed most strongly the principle that case management training should be practical with "hands-on" experience and case responsibility as the ideal learning methods.

iv) Training in Management Skills

Training in PHC at Gezira University for Regional Coordinators has proved a major success for CDD. Combined with introductory staff training, it has markedly enhanced the management capabilities of this level of staff.

Consideration and extension of these skills can probably best be provided by in-service training through joint work with central level staff and through the exchange of ideas and experiences with their colleagues during CDD/PHC meetings.

Supervisory skills management training is necesary for a range of coordinators, managers and phycisians at various levels of the health system. Gezira University has developed regionally based management training in PHC in Arabic for such staff. Health staff working in disciplines other than CDD need to be included in Regional supervisiory skills training.

Training of regional staff responsible for store keeping has been initiated by CDD and is clearly an essential activity.

Recommendations on Training

21. Regionally-based training, in Arabic, in the development of management and supervisory skills should be established, with the assistance of Gezira University.

22. The Ministry of Health should make much greater use and be fully aware of the major advantages of the excellent PHC training provided in short courses by Gezira University.

23. An evaluation of the extensive case management training already completed should be conducted and identifying follow-up and in-service training needs.

24. The curriculum of the case management training should emphasise the maintenance of nutrition through continuous and additional feeding, improvement of hygienic practices, through increased role playing, skills in the transfer of health messages to the public should be increased.

25. Greater priority should be given to training of physicians and pharmacy staff of all levels on the effective case management of diarrhoea.

Possible methods of doing this include:

- CDD practices to be included in the basic curriculum of medical schools and schools of pharmacy.

- senior paediatricians and pharmacists should be

involved in a CDD/PHC technical advisary committee.

- a workshop should be convened to discuss the problem of physician and pharmacist training and to seek solutions supported by leaders of the professions.

- one day training tailored for its target audience should be held, with emphasis, not only on sound case management but on the scientific basis for treatment including ORT. Such training should be directed by respected leaders of the professions, possibly acting as CDD "roving consultants" in the Regions using locally collected and relevant data.

- for physicians responsible for ORT units, full practical case management training, lasting at least 4 days remains essential.

26. An information package for physicians and pharmacists should be prepared, with clear, graphic presentation of the need for effective case management and Sudan's examples of its effectiveness.

27. Storekeepers and stock managers training should be continued at the Regional and Provincial levels and will be much needed at the Health Areas levels when these are developed.

28. A clear, 30-45 minute video, possibly prepared by Gezira University, potentially with the assistance of marketing experts from the private sector demonstrating different aspects of case management, including ORT. It would be of maximum use in time limited training and motivation.

G. Communications, including health education

In Sudan, communications includes activities transmitting health messages at 4 levels

- mother - health worker
- groups of mothers in communities
- community activities aimed at secondary participants, e.g. school children who will convey messages to the target population
- the mass media

CDD in Sudan needs to include activities at all levels.

Supporting the first category the Central level has produced much educational material, guidelines, posters, pamphlets, as

well as actual training of health staff. In the second category, limited activities have been initiated by CDD coordinators working with local staff, including NGOs. In the third group, some very successful work has been completed with school children, strongly supported by well motivated teachers. Radio programmes, both national and local, have been produced on the work of the CDD programme, transmitting simple health messages to a wide audience.

Although much has been achieved, no specific health education or social mobilisation plans have been produced, and perhaps the most striking successes represent local initiatives. These have included community involvement, innovative activities with cassettes, video and local radio, benefitting from an understanding of local customs, cultures and languages.

It is not yet entirely clear whether these local activities, even if relatively extensive, will provide to be replicable on a larger scale. It is also clear that relatively little evaluation of communications programmes has been conducted and many basic questions remain, e.g. do mature women listen to and act on information received from school children.

The Review Team was impressed by the universal availability of CDD posters, pamphlets and flip charts, far more prevalent than any other health educational materials. There was evidence that in some instances face-to-face contact of staff-mothers was producing a good exchange of information.

During the next three years, the Review Team believes that it will be important to place greater emphasis on communication activities and to extand CDD messages to the 45% of the population without ready access to PHC facilities.

Recommendations on Communication - Health Education

Central Level

29. CDD must prepare, and when necessary, update simple health messages, ensuring their consistency from all sources. CDD must retain control over the content of these messages.

30. CDD must continue to develop training at all levels on communication, both in content and how to optimally transfer messages to the public and make use of exisitng resources such as the course at Gezira University.

31. A communications specialist should be employed to evaluate experience of present health education activities for CDD in Sudan.

32. A workshop should be convened, attended by Child Survival staff, the media and communication specialists

to share experiences and to help CDD prepare a plan for communication and a protocol to assist development of Regional plans for communications.

33. PHC should be aware of the potential benefit of an advisory working group on communication, including health and educational specialists, charged with developing policies aimed at promoting and developing PHC services and public information.

Regional and local level

34. CDD should continue to encourage development of local health educational activities most suitable for their target communities.

35. Local presentations should be appropriate in presentation, culture and language

36. After some evaluation, the CDD schools programme should be developed and extended.

37. Regional communication workshops should be held, including staff from other secors such as agriculture, community development, education, water and sanitation.

38. Continued efforts should be made to involve local communities in planning and developing health services and in informing inhabitants on available services and on basic health messages.

H. Oral Rehydration Salts

i) Production

A commercial pharmaceutical firm, Sterling Winthrop, is scheduled to commence limited ORS production within the first half of 1989. It's product will meet WHO guidelines in its ingredients, and will re-constitute to one litre.

A major advantage of local ORS production will be the potential availability of a commercial distribution network, which far outreaches the Ministry system. Distribution over a greater area should markedly increase ORS access in more isolated communities.

The Review Team strongly endorsed the regulation of the Drug Registration Committee that only ORS re-constituting to one litre should be distributed in Sudan and deplored the distribution and availability of other packets sizes.

The team also advised that, in order to avoid monopoly situations, other potential ORS manufacturers should be encouraged to consider production.

It is probable that a Working Group constituted by the Government, the pharmaceutical industry and concerned development agencies would facilitate reaching agreements on production.

Many packets of ORS are being unnecessarily discarded by being date stamped for expiry. For citrate based ORS, this practice is unnecessary and presently expired packets could be used in health facilities.

ii) One Litre Measuring Jugs

CDD research in Sudan has shown that only one third of the people surveyed could correctly mix ORS to one litre. Virtually all errors resulted in a final solution that was too concentrated.

The widely used Osman Hussein tea-glass, usually with a standard volume of 165 ml is now available. Similar glasses with different volumes, some as low as 135 ml are increasingly appearing on the market and the reliability of using 6 glasses to measure one litre is no longer certain.

Production of a one litre aluminium jug, distributed either as a health-education incentive or as part of a cost recovery scheme has, to some extent, allowed the widespread availability of a standard measure.

However, cost prevents its universal distribution to all families and its proposed use as a means of calibrating a container in each household is not happening and is probably not realistic.

The jug has proved useful and has achieved some success. It is hoped that, in the future, its distribution and use will be attached to local ORS production. In the meantime, it is probably realistic to aim only for its wide availability in health facilities, pharmacies and schools.

One possible extension of its use would be to encourage schools, as a part of maths training, to get pupils to calibrate home containers.

iii) ORS distribution

The present ORS ordering and distribution system is completely non-effective. Supplies from the Central Medical Stores to Regions and from Regional stores to health facilities are apparently not based on requests, needs or usage. As a result, gross inequalities of supplies and stocks exist, some units having several years supply in stock, others with very limited supplies.

It appeared to the Review Team that the unsatisfactory state of ORS distribution reflected a wider problem, since other drug supplies were equally limited and irregular. Communication between ORS user units with Regional and Central supplies appears non-existent.

In most cases examined by the Review team, CDD responsible staff at the Regions and at health facilities had either stopped trying to establish a reliable supply system on the basis that it was not their responsibility or had never been involved in it at all.

At the central level, the CDD unit has, apart from the flood emergency in August 1988, always operated within the limitations of the existing drug supply system, avoiding any parallel distribution.

The CMS has had to cope with a variety of ORS supplies and supply systems, eg. UNICEF donated packets are mostly distributed to health facilities, Government supplies to hospitals, donors may provide their own supplies, emergency situations have produced a range of packets, some entirely unsuitable for use in Sudan.

Whatever the problems faced by CMS, Regional stores and coordinators, the present unsatisfactory system must be resolved as a matter of some urgency. Regional stock positions need to be established, reliable stock card or book systems created, supplies be predictable and based on needs and usage. For each unit, some minimum stock level needs to be established.

Regional coordinators must accept increased responsibility for ensuring ORS supplies and monitoring stock positions.

Recommendations concerning ORS

39. The Central CDD unit should ensure that the unsatisfactory state of supply of materials to treat diarrhoea disease, including ORS and intravenous infusions is discussed at a high Ministry level to produce an effective solution to the problem.

40. The supply needs of nationwide CDD services should be clearly transmitted to the Director CMS so that a clearly understood supply system can be developed and CDD and stores staff trained in its use.

41. CDD coordinators should establish the present stock position of ORS in Regional or provincial stores, hospitals and health facilities and regularly update this information.

42. Each health facility and ORS store should establish at least:

- a stock card for ORS, recording stock levels, receipt and despatch of supplies.
- a minimum reserve level of ORS at which new stocks must be ordered.
- a regular ordering system by which requested supplies match anticipated ORS needs and usage.

43. The Drug Registration Committee should enforce its regulation limiting ORS used in Sudan to 1 litre packet size, as well as enforcing prohibition of import of non-specific anti-diarrhoeal pharmaceuticals.

44. CDD should assess the experience gained in Sudan in various pharmaceutical cost recovery schemes, to assess their possible relevance to ORS provision and use.

45. ORS production in Sudan should be encouraged, possibly from several manufacturers, in the hope that the country could become self sufficient.

46. Further efforts should be made to ensure the widest possible distribution of the one litre measuring jugs as far as is compatible with economic realism. At least health facilities, pharmacies, schools and village based health staff should possess a jug.

I. Case Management of Diarrhoea

i) Case Management

The need to use oral rehydration therapy during episodes of diarrhoea appears to be widely and increasingly accepted in Sudan. A survey conducted in New Halfa in October 1988 showed that just over 50% of children suffering from diarrhoea in the previous 2 weeks were treated with ORS and an additional 14.4% received extra home available fluids. On a less satisfactory basis, only 22% of the children received increased fluids, and almost 50% were given less than normal. 35% of the children received their normal food intake but 43% were given less than usual. 92% of mothers correctly identified a sachet of ORS.

The Review Team noted that health staff strongly promoted the use of oral rehydration and breast feeding, but were less forceful in advising continued feeding and personal hygiene.

In most units visited, children attending with diarrhoea and other illnesses were screened to check their immunisation status.

Although the review was conducted at a season of low incidence of diarrhoeal disease, the team believed that diagnosis of dehydration was well done, advice was appropriate for the

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acute episode, that the basis for patient referral was widely understood and that generally rehydration and diagnostic services were available somewhere outside normal working hours.

Children were rarely weighed. Drugs were widely prescribed during diarrhoeal disease, usually antibiotics, especially at hospitals and by physicians who had not received specific CDD training. Paramedical staff trained in case management appeared to prescribe such preparations relatively infrequently.

The Review Team were doubtful whether mothers were staying long enough in health units to receive adequate treatment of dehydration for their children. Equally it is not certain that ORT units are being adequately used. This subject merits closer examination.

Practically no paediatric anti-diarrhoeal preparations, other than anti-biotics, were discovered in health facilities. There is still some pressure from the public for 'medicines', some of which are personally imported. Patients occasionally buy inappropriate preparations from private pharmacies after correct treatment in health units.

ii) ORT Corners

The creation of ORT corners depends to a large extent on the enthusiasm and commitment of both supervisors such as CDD coordinators and local well motivated health staff. Where this commitment is present, ORT corners have been established even in units with limited space, facilities and staff. By contrast, several hospitals and health centres, with far better facilities used the excuse of limited room and staff to justify lack of any action.

There is some uncertainty concerning the facilities needed to establish an ORT corner. Production of a short booklet, well illustrated with photographs, could be useful to staff planning such a unit.

The Central CDD unit has assisted in the establishment of ORT corners, but expects health facilities to accept responsibility for maintenance and replacement of breakages. This is not always being done and some ORT corners are seriously deficient in basic equipment such as cups and spoons.

There appears to be insufficient coordination and follow-up of the nutritional status and long term treatment of children presenting with diarrhoea and malnutrition. Since these children are at high risk of continued morbidity and high mortality rates, it is preferrable that such long term services, including growth monitoring, are available to them.

Recommendations on the Case Management of Diarrhoeal Disease

46. The programme of establishing ORT corners should be

continued and extended, ensuring development of appropriate units for the facility and population concerned.

47. In areas where such units are not being established, the CDD Director should investigate the reasons and motivate the local staff to create appropriate corners.

48. Staff training and supervision should emphasis the need for continued feeding, supplementary feeding and improved hygienic practices as well as for rehydration.

49. Directors of ORT corners should ensure that children attending with diarrhoea are screened for their nutritional status and that children with malnutrition attend follow-up clinics. Guidelines to this effect should be jointly prepared by the CDD and Nutrition units of the Ministry of Health.

50. Officials responsible for ORT corners should assume full responsibilities for maintenance of the units, including provision of essential equipment. Where necessary small cost-recovery charges should be considered to allow replacement of cups, spoons, etc.

51. The Ministry should endorse and enforce the WHO/UNICEF recommendations limiting the use of breast milk substitutes.

Supervision

The Review Team discovered that, in most Regions, supervision of work from the Regional and District levels was unsatisfactory. There is a considerable shortage of supervisors relative to the units and staff to be visited, a frequent lack of transport and support staff with limited time available to supervisors with other duties and vast distances to be travelled to many health facilities.

It is doubtful if the present system, given the same amount of staff and vehicles, could ever be made to work effectively throughout Sudan. Within the PHC system there is a need to establish a supervisory system with different levels of supervisors, covering limited geographical areas and staff numbers.

The Review Team recognised that the strong support of the CDD programme in providing vehicles, office equipment, audio visual aids, had much strengthened the capacity of Regions and Provincial health departments to plan, train and supervise.

In the present system supervisory visits to health facilities are too frequently based on discipline rather than on support and training and many supervisors need specific training in developing their supervisory skills.

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Even within Regions and provinces there is occasional conflict between dispensary inspectors and CDD supervisors, reflecting competion in status and differences in field and travel allowances. Very rarely are joint or multi-disciplinary supervisory visits conducted.

In spite of the many problems and the general unsatisfactory nature of health supervision inside PHC in Sudan, the Review Team met a few examples where systems were working well. It is desirable that research should be conducted into means of improving supervision, both within the present system and to form the basis for planning for better systems in the future.

Supervisory CDD check lists are used but the Review Team believed there was insufficient understanding of their potential use in planning and improving services.

Recommendations on Supervision

52. The Ministry of Health, in developing its PHC 'Health Area' policy, should ensure that due importance is attached to developing a feasible structure of supervision, each supervisor only having responsibility for a limited, manageable number of health units and staff.

53. Supervision can only work with adequate resources, including staff and transport. These resources are scarce and it is essential that supervisory visits should be multi-disciplinary, with no duplication of travel, transport or visits to health units.

54. All supervisory staff should receive supervisory skills training. The CDD unit, in conjunction with other units in PHC should develop a coordinated plan to provide this training, ideally at the Regional and District level.

55. Unconventional approaches to supervision, e.g. during staff visits for pay or to collect equipment, should be considered as a means to extend supervisory contact.

56. The Ministry of Health should ensure uniformity between the travel allowances and other incentives by supervisory staff attached to any PHC unit.

57. Supervision training and performance should be oriented mostly to support and training of staff.

58. Each PHC discipline and certainly CDD should develop clearly quantifiable indicators of work performance.

59. Feedback on performance should be readily available, preferably by discussion at the time, to staff being visited by a supervisor.

60. CDD coordinators should plan to give increased priority to supervision, in-service training during visits and planned follow-up to previous training. These activities will become relatively more important as training of health staff in case management reaches high levels.

K. Monitoring Progress. Target Setting

Within PHC in Sudan, record keeping, reporting and data analysis are of limited use. This is especially true in CDD where children attending with diarrhoeal disease represent only a small fraction of the true morbidity.

Reporting staff are generally unaware of the reasons for collecting data, fail to understand the significance of the information and receive no feedback. The data and reports are not used for planning purposes at any level.

The reporting forms are found to be difficult to complete.

CDD has fully cooperated in using the existing systems of reporting operated by thee Ministry of Health, even where these are seen as unsatisfactory. CDD has specific data collection needs not provided by this system.

Some sentinel sites provide local data on CDD performance but these cannot present an un-biased sample of the National CDD performance.

Indicators of CDD performance and progress are difficult to obtain if they attempt to measure programme impact eg through reduced morbidity and mortality. It is probable that routinely such indicators should attempt to measure operational performance only.

A number of CDD surveys have measured diarrhoeal disease morbidity, ORS usage rates, other practices used to treat diarrhoea usually based on a sample of 2 - 2,500 children in 30 clusters on a 2 week recall. Recent surveys forming part of an EPI questionnaire, with a smaller sample of children, may not be producing reliable results.

Recommendations on Monitoring Progress and Target Setting

61. It is desirable to separate performance indicators to be routinely collected and those preferrably collected by surveys.

Operational progress indicators - routine reports

- training of staff at all levels on all types of courses related to the estimated target.

- ORS stocks, usage and presence of adequate

supplies in health units.

- number of supervisory visits and reports received.
- number and percentage of health facilities offering effective CDD services.
- ORT corners.

Impact indicators - from surveys

- ORS and ORT usage rates
- KAP studies
- ORS access rates
- health facility CDD effectiveness
- diarrhoea morbidity
- infant and child mortality, including diarrhoea related mortality

61. Sentinel sites reporting absolute numbers and trends in diarrhoeal disease, e.g. ORS use before visits, IV use rates, CFRs should be maintained in representative urban and rural areas.

62. Relevant data should still be recorded, in a simple form in health facilities, regularly reported and used primarily for analysis, planning and feedback at the district level.

63. Data collected in a health facility, e.g. patients treated, ORS used, IV infusions, CFR, levels of nutrition, should be collected, analysed and displayed at the unit, as a form of feedback and staff motivation.

L. Collaboration - CDD with other units

CDD collaborates well and effectively with NGOs who are concerned with health. It appears that their good working relationships reflect the effectiveness of the CDD Central Unit, its capacity to support field activities and the generally high level of commitment of the NGOs.

CDD collaboration with other health units is satisfactory but could eventually be far better if PHC services became more effective and if causes for disagreement, e.g. variable field allowances, were removed.

The provision of different terms and conditions for field staff working under identical conditions for EPI, CDD and for other health care specialities is severely divisive. It is important to resolve these differences if integration is to be promoted and if services are to be developed on a more logical basis.

CDD relationships with the non-health sectors is not yet close, although some local contact has been effectively established with the educational authorities. Now that CDD is well established, with a proven, simple intervention, in which

there are several inter-sectoral aspects, it seems likely that stronger collaboration will start with the authorities responsible for education, water supply, sanitation, community development and agriculture.

Recommendations on Collaboration within the Ministry of Health and inter-sectoral collaboration

64. CDD policy should move towards eventual full integration within PHC, but with maintenance of a small expert unit at the Central level.

65. In attempting to unify PHC systems and to integrate presently separate programmes, the Ministry of Health must urgently seek to unify allowances, incentives or salary 'topping'. Eventually, in order to do this, external support should be channelled through Regional Director-Generals.

66. If possible, incentives should be related to performance.

Research in CDD

CDD research in Sudan falls into three categories :

- data collection, such as morbidity and mortality surveys, KAP studies. These have been widely conducted largely by the CDD programme itself.

- operational research, such as investigating the benefits and and problems of various strategies, information gathering approaches, problem solving. These have been very little conducted.

  basic research, e.g. the use of sorghum based ORS, occasionally conducted by universities and other research minded projects.

The Review Team believed that the major research need in CDD Sudan is for projects producing results which will assist programme implementation and help in problem solving. This should include research to define those factors which will be likely to influence programme development and the rate at which it achieves success.

It is desirable to obtain further information on the benefits to child survival of certain interventions likely to reduce the risks of severe diarrhoeal disease, e.g. breast feeding, safe water provision.

Recommendations on CDD Research

67. Research, especially operational research, should be an increasingly important part of the CDD programme in the next five years.

- In order to assist programme directors, including CDD, a Child Survival Research committee in support to the newly established committee at the National Medical Research Council should be convened.

Its terms of reference should include:

- identification of research topics
- identification of interested and competent research workers and institutions.
- identification of funding sources.
- examiniation of research proposals.

68. CDD should produce guidelines on production of operational research proposals.

69. The Review Team proposed a number of topics on which research might be commissioned:

- collection of impact data on CDD policies including ORT and feeding practices. This is primarily aimed at producing local evidence to obtain support from the medical profession.
- collection of data on local practices, traditions and beliefs in treating diarrhoea.
- means of improving supervision.
- means of improving communications.
- identifiction and testing of reliable indicators of programme progress.
- the inter-relationship of diarrhoeal disease and other health problems in Sudan.
- the assessment of impact of training in health worker performance and public activities.
- the potential of CDD to lead to broader health improvements.
- the constitution and use of different home available fluids.
- the relationship between knowledge and use of ORT and long term nutritional levels.
- the cost benefit of CDD and the impact of the programme on health and hospital costs.
- use of local food as part of thereapy during diarrhoea

IV. Budget and Finance

CDD in Sudan receives financial support from the Ministry of Finance and Pharmarcy, Development Fund, USAID, UNICEF and WHO. The Ministry of Health does not presently provide funding or a budget for the programme other than salaries, electricity, charges for maintenance of the building.

It seems possible that, over the next five years, CDD will be progressively integrated into PHC, with effective case management of diarrhoea becoming a regular activity of the Ministry's health service. Some CDD specific staff and budget needs, however, will remain, e.g. maintenance of a small central expert unit, supplies of ORS. It would be desirable if the Ministry of Health would guarantee to support these basic necessities indefinitely by creating a budget line not dependant on external funding.

It is also preferrable that Regions should also provide the limited funds necessary to support CDD by creating specific commitments in their budget.

Recommendations on the CDD budget

70. The Ministry of Health should guarantee to support the CDD unit within PHC and to purchase ORS from Government funds.

71. Regions should establish CDD budget lines.

72. Donors should allow CDD to plan ahead by informing the programme of the extent to which they will commit funds to support activities and provide feedback on expenditures.

73. In order to avoid creating dissent and division within the Sudan health services, donor agencies must formally meet and attempt to reach agreement on all allowances to national staff.

74. In view of the difficult present socio-economic conditions existing in the country, donors should understand and accept the need to provide long-term support to CDD and PHC in Sudan.

75. Efforts should be made to fund a research study measuring the cost benefit of CDD in Sudan.

ANNEX I

1.1. Background

In the National CDD Plan of Operation 1986 a comprehensive programme review was planned to be carried out in the last quarter of 1988 involving relevant donors along with Sudanese personnel.
This review was originally planned to take place during the period 6-27 November, 1988, but due to inavailability of suitable external evaluators it was postponed to 4-25 January, 1989.

The terms of reference for the evaluation team was to :

1. Assess the overall status of the programme. Special attention should be given to the management structure of the CDD Programme at all levels and to its effectiveness in carrying out present activities as well as its ability to handle a future expansion of the programme.

2. Determine the impact of the programme and the extent of achievements towards targets set.

3. Identify major programme problems

4. Give recommendations for solutions of problems and guidelines for development of the past 1988 Plan of Operation.

1.2 Participants

1.2.1 International Organisations :

Dr. Nicholas Ward, Medical Officer, WHO/EMRO
Dr. Ahmed Magan, Regional Advisor Child Survival, UNICEF/MENA
Ms. Agma Prins, Region. Project Officer, PRITECH
Dr. Eric Burnier, STC/WHO
Mr. Gopal Dutia, Communication Officer, UNICEF/Sudan
Mr. Reginald Hawkins, Child Survival Coordinator, USAID/Sudan.

1.2.2 National Organisations

Mr. El Sheikh Khidir, Respon. CIP Funds, Loan Dept., Min. of Finance and Economic Planning.
Dr. Mohie El Din Mohd. Ali, Lecturer, Faculty of Comm. Medicine, Gezira University

1.2.3 CDD Programme National

Dr. Magda M. A. Ali, Director

Dr. Sanaa Zaki Mustapha, Deputy Director

Mr. Mohamed Ibrahim El Baroudi, Asst. Director, Administration

Ms. Fathiya Magzoub, ORT/Nut. Unit.

Dr. Hilary Okanyi, Child Survival Coordinator, PHC/MOH.

Dr. Abdel Malik Hashim, Local STC (previously NCDDP Training Coordinator.

1.2.4 CDD Programme - International :

Ms. Sylvia Anderson, ORT/Nut. Unit. (IRC)

Dr. Margrethe Juncker, Associate Expert (WHO)

1.3 Schedule of Evaluation

4-8 January, 1989

Briefing and discussions with NCDDP

Individual meetings with : Acting Minister of Health
Dir. Gen. of International Health
Dir. Gen. of PHC
Directors of PHC Departments and Projects (EPI, NUT, MCH, ARI)
Main donor organisations (MFEP, USAID, WHO, UNICEF)

Preparation of review format for field visits

9-19 Jan. 1989

Field visits

Team I (Darfur, Kordofan, Central Region)

9-10.1	El Fasher, Darfur
11-14.1	Kordofan
15-19.1	Central Region (Kosti, Sennar, Wad Medani)

Team II (Eastern Region and Refugee Programmes (COR)

9.1	Gedaref
10-11.1	COR
12-13.1	New Halfa
14-15.1	Kassala
17-18.1	Port Sudan, Red Sea Province.

Team III (Northern Region and Khartoum)

9-12.1	Atbara, Nile Province
13-15.1	Dongola, Northern Province
16-18.1	Khartoum and National ORT Centres.

21.1 - 25.1	Discussions
25.1 - 26.1	Debriefing with Minister of Health and Dir. Gen. of PHC.

1.4. Collaborating Personnel

1.4.1 Central level

Dr. Abdel Hamid El Sayed, Dir. Gen., PHC
Dr. Zuhair Ali Nur, Dir. Gen. International Health
Dr. Kamal Ahmed Mohamed, Dir. Nutrition Dept.
Dr. El Tayeb Gareeb Alla, Dir., EPI,
Dr. Amal Abu Bakr, Dir, MCH
Dr. A.R.H. Mufti, National Manager, ARI.

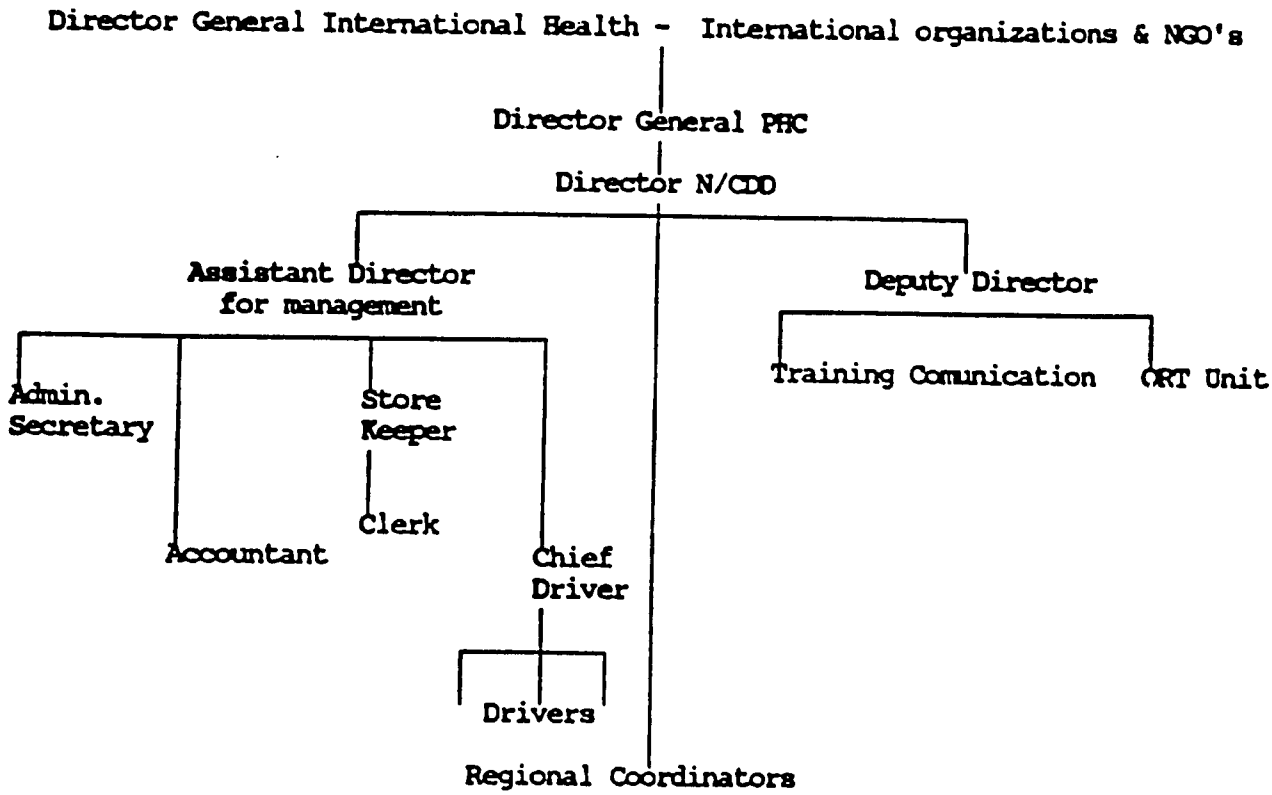
1.4.2 Regional Level

Name	Position	Location
Dr. Mohamed Ismael	Ass. Dir. Gen. Health Ser.	Darfur
Dr. Ahmed Abdel Rahman	CDD Reg. Co-ordinator	Darfur
Dr. Mirghani Suleiman	D.G. Health Services	Kordofan
Dr. Amal Dardiry	CDD Regional Coordinator	Kordofan
Dr. Mustafa Abu Bakr	Dir. PHC	Kordofan
Dr. Abdel Halim El Tahir	Dep. D.G. Health Services	Cent. Region
Dr. Mohd. Mukhtar	CDD Reg. Coordinator	Central Region
Dr. Rabie Hussein	CDD Prov. Coordinator	White Nile Prov.
Dr. Tahir Abdel Hamid	Dir., H.S., Sennar	Sennar
Dr. Ahmed Abdel Badie	CDD Prov. Coordinator	Sennar
Dr. Nabil Aziz Mikhail	D.G., Health Services	Eastern Region
Dr. Mohd. Ahmed Ibrahim	CDD Reg. Coordinator	Kassala
Dr. Abdel Ghafaar	Dir., H.S.	New Halfa
Dr. Mohie El Din Dawood	CDD Prov. Coordinator	N. Halfa
Dr. Hussein Hassan Musa	Dir., H.S. Gedaref	Gedaref
Dr. Mustafa Mukhtar	CDD Prov. Coordinator	Gedaref
Dr. Omer Abdulla El Faki	Dir., H.S. Red Sea	Port Sudan
Mr. Hamid Abu Bakr	CDD Prov. Coordinator	Port Sudan

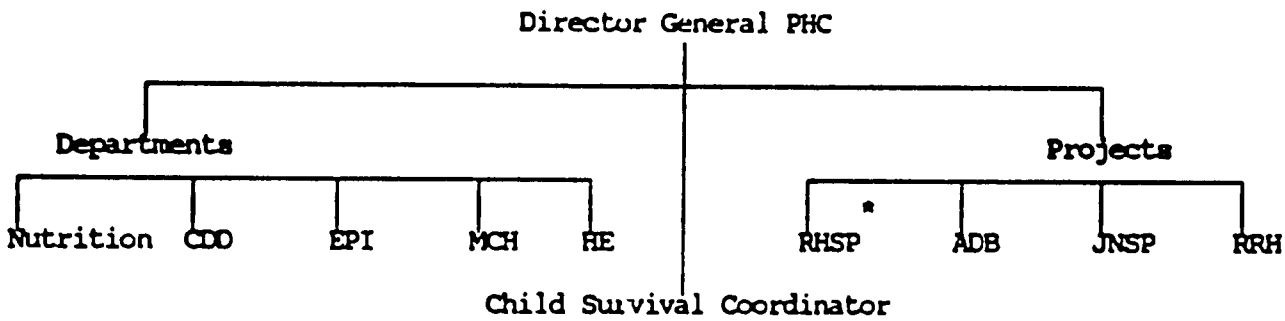
Name	Position	Location
Dr. Omer Makki	Director, Health, COR	Showak
Ms. Zahra Mirghani	CDD Co-ordinator, COR	Showak
Dr. Amin El Hag	Act. D.G., H.S. Northern Region	Atbara
Dr. Mustafa Kroft	CDD Co-ordinator, Nile Province	Atbara
Dr. Abdel Wahab	Dir., H.S. Northern Province	Dongola
Dr. Khidir Mohd. Kheir	CDD Co-ordinator, Northern Prov.	Dongola
Dr. Mohie El Din El Tayeb	D.G., H.S., Khartoum	Khartoum
Dr. Abdel Raouf	Director, H.S. Omdurman	Omdurman
Dr. Badr El Din Hussein	CDD Co-ordinator, Omdurman	Omdurman
Dr. Yassin Abu Turky	Senior Peadiatrician, Kht. Hospital	Khartoum
Dr. Saida Bashar	" " Kht. N. Hos.	Khtm. N.
Dr. El Zein Karrar	Peadiatrician, Khtm. N. Hospital	Khtm. N.
Dr. Ali Abdel Mageed	Med. Director, Jebel Awlia Hospital,	Jebel Awlia

MANAGEMENT ORGANOGRAMS

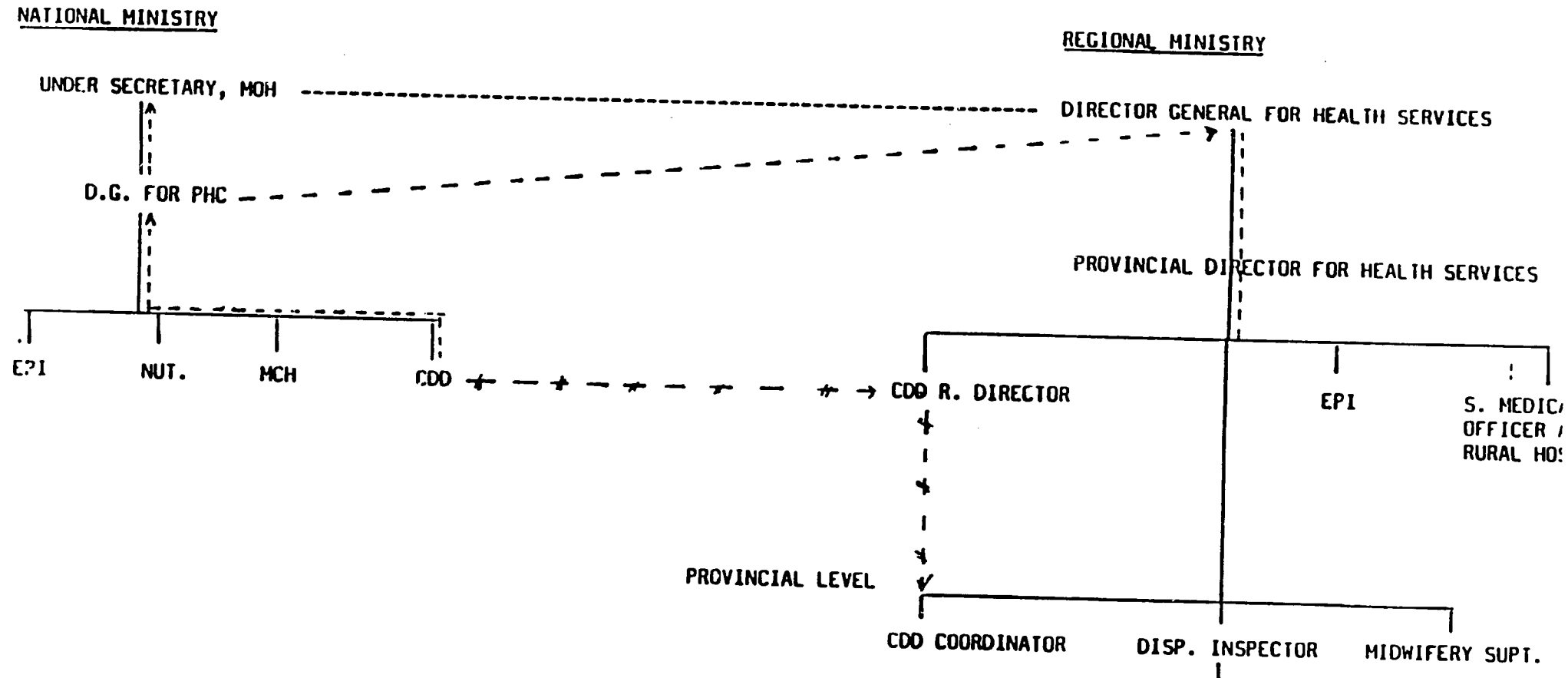
2.1. CDD Unit, Ministry of Health



2.2 Primary Health Care Department, Ministry of Health



* Rural Health Support Project (Kurdofan - Darfur)
African Developmnet Bank Project (Darfur)
Joint Nutrition Support Project (Red Sea Province)
Rehabilitation of Rural Hospitals (National)



Key : D.M.A. = District Medical Assistant
M. A. = Medical Assistant
H.V. = Health visitor
CHW = Community Health Worker
VMW = Village Midwife
TBA = Traditional Birth Attendant
-----→ = Formal lines of communication
——→ = Lines of authority
= Direct contacts may be ed by CDD

Annex 3

MAJOR EVENTS IN CDD DEVELOPMENT (1985 - 1988)

3.1 Preparatory Planning of N-CDD Programme	Dates
- 'plan of operation for Programme for the Control of Diarrhoeal Diseases in Sudan' (MOH & WHO)	Jan 83
- Creation of a National CDD department under the directorate of PHC/MOH	Sept 85
- Appointment of a full-time Director to the NCDD department to work with a WHO Associate Expert	Sept 85
- Visit to 7 out of 9 Regions in the country	Oct 85 - Jan 86
- National Workshop of CDD, Khartoum (putting the guidelines for the development of the National Plan)	19 - 21 Jan 86
- A budget of LS 4 million (= US$ 1.6 million) for three years (1986 - 1988) is accepted	Aug 86
- Gradual increase of the number of the staff at the National office from 3 in 1985 to 7 in 1986 and 20 by end 1988	

3.2 Establishment of National Policy	Dates
- Short work plan (Oct 85 - Jan 86)	Oct 85
- National CDD Programme Plan of Operation (1986 - 1988)	Feb 86
- General Guidelines for development of plans for Regional CDD Programme	Jan 87
- General Guidelines for development of training plan in a district	Apr 87
- Reference Book for Mid level Health Workers (English & Arabic)	Oct 86
- Revised 2nd Edition of the above	Sept 87

3.3 Extension of CDD Programme

Location	Plan Developed
1. Kordofan	Sept 86
2. Central Region	Oct 86
3. Khartoum	Jan 87
4. Nile Province, Northern Region	Apr 87
5. Eastern Region	June 87
6. Northern Province, Northern Region	Aug 87
7. Southern Nile Province, Central Region	Oct 87
8. Darfur	Mar 88
9. COR (Refugees, Eastern Region)	Apr 88
10. Juba, Equatoria Region	Aug 88

3.4 Production of essential documents and health education materials

	Dates
- National Curriculum for training mid-level health volunteers	Jan 86
- National CDD Programme Plan of Operation	Feb 86
- 'Hand Washing' & 'Breast Feeding'- posters	1986
- 'What to do when your child has diarrhoea' --- booklet	1987
- flip chart	1987
- 'If your child has diarrhoea, give ORS' - poster	1987
- 'A Message to all Mothers' - pamphlet	1987
- 'Hand Washing' - photo-poster	1988
- '10 steps in mixing and administering ORS correctly using CDD 1 litre jug' - pamphlet	1988
- Slide sets on ORT and diarrhoea prevention	1988
- CDD messages on Omdurman Elementary School report card certificates	1988
- School Health Curriculum (in collaboration with Nat. School Health Department)	1988
- CDD curriculum for non health workers (in collaboration with Sudanese Red Crescent Soc.)	1988
- 4 bill boards (for the market and the football stadium of Kosti)	1988
- CDD Newsletter, in Arabic and English, (quarterly issued since Oct 85)	

Note: most of the pamphlets, flip charts and booklets exist in English and Arabic some of them also in Tigrinian and Amharic.

ANNEX 4

STAFF DEVELOPMENT

Staff development and welfare is a major priority of the NCDD Programme. Accordingly the Department formulated two main activities in developing the skills of the staff and motivating them: i) training
ii) incentives.

i) Training

The National CDD Department developed a scheme for the gradual up-grading of the skills of all National, Regional as well as medical officers working in rural hospitals.

1 Central Level

A chance for career development was provided for all the administrative staff. The staff had a chance to join a various numbers of courses ranging from language courses to computer courses.

Technical staff at the Central level had the opportunity to be sent for short term training courses overseas. Two of the medical officers attended the clinical management course in Bangladesh - Dacca, ICDDR. Another medical officer participated in the International Course on Health Development at Tropical Institute, Netherlands, October 88 - December 88.

2 Regional Level

a) The first formal training for the Regional CDD Co-ordinators is the PHC management Course at Gezira University. The course enables them to get a better understanding of the PHC concept and health planning and management. The training is broad based on PHC and it is expected that the CDD Co-ordinators would gradually become responsible for the planning and implementation of all PHC activities through the resources made available from the National CDD Programme. All CDD Co-ordinators have attended the Gezira University course.

b) The planning exercises which Regional CDD Co-ordinators undergo soon after their appointment, with the technical support of the National CDD office, is designed to provide them with planning skills. The first exercise is to develop a Regional Plan through a process of planning workshops and consultations with all parties concerned in the future implementation of the programme. The second is to develop a training plan starting with courses on training of trainers.

c) According to date of appointment, CDD Co-ordinators are sent on short term courses abroad. The Department believes that once co-ordinators develop the knowledge and skills to manage the diarrhoeal problem in their Region, it is crucial for them to get

new ideas and to get aquainted with experience from other parts of the world.

d) During the next planning period, the National CDD Department will seek the provision of degree training in Public Health for the CDD Co-ordinators.

e) Medical officers in rural hospitals. The NCDD department sponsored and provided funds for medical officers working in rural hospitals for PHC management held at Gezira University. The objective of the Department was to improve the performance of the young doctors working in the out-stations. Moreover, it was a means of extending the CDD activities in different rural areas.

ii) Incentives

The NCDD Department has been trying over the past two years to balance, on the one hand the expanding responsibilities of its staff members as programme activities increase and on the other hand, the changes in the job environment which have resulted from the economic realities of the country. During the year the inflation rate was more than 40%.

The Department, understanding the difficulties inherent in financial incentives, has developed a strategy whereby extra pay is in recognition of good performance and a financial reward given according to the activities carried out. The rationale was to ensure that money is not used as an entity but a tool in appreciation of good performance. It was expected that through this mechanism productivity and interest of the staff would be attained.

Due to the wide scope of the above problem the Management Development Centre was consulted to set a scheme for the pay based on the income. The Ministry of Health did not present any principle of pay for projects to follow. Each project has different incentives or extra payment rate. Some get a fixed topping up of 30% of the salary, others provide a fixed rate of L.S. 500. This extra pay is given to the staff automatically at the end of each month regardless of their performance.

Financial incentives, although initially increasing productivity somewhat, does not ignite the full potential of those who work under it.

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ANNEX II a

Different Training Courses for staff at Central Office of N/CDD

N A M E	Position	Appointment to CDD	Type of course - Date
Sayed Mohamed Ibrahim Baroudi	A/Director for Follow-up	May 1986	Supervision and Evaluation Managment Programme CEDPA Washington August 4 - Sept. 5, 1986. ICORT I Egypt
Dr. Abdel Malik El Haddiya	Training Section	February 1987	See Annex IV and VII.
Dr. Hilary Okanyi	Regional activities	August 1987	" " "
Abdel Mutalib Ibrahim	Store keeper	April 1987	o Introductory course to Computers August 87 * Management course for stock keeping 5 March - 19 March
Salih Khalafalla	Accountant	August 1986	Orientation on budgeting on job traininng August 86 - Sept. 86
Faiza Abdel Wahab	Typist	October 86	English course
¢ Fatma El Sayed	Clerk	October 86	French Cultural Centre
Mary Ishag	Administrative Secretary	January 87	o Introductory course to computers
Fathiya Magzoub	Nutrition officer	October 88	On-job trainign by Ms. Silvya Anderson October - December 1988

*The acting store keeper took this chance since the store keeper was on sick leave

o will be trained on 5 programmes developed by CDD
was also trained on the job by the artist on developing educational posters.

NAME	POSITION	LOCATION	DATE OF APPOINTMENT	TRAINING COURSES
Hassan El Hadi	Part time artist	NCDDP	May 87	Development of HE posters Dept. of Comm. Medicine December 87
James Bol	Messenger	NCDDP	October 87	On job training on how to us manual roneo On-job training to use photc copying machine

Training chances offered for Regional and National CDD Staff

Name	Position	Location	Appointment to CDD	Training course Title/Date
Mohamed Mukhtar Mohd. Saad elDin	CDD Director	Centrl Region	October 1986	London School of Hygiene & Tropical Medicine. Measurement and Assessment in Health and Nutrition Intervention in Developing countries. June 25/88-Feb 26,
Dr. Mohamed Ahmed Ibrahim	CDD Director	Eastern Region		Bangladesh - Dacca ICDDR,B Clincial Management course 17-28 April, 1988
Dr. Abdel Malik Haddiya	Training Director	Central Office	February 1988	" " "
Dr. Hilary Okanyi	Regional activities	Central office	August 87	" " "
Dr. Mustafa Kroft	CDD Director	Northern Region		Supervisory and Monitoring System for MCH/FP 3.6.1989-31.6.1989 Community Research and Evaluation , University of Connecticut 7 Nov. - 16 Dec.
Dr. Rabie Hussein	CDD Director	Kosti	September 87	ICOR III 14-16 December 19
Dr. Abdel Malik Haddiya	Training Director	N/CDD	July 1987	International course on Hea. Development Tropical Institute Netherlands October 88 - De

Name	Position	Location	Appointment to CDD	Cource Title/Date
Dr. Hilary Okanyi	.Regional activities	NCDD	August 87	Integrating Child S. Strategies into PHC district level
Sayed Mohamed Ibrahim Baroudi	Admin. Assistant	NCDD	May 86	Tunis 14-18 November 19. Introductory computer co. Superv. course 1986

• Because involved in TGT and supervision were given the chance to attend the clinical management course at Bangladesh.

o Dr. Abdel Malik was provided a degree training since he joined d- t. as a medical officer and received on the job training.

ANNEX 1

CHANCES FOR ATTENDING PHC MANAGEMENT COURSES TO REGIONAL CDD DIRECTORS AND MEDICAL OFFICERS

Name	Position	Location	Date of PHC Course
Dr. Mohamed Mukhtar Saad el Din	CDD Coordinator	Medani *	15 November 86 - 4 Dec. 1986
Dr. Mohamed Ahmed Ibrahim	CDD Coordinator	Kassal*	" "
Dr. Amin Mohd. Khalil	Wad Hamid Rural Hosp.		" "
Dr. Mohamed Mustapha	Kadugli Provincial Hospital		" "
Dr. Abdel Malik EL Haddiya	NCDD	Khartoum	4.4.87 - April 26, 1987
Dr. Abdel Aziz Mohd. Taha			" " "
Dr. Mamoun Jaafar	D. & IC.	Omdurman	" "
Dr. Ibn Omer Mecki	M.O.	Gedaref	
Dr. Rabie Hassan	CDD Coordinator	Kosti*	11 July 87 - 30 July 1987
Dr. Niemat Ali Ahmed	M.O.	N. Halfa	" "
Dr. Samia Khidir	M.O.	N. Halfa	" "
Dr. Niemat	M.O.	Hassa Heissa	" "
Dr. Yassir Mohd. Hussein	M.O.	Ed Dien	5.12.1987 - Dec. 24, 1987
Dr. Mustafa Kruft	CDD Coordinator	Atbara*	" "
Dr. Hilary Okanyi	Reg. activities	National Office	" "
Dr. Nawal Mustafa	M.O.	El Obeid	" "
Dr. Fatma Omer	M.O.	Wad Nubawi	19.3.1988 - 7.4.1988
Dr. Khidir Mohd. Kheir	CDD Coordinator	Dongola*	
Dr. Ibrahim El Agib	M.O.	Khashm el Girba	
			11. July 87 - 30 July 87

Name	Position	Location	Date of course
Dr. Abdalla Sid Ahmed	Med. Inspector	Khashm el Girba	August 5th. 88 - 25 August 1988
Dr. Abdel Rahim Mahmoud A/Rahim	Medical Inspector	Gedaref	
Dr. Ahmed Abdel Badie	CDD Coordinator Blue Nile	Sennar	
Dr. Gabriel Daniel	M.O.	Renk	

5. CO-ORDINATION

5.1. Central Level.

CDD is one of the departments of PHC directorate which include in addition EPI, MCH and Nutrition. Each department has its own plans and implementation activities. However all departments address the same health woker and target the same child.

The need for collaboration is strongly felt at the central level in particular following the expansion of PHC programme. However it is only last June 1988 with initiative from the CDD Department, practical step was taken towards coordination.

Establishment of Child Survival committee was declared. Here co-ordination is considered essential for the sustainability of all programmes. Later it is called Child Survival Working Group with the following objectives.

1. Review and approve work plans and budgets of the different Child Survival projects, aiming at proper utilizationof available resources

2. Collaborate Child Survival activities with the different NGOs in such a way as to spell out and implement MOH policy regarding Child Survival activities.

3. Revise curricula educational or other technical materials related to Child Survival activities.

4. Co-ordinate Child Survival activities in the regions through the CDD co-ordinators, nutrition officers and EPI operational officers.

5. Monitor expenditure of funds from donor agencies intended for Child Survival activities or projects.

6. Monitor and evaluate all Child Survival activities within the Ministry of Health.

7. Review progress reports of Child Survival programmes and make appropriate comments and recommendations thereon.

8. Decide on operational research topics pertaining to Child Survival activities.

9. Approve monitor and evaluate all Child Survival activities carried out through other government institutions and non governmental organizations (NGOS) within the country.

10. Establish technically, managerially and logistically sustainable Child Survival programmes in the regions.

11. Hold quarterly meetings to discuss co-ordination of Child Survival activities in the areas of training, supervision and evaluation and/or other technical aspects.

12. Develop sustainable Child Survival activities through generation of cost sharing projects within the country.

5.2 Central to Regional Levels

5.2.1. Initial Planning

In 1985 a policy was stated by the Ministry of Health to organize the health services in health areas to be the unit where all PHC activities will be integrated in terms of planning delivery and support. Following a workshop held at Gezira in 1987 a plan of action for health areas was purposed.

Child Survival Working Group considers the already existing MCH committees at the regional levels for activation, to function properly to co-ordinate all PHC activities at the regional levels.

5.2.2. Follow up and activities

At the second National CDD workshop held in September 1987 CDD Co-ordinators presented some examples of collaboration between the different PHC Departments espcially in the areas of training. Moreover the 2nd. edition of the trainers manual was discussed at the workshop and was approved. The manual included sessions on EPI, Nutrition and Growth Monitoring. Collaboration with EPI in supervision is encouraged and attempted in some regions. The CDD co-ordinators involved Nutrition officers in the development of ORT Corners, and nutrition officers appointed in charge in the establishment of ORT corners. Moreover vaccination services to be available in connection with ORT corners was stressed.

5.3 CDD Unit within Ministry of Health

Co-ordination with other departments in the Ministry of Health was gradually building up. The initial step taken was the development of a joint CDD, EPI and Nutrition outpatient surveillance form. The form was developed in collaboration with the health statistics unit. During the Flood Emergency August 1988 the three PHC departments; EPI, Nutrition and CDD were closely

collaborating. Joint activities including measles mass vaccination, Nutrition survey and health education on diarrhoea prevention were carried out. In October 1988 a Nutrition officer was seconded to the NCDD department from department of Nutrition. She is expected to work on the area of dietery management of diarrhoea and lead to further collaboration with the Nutrition department.

5.4 Intersectoral collaboration

In collaboration with the school health department a joint training plan of school teachers on CDD and aid was developed. Moreover the school health teachers manual containing prevention of DD was printed for the school health department.

5.5 CDD Unit/MOH to International Organization NGOs and Donors

Throughout the programme period the NCDDP has been collaborating with the international organization (WHO, UNICEF and USAID). The support from WHO is mainly technical (through consultants and a permanent associate expert). UNICEF has provided funds for implementation of some CDD activities, ensured sufficient supplies of ORS and technical assistants through their communication officer. The main support from USAID has been by the provision of local currency funds through the Ministry of Finance and Planning.

The NCDD has succeeded to establish a very close collaobration with the NGOs working in Sudan. The main areas of collaboration between CDD and NGOs are in training, establishment of ORT corners, drug distribution and health education activities.

ANNEX 6

CDD EQUIPMENT AND SUPPLIES

The National CDD Department (NCDDP) obtains its equipment and supplies from its own programme budget or receives them from donors such as USAID, WHO and UNICEF. Attached are two Tables which describe the vehicles and equipment available to NCDDP in the years 1986-88.

Indenting Equipment and Vehicles

After an assessment of initial programme needs and availability of resources, vehicles and equipment indenting has hitherto been on a one-time basis through requesting prospective donors. Initial urgent programme needs, especially vehicles, were obtained on the local market from project funds.

Off-Shore Procurement

Off-shore procurement is time-consuming. From the time of placing orders it has taken from 5 to 17 months to receive equipment (though most of this has been air-freighted) and between 8 to 14 months for vehicles. Part of this delay has been due to clearance in Port Sudan, in transportation to Khartoum and at Khartoum Airport. (see separate paragraph on clearance difficulties)

Supply Constraints

The bulk of equipment and half the vehicles have been ordered from UNICEF which has not been responsive to providing periodic or accurate information on supply status such as ETA, etc. Two lots of equipment (Training kits, SCF 249 and ORT Unit kit SCF 250) though ordered in June 1987 have not been delivered.

Copies of supply documentation were normally forwarded to NCDDP by the Khartoum office of UNICEF till January 1988. This gave some information on supply status. However, after the querying of a purported supply of 12 camels and 6 motor cycles (which were not requested), all such documentation has ceased to be made available to NCDDP.

Repairs and Maintenance

As most of the equipment and vehicles are fairly new (1 to 2 years old) maintenance has not been problematic. Where available, annual contracts are entered into with local firms to service photocopiers and typewriters. Vehicles are repaired at the EPI workshop after the purchase of spare parts in the local market. Non-availability of certain spares has sometimes delayed repairs. The delivery status of vehicle spares ordered through UNICEF in November 1987 (worth $ 44,000) remains uncertain.

Clearance Bottleneck

Clearance at Port Sudan and Khartoum Airport is normally handled by the Central Medical Stores. This procedure results in an average delay of about 6 months for goods landed in Port Sudan/Khartoum Airport and their availability for NCDDP use. Specifically, a consignment received from WHO has been at Khartoum Airport for the last 10 months and the most recent 3 million sachet shipment of ORS has been at Port Sudan since October 1988.

ANNEX 6 - TABLES

Source and Distribution of CDD Vehicles[1]

January, 1989

	Region	Location	When Ordered	Received	Source	Remarks
1.	Khartoum	MOH	12/86	1/87	CDD Proj.[2]	NCDDP use bought locally
2.	"	MOH	6/87	8/88	UNICEF	" "
3,	"	MOH	6/87	8/88	"	" "
4,	"	MOH	6/87	8/88	"	" "
5.	"	MOH	9/86	5/87	CDD Proj.	Child Survival Use
6.	"	Omdurman	4/87	5/87	CDD Proj.	ORT centre use Nissan Minibus bought locally
7.	"	Omdurman	6/87	8/88	UNICEF	
8.	"	Khtm. North	9/85	10/85	UNICEF	
9.	"	Krt. Commissionerate	6/87	8/88	"	To be delivered to Commissionerate[3]
10.	Darfur	El Fasher	9/86	5/87	CDD Proj.	
11.	"	"	6/87	8/88	UNICEF	
12.	"	El Gineina	3/87	12/87	"	
13.	"	Nyala	9/86	5/87	CDD Proj.	
14.	Kordofan	El Obeid	9/86	5/87	"	
15,	"	Kadugli	6/87	8/88	UNICEF	to be delivered to Kadagli 3
16.	Central	Wad Medani	9/86	5/87	CDD Proj.	
17.	"	"	6/87	8/88	UNICEF	
18.	"	Kosti	12/86	1/87	CDD Proj.	Landrover - local purchase
19.	"	"	3/87	12/87	UNICEF	
20.	"	Sennar	6/87	8/88	UNICEF	
21.	"	Kassala	9/96	5/87	CDD Proj.	
22.	Eastern	Port Sudan	9/86	5/87	"	
23.	"	Gedaref	3/87	12/87	UNICEF	
24.	"	New Halfa	3/87	12/87	"	
25.	Northern	Atbara	9/86	5/87	CDD Proj.	
26.	"	"	9/86	5/87	"	
27.	"	Dongola	9/86	5/87	"	
28.	"	Merowe	6/87	8/88	UNICEF	
29.			9/86	5/87	CDD Proj.	Damaged beyond repair[4]

Notes :

1. All vehicles Toyota Double Cab., Diesel Four-Wheel Drive Pickups, unless otherwise stated in Remarks column.

2. CDD Proj. = National CDD Programme funds obtained from the Ministry of Finance and Planning. (Development Funds)

3. The vehicles are awaiting delivery pending completion of Plans of Operation.

4. Vehicle met with accident en route from Port Sudan to Khartoum (before allocation). Being written off.

ANNEX 6 - TABLE 2

CDD EQUIPMENT BY TYPE AND SOURCE - JAN., 1988

Equipment	WHO	UNICEF	CDD PROJ.[1]	QUANTITY	DISTRIBUTION
Photocopiers	2	8	1	11	2 at NCDDP[2] 9 in regions
Typewriters - Engl.	5	8	-	13	NCDDP DTC[3] Regl. Coord.
" - Arab.	6	8	2	16	"
Duplicators(stencil)	8	8	-	16	"
Slide projectors	7	8	-	15	"
Overhead Projectors	-	8	-	8	"
35mm. compact cameras	-	4	-	4	NCDDP, Darfur Central& E.R.
Infant scales	-	12	-	12	ORT corners inReg. Hospls
Bathroom scales	-	12	-	12	"
Stencil cutter	1	-	-	1	NCDDP
Pocket calculators	10	-	-	10	NCDDP + Reg. Coordinators
Generator		1	-	1	NCDDP
Computer system	-	1	-	1	NCDDP
Motor cycles	-	6	1	7	2NCDDP + 5 Regions.

Notes: 1 CDD Proj. = Direct grant from Ministry of Finance and Planning

2 NCDDP = National CDD Programme Central office, Khartoum.

3 DTC = Diarrhoea Training Centre Omdurman Paediatric Hospital.

4 These are listed under "Vehicles" as they were not requested. However, they were delivered to NCDDP and distributed as indicated

ANNEX 7 - TRAINING

7.1. Development of Curriculum Guidelines

Senior Level

No special curriculum was developed for senior level clinical management courses. Generally WHO guidelines and diarrhoea treatment manuals followed. All courses were taught by senior pediatricians and members of N/CDD staff. The courses included lectures on : Principles of ORT, Clinical management of Acute Diarrhoea, Ethiology and Pathogenesis of acute diarrhoea, Use of drugs in treatment of acute diarrhoea, Health education of mothers, the National CDD Programme, Planning ORT actitivities. As with the mid level course, the main emphasis is on practical work, clinical seminars and group discussions.

Mid Level

During the last quarter of 1985 a curriculum for training midlevel health workers was developed and pilot tested in collaboration with paramedical trainers and RHSP in Kordofan. At the National CDD workshop in January 1986 this curriculum was approved as the official National curriculum for training midlevel health workers. The curriculum is a trainers manual giving detailed guidelines and information. The course is 4 days with an emphasis on practical training in a health unit. This curriculum was revised in 1987/88 in both Arabic and English.

The training plan which has been followed entails Training of Trainers courses at regional and provincial levels. The course is 6 days covering the mid level course curriculum in detail as well as information and practice on teaching skills and training methods. Participants in these courses are experienced paramedical health workers, preferrably district supervisors and tutors .

of paramedical schools.

A reference book for midlevel health workers (Arabic/English) was developed in late 1986 in order for the health workers to refresh their memory on ORT whenever needed. More than 20,000 copies have been issued and an additional 10,000 have been recently printed. A dehydration assessment chart in poster form was developed to be used by the health worker as an aide memoire.

Non health cadres

The National Council for Adult Education adopted in 1987 an ORT curriculum within its National Adult Education Programme. The curriculum is based on the basic messages for prevention of diarrhoea and use of extra fluids and ORS during diarrhoea attacks.

The department of School Health developed,in collaboration with N/CDDP a School Health curriculum including ORT.
Volunteers, including teachers have been included in ORT courses. The first training of trainers course for volunteers was conducted with the Sudanese Red Crescent Society in June 1988. A training curriculum for non-health workers was developed in collaboration with the N/CDDP and SRCS and is expected to be completed in early 1989.

7.2 National Senior Level Management Training

Name	Position	Type of course - date
Syd. Mohd. Ibrahim Baroudi	A/Director for Follow-up	Supervision and Evaluation Management Programme,CEDPA, Washington - Sept. 1986.
Dr. Magda M. A.Ali	N/CDD Director	National CDD Programme Managers course. Supervisory Skills Course, Nairobi

Name	Position	Type of course - date
Dr. Mohd. Mukhtar Mohd. Saad El Din	CDD Director, Central Region	Measurement and Assessment in Health and Nutrition Intervention in Developing Countries. London School of Hygiene and Trop. Med. Jan.-Feb. 1988.
Dr. Khidir Mohd. Kheir	CDD Co-ordinator, Northern Region	Community Research and Evaluation. Univ. of Connecticut - Nov.-Dec. 1988
Dr. Rabie Hussein	CDD Co-ordinator, White Nile	ICORT III, Washington - Dec. 1988.
Dr. Magda M. A. Ali	N/CDD Director	"
Dr. Abdel Malik Haddiya	Training Director	International Course on Health Development. Tropical Institute Netherlands - Oct.-Dec. 88

In addition the N/CDDP has sponsored 24 Regional CDD coordinators and medical officers to take the 3 week Primary Health Care Management course at Gezira University.

7.3 Clinical Management Training

Senior Level Staff

Number	Position	Place of course	Date
4	Senior Pediatricians from Khartoum Region	El Shatby Hospital Alexandria, Egypt	July '86
48	Medical Officers from all regions	Omdurman Hospital D. & T.C.	July 87, Oct.87 Jan. 88, June 88
12	Medical Officers and House officers from Khartoum N. Hospital	Khartoum N. Hospital D. & T.C.	Sept. 88
2	N/CDD P Doctors	ICDDR in Dacca, Bangladesh	April 88

1985 - 88

REGION / CADRE	Health Visitor	Med. Asst.	Midwife	Sisters & Nurses	C.H.W.	Nut. Off. icer	Vaccina-tor	Other H.W.	Non H.W.	Total	Gran
1986											
Kordofan (1985 - 1986)	44	116	454	240	283	-	-	-	-	1137	
Central Region	1	1	32	29	13	-	-	19	35	130	
Eastern Region	4	19	9	-	49	-	-	-	-	81	
Darfur	-	10	12	17	19	-	-	2	-	60	
Khartoum	1	-	1	13	2	21	9	2	5	54	
Total 1986	50	146	508	299	366	21	9	23	40	1462	
1987											
Kordofan	1	69	190	75	326	-	-	7	-	668	
Central Region	34	19	14	60	11	1	4	15	14	172	
Eastern Region	24	135	53	86	221	10	8	44	34	615	
Darfur	15	39	33	30	15	-	-	-	-	132	
Khartoum	31	45	121	178	12	49	-	18	4	458	
Northern Region	26	48	50	147	25	-	8	32	144	480	
Total 1987	131	355	461	576	610	60	20	116	196	2525	
1988											
Kordofan (1.4.88)	-	9	44	27	-	-	-	1	2	83	
Central Region (18.10.88)	11	20	65	46	7	7	7	48	115	326	
Eastern Region (27.8.88)	19	61	52	158	80	34	-	38	61	503	
Darfur (7.7.88)	18	92	111	267	202	9	-	1	10	710	
Khartoum (15.11.88)	17	73	1	183	1	16	7	23	1053	1374	
Northern Region (4.8.88)	11	48	27	131	28	46	3	32	-	326	
Total 1988	76	303	300	812	318	112	17	143	1241	3322	
GRAND TOTAL	257	804	1269	1687	1294	193	46	282	1477	7309	

Updated : Nov. 1988

7.4 Supervisory skills training

No training done to date.

7.5 Other courses

See Annex , Health Education.

7.6 Medical/Nursing School Curriculum development

The National midlevel ORT training curriculum has been adopted by all the paramedical schools in the country and is now included in the school curriculum. N/CDDP is providing the training materials, posters etc.

The University of Khartoum Medical College has agreed to adopt the new WHO/CDD curriculum as part of training all medical students. To date, this curriculum has not been completed. The medical schools are currently teaching ORT in their curriculum, however, the emphasis is more theoretical and less practically oriented.

Annex 8

8.1. Development of Reporting Policy

The National CDD Programme has designed a reporting system that allows the monitoring of programme activities through the use of three formal mechanisms and through informal observational activities as well. These mechanisms include routine reporting systems which support the ongoing supervisory and policy making needs of the programme and a less routine system of surveys to assess impact.

8.2. Expected Routine Reoirts

The National CDD Department submits 6 month progress reports to the MOH, international Organizations, Ministry of Finance and Planning. These reports are also given to NGOs and various consultants. The reports cover the progress of work within the main areas of activities outlined in the National Plan.

The supervision of CDD Co-ordinators in the regions is supported through the use of a quarterly report prepared by the Co-ordinators in a fixed format submitted to N/CDD. The N/CDD responds to the CDD Co-ordinator stressing positive and negative findings, and replies to questions raised and addresses other matters as indicated.

According to the National Plan, a system of sentinel surveillance reporting was established. There are two components of this system involving the use of two different forms. The first is a form which is designed to record morbidity and case management practice from ORT centers. While this system involves only a few ORT centers at this time it is expected that all centers will incorporate the use of the form eventually. At least one of these centers in each region would be selected as a sentinel site.

A separate form is used for hospital reporting that includes mortality outcomes. As with the previous form this one is intended to provide routine feedback on hospital based ORT activities. While extension of this system is seen for every hospital only selected hospitals will be identified as sentinel reporting sites.

These forms are compiled in a monthly summary by the medical officer in charge and sent to the Regional CDD director.

8.3. Non-Routine Reporting

Informal reporting occurs as part of the normal exercise of business. While there is no fixed schedule to these communications they do occur with some regularity as a part of routine technical and/or supervisory visits and when co-ordiantors happen to travel to Khartoum for other or related CDD business.

In 1985 three baseline surveys on diarrhoea morbidity, mortality and treatment were scheduled in the CDD Plan of Operation. Those three surveys were conducted in 1986 in Khartoum North (urban), Khartoum North (rural); Rashad district; and South Kordofan.

8.4. Receipt of Reports/Completeness

As far as the system extends reporting has been consistance and reports complete the N/CDD have been very successful in making the systems work. Reports are received and feed back provided to each reporting unit within a three month period. Responses are written and data and/or issues are analysed and discussed.

8.5 Reporting Performance

Reporting has been consistant and complete. There are arguably two exceptions to this generally good reporting performance. The first is the operation of the sentinel reporting system for ORT centers and hospitals. While it was envisioned that at least one sentinel reporting site could be selected for each region only 3 have actually been able to report regularly. The use of the reporting forms has been extremely limited by all centers and hospitals.

The second area is related to the practice of adding questions to the EPI coverage surveys that have been routinely conducted. Questions have been raised regarding the quality of the data collected using this method.

The extension of reporting to all ORT centers and hospitals, as mentioned, represents an important short fall in the planned system. While the forms developed are not in general use it does appear that a modified version is being used in a number of facilities. Issues regarding the analysis and use of this information remain to be addressed.

Reporting through the use of periodic surveys has extended beyond the planned 3 in 1985. Since that time surveys have also been conducted in collaboration with WHO (1987 diarrhoea management in the home); morbidity and treatment in New Halfa (1988); CDD question add on to EPI coverage surveys (Kordofan 1987, Eastern Region 1988, Um Rwaba district 1988 and N. Kordofan 1988); and a KAP study in refugee camps in Eastern Region with the commission of Refugees (1988).

HEALTH EDUCATION, COMMUNICATION AND SOCIAL MOBILISATION

9.1 BACKGROUND

The health education component as it exists now in the Sudan/CDD programme evolved essentially from the needs deriving from the training of health workers. Early materials were designed to be used during health worker training and to serve as memory aids to trained health workers (e.g. the adapted treatment/dehydration chart, the health workers' reference booklet). Other materials were developed to give trained health personnel some visual aids they could use at their health services to explain ORT to mothers (poster, booklets). Messages were derived from WHO recommendations and a 1986 technical workshop. There has been no gathering of socio-cultural data to assure that the chosen messages are adapted to actual local beliefs and practices. Initial materials (posters) were not pre-tested and had to be discontinued because they were not understood or appreciated by mothers and/or health workers. In 1987 a local consultant from the Department of Health Education of the School of Community Medicine at the University of Khartoum was hired to train two CDD artists in pre-testing techniques. The artists have since trained others in these techniques. While materials are now pre-tested, there have as yet been no evaluations of the impact of the existing materials or communications activities.

9.2 Description of Health Education Materials and Activities

As the emphasis of Phase 1 of the Sudan CDD programme has been on the training of health workers, emphasis in health education materials development at the Central Level has been on materials to be used by health workers to educate mothers, primarily during the diarrhoea consultation at the health service or ORT unit. A list of these materials appears at Table 1.

Early materials were drawings. Due to the long process necessary to develop and pre-test drawings, CDD decided to switch to photographs in 1988. Although the photos were pre-tested, ther final posters were not and comprehension by mothers of some of these materials may not be adequate.

Activities and materials for use at the community level, either with mothers' groups or with such secondary target audiences as school children or midwives, have been developed and implemented in all regions of Sudan at local initiative, often in collaboration with local NGOs or other organisations. The same is true of radio and television materials and activities. Often innovative and apparently highly successful on a small scale, these activities are none-the-less scattered and uncoordinated, not part of an integrated local or national communications/education stategy. Examples of existing activities of this kind

9.3 Basic CDD Messages

The basic CDD messages in Sudan are as follows:

When your child has diarrhoea:

- give extra fluids (any home available fluids)
- continue breast and other feeding
- if diarrhoea continues go to health worker for ORS
- give extra feeding for at least one week after diarrhoea has stopped

Other messages include:

- prevention of diarrhoea
- handwashing with soap
- breast feeding
- personal and household and food hygiene and sanitation
- danger signs of dehydration
- correct mixing and administering of ORS

TABLE 9.1

A. CDD IEC Materials Taregtted for Mothers Produced by NCDD/SUDAN

Material	Date Produced	copies Distributed	cost/ copy	Description
2 handwashing posters	1986	5,000	LS 1.30	Drawings, Discontinued (1986) Not pretested
2 breastfeeding	1986	1. 25,000 2. 5,000	LS 1.96 to LS 2.00	Drawings from photo 1 discontinued (1987) (feedback that it was unattractive)
Flip chart	1987 Arabic 1988 Tigrean	10,000	LS 3.15	"What to do when your child has diarrhoea" (drawing with text on back)
Mothers' booklet	1987	50,000	LS 2.90	Exact copy of flip chart
Handwashing poster	1988	5,000	LS 1.8	Photographs
Mothers' pamphlet	1987	40,000	LS 1.8	"A Message to all mothers" - Arabic and English - photographs and text to state all basic CDD messages
Mixing ORS pamphlet	1988	40,000	LS 0.38 to LS 0.5	10 steps in mixing and administering ORS using 1 litre CDD jugs Photographs with Arabic and English text
Mixing ORS poster	1988	5,000	LS 2.16	Based on ORS mixing pamphlet - discontinued immediately Not pretested
stickers on 1 litre jugs	1987			How to mix "Rawyan" (ORS) - drawings, instructions in Arabic
Slide sets	1988	20 copies to be distributed		Script and pictures from Sudan - what to do when your child has diarrhoea - how to prevent diarrhoea - how to mix and administer ORS correctly

TABLE 9.2

Examples of Health Education/Communications Activities currently existing in Sudan

A. Health Education at Health Facilities

1. Training of health workers includes discussion on process and content of health education to be given to mothers.
2. Mothers booklets and ORS mixing pamphlets are available at all ORT units and some other health services, especially those where one or more health personnel have been trained in CDD. These are to be distributed to all mothers visiting the ORT units or accompanying children with diarrhoea.
3. 1 litre jugs for mixing ORS are distributed to all health workers completing CDD training. They are present in all ORT units and are used to demonstrate proper mixing of ORS.
4. Breast feeding, ORS mixing and hand washing posters are widely distributed and appear on the walls of all ORT units and many other health services.
5. The CDD Flipchart and accompanying mothers' booklet are available in all ORT units.

B. Health Education in Communities (e.g. Group Sessions for Mothers)

Many dispersed activities and initiatives, most relatively small scale and geographically restricted, developed by local CDD, NGO and other collaborators.

Examples:

In Darfur:

* training by the regional CDD staff of mothers who are members of a women's co-operative in El Fasher.
* ORS teaching provided by Ministry of Agriculture employees at a Nutrition Centre, El Fasher.

In Kordofan:

* training of village women through non-formal adult education methods through CARE, Bara and Abu Haraz districts (860 mothers trained in 4 months).
* training through 180 village water committees through a UNICEF water project.

In Central Region:

* training of women's community health volunteers (social pioneers) in rural villages through PLAN/SUDAN [illegible]

* health education sessions for 5 women's groups in Kosti area by the CDD Co-ordinator.

In Eastern Region:

* Port Sudan: working with women's groups, also a theatre group presents CDD plays to the community.

C. Health Education Targeted at Secondary Audiences (e.g. Intermediaries to the Family/Mother: Children, Pharmacists, Community Leaders, etc.)

Some scattered activities, locally conceived and managed.

Examples

* Training of village midwives using song and role plays in Nyala.
* School health education sessions held in 9 girls schools in Kosti and Kenana.
* Elementary school teachers programme in Omdurman. Children participated in community level CDD activities and received school report card certificates with CDD messages printed on the back.
* CDD contest and activities in two middle schools for girls in Wad Medani.
* Articles on CDD routinely published in Railroad newsletter in Northern Province.
* CDD activities at local fairs.

D. Mass Media Activities

Print

* Wide distribution of CDD posters to pharmacies, community meeting points, health facilities.

Radio/Television:

Locally conceived and managed activities:

* Televising of CDD activities (songs, plays, contests) in girls schools in Wad Medani.
* Weekly radio broadcast in Atbara.
* In Kassala, the CDD co-ordinator gives periodic health education talks on radio in the local language.
* Televising of children's programme in Omdurman.
* Televising of National CDD workshop in 1988.
* Frequent articles in local newspapers.

ANNEX 10

O R S

PROVISION : ORS used in Sudan is being imported from abroad and is supplied to the country through two main channels :-

1. The Government
2. The International donors (UNICEF and USAID) and the commercial importation.

The part imported by the government goes together with the drug tender which is usually issued once every two years.

The following table shows the number of ORS sachets received in the country by source (1986-88).

Year	Government	UNICEF	USAID	OTHER DONORS	COMMERC. IMPORT.	TOTAL
1986	800,000	6,500,000	2,000,000	1,000,000 (1)	17,000	10,317,000
1987	1,000,000	5,280,000	-	500,000 (2)	150,000	6,930,000
1988 (Oct.)	-	5,800,000	-	400,000 (3)	-	6,200,000
TOTAL	1,800,000	17,580,000	2,000,000	1,900,000	167,000	23,440,000

1. Mainly IRC
2. MSF - B (S. Kordofan).
3. UNHCR for refugees (Eastern Region)

DISTRIBUTION

ORS imported is currently distributed under the supervision of the CDD Department in collaboration with the Central Medical stores.

The next table shows the distribution of ORS by region (1986-88).

...../2/.....

REGION	AMOUNT RECEIVED BY 1 LITRE SACHET		
	1986	1987	1988
Khartoum	200,000	150,000	969,000
Northern Region	400,000	250,000	480,000
Central Region	700,000	1,150,000	340,000
Eastern Region	600,000	550,000	455,000
Kordofan	450,000	380,000	370,000
Darfur	500,000	700,000	440,000
Equatoria	**		493,000
Upper Nile		5,000	80,000
Bahr el Ghazal		100,000	340,000
Blue Nile Project	100,000		100,000
Other Teaching and Military Hospitals			
NGOs	180,000	115,000	181,000

STORAGE SYSTEMS :

There are two levels of storage , Central and Regional levels. At the central level (Central Medical Stores), there are two systems for storage :

a) One for the International Agencies

b) One with the general drug storage system.

RECOMMENDED MEASUREMENT ONE LITRE

Previously it was instructed to measure one litre of water by either using 6 teacups (Osman Hussein) or 20 coffee cups. All these methods didn't give the accurate measure needed.

To solve this problem, the NCDD Department with the collaboration of UNICEF decided to produce an easy and unified container with clear marking line for measuring one litre, so that health workers and mothers can properly prepare ORS solution.

AVAILABILITY OF NON STANDARD ORS

1. Liquid Preparation : A glucose solution called Paedalyte presented in 500 cc. bottles.

2. No flavoured preparations are available at the present time.

3. Non one litre preparations : Rehydran which is a 200 cc. ORS formula, mainly imported from Egypt.

RECOMMENDED NON ORS FLUIDS FOR REHYDRATION

Local drinks are recommended such as .

- lemon or orange juices
- karkadeh
- rice water
- gongolase

11.1 Government CDD Budget

The government pays the salaries of all government staff (all staff involved in NCDDP except one part time photographer, one artist (Min. of Education), one secretary and two expatriates), as well as weekly allotments for fuel for CDD vehicles, water, electricity and basic maintenance of buildings. The MOH budget does not include specific allocations for CDD Programme activities.

11.2 External financing

11.2.1 Ministry of Finance and Economic Planning/USAID

In August 1986 a budget of LS.3,940,650 was approved from the development budget (CIP, PL 480 Funding) for the National CDD Programme. At the latest reporting in June 88 a total of LS.2,150,593.06 had been spent. (See encls. No. 1 : Financial Report June 88).

11.2.2 UNICEF

Funding is received according to proposals for specific activities. Although requested from NCDDP information on funds available as well as prices on goods supplied is not released from UNICEF (Status of UNICEF/CDD assistance 1987 (according to CDD Dept.) is in encl. No. 2).

11.2.3 WHO

CDD activities have been in WHO regular budget since the first National CDD Plan of Operation in 1983. The biannual budget is US.$.88,000 (supplies and equipment 30,000, Training and Fellowships 44,000, Local costs 14,000). Additional expenditures have been met from voluntary budget. Although requested, details for expenditures have not been available to NCDDP until the Joint Programme Review Mission in January 1989. (Summary Work Plan/Plan of Action 1988/89 in Encl. No. 3).

11.2.4. Indirect Funding through projects and NGOs.

The NCDDP is receiving indirect financial support through various PHC projects and NGOs. The main support of this kind is Rural Health Support Programme (USAID), which finances part of the CDD activities in Darfur and the main part in Kordofan. Another example is the refugee programmes, which are covered through NGOs

and UNHCR. The majority of the NGOs CDD activities are funded partly from the NGOs own funds and partly through NCDDP - the NCDDP share being mainly the cost of training and provision of educational material. Details on funds and budget expenditures from projects/NGOs are not available to NCDDP.

11.3 Future Funding

The following funding for future NCDDP activities in local and foreign currency has already been ensured :

1. The Ministry of Finance and Economic Planning/USAID has approved an extension of funding for the NCDDP 1989-1992 of LS.9,962,000 - (Budget in encl. No. 4).

2. The UNICEF/USAID Child Survival grant for 1988-90 has allocated a total of US.$2,540,903 for Child Survival activities. (See encl. No. 5), of this fund however, US$.1,464,000 are specific for EPI.

3. The WHO regular budget for 1990-91 provides US.$ 80,000 for NCDDP. (Copy of proposed budget in encls. No. 6).

Additional funds needed will be sought following preparation of the future CDD Plan of Operations.

11.4 Accounting System

A full time accountant is seconded from Ministry of Finance and Economic Planning. He is responsible for full accounting to Ministry of Finance and Planning on expenditures of the development funds. Balance sheets are produced monthly for internal use in the department and a detailed financial report is submitted six monthly to MFEP. Furthermore the accountant is responsible for accounts to UNICEF for local currency grants for specific activities. Funds generated from the CDD/NGO jug revolving fund is likewise followed by the accountant.

LOCAL CURRENCY IMPLEMENTATION REPORT
FINANCIAL REPORT
FOR PERIOD JANUAR - JUNE 88

SUBMITTED BY(PROJ MGR): _____

DATE ACCEPTED BY MFEP : _____

DATE ACCEPTED BY USAID: _____

ject Title: NATIONAL CONTROL OF DIARRHOEAL DISEASE PROGRAMME

ject No.: 650-8060

of Bank: BANK OF SUDAN

unt No.: 02-12-504

of Authorized Check Signers: MAGDA M. A. ALI — MARGRETHE JUNCKER

ABDEL HAMID EL SAYED — MOHAMED IBRAHIM BARQUDI

JUNE 89 — JUNE 89

BUDGET Items	LOP Budgetted	LOP Expended	REPORTING PERIOD Budgetted	REPORTING PERIOD Expended June 88	Expended June 88
O[illegible]e & Management	618,850.00	358,300.90	313,729.00	79,942.70	185,990.4[illegible]
Workshops & Meetings	105,000.00	21,649.95	24,318.00	2,161.70	15,967.7[illegible]
ORS	764,000.00	263,450.05	264,000.00	75,550.00	263,450.0[illegible]
Training	909,400.00	575,946.86	481,181.00	211,501.03	401,078.0[illegible]
Health education	711,000.00	370,547.73	248,608.00	89,964.50	208,425.7[illegible]
Monitoring & Eval.	767,400.00	560,697.57	146,540.00	24,131.95	131,907.4[illegible]
Operational Research	65,000.00	-	15,000.00	-	-
dgetted	July 87-June 88 Plus balance carried from 1986/87 period.				
AL	3,940.650	2,150,593.06	1,495,576.00	483,251,88	1,206,819.4

attach a photocopy of the most recent bank statement showing its into, withdrawals and balances in the project account.

ment of additional information is acceptable.

STATUS OF UNICEF-WHO ASSISTANCE

1 9 8 7

I T E M	COST IN US $.	DATE OF REQUEST	RECEIVED/NOT RECEIVED
- ORS 3.43 million sachets	240100	March 1987	Received 09/87 & 02/88
- 5 vehicles - Toyota	50310	"	" 12/87
- 8 photo copiers and accessories	17900	June 87	" 11/87
- Computer	11600	"	" (partially) 12 87
- Installation for the above	3000 (1)	Dec. 87	Committed
- Funds for jugs (1 litre measure)	40800 (1)	Nov. 87	Received
- Generator	519	March 87	in pipeline
- Office equipment and audio visual aids (8 typewriters - 8 duplic. machines) 8 slide projectors - 8 overhead projector 2 cameras - stationery)	31140.16	June 87	Received 01/88
- 10 Toyota vehicles SCF 245	100620 app.*	"	Not yet (in pipeline)
- Visual Aids SCF 257	12500 app.*	"	Not yet (in pipeline)
- Training kits SCF 258	10.000 app*	"	" " "
- ORT Unit kit SCF 259	10.00 app*	"	" " "
- Secretary's salary	2.100 (1)	Jan. 87	Received 03/87 & 09/87
- TOT course Atbara (LS.4500)	1,800 (2)	Jan. 87	Received 02/87
- ORT course for nursing LS.30,000	12,000 (2)	Aug. 87	" 09/87
- National CDD Workshop LS.7400	1644 (1)	Aug. 87	" 10/87
- Spare parts for vehicles	44000	Nov. 87	Committed
- 6 Motor (Honda)	6600	Not requested ordered 1987	Not received
- 12 camels	10000	" "	" "
TOTAL	606533.16		

(1) Dollar exchange rate 1 = 4.5 LS. (2) Dollar exchange rate 1 = 2.5 LS. * Stated cost is an approximate (official cost is not yet given by UNICEF).

Prog. Incl 3
15

WORLD HEALTH ORGANIZATION
Regional Office
for the Eastern Mediterranean

SUMMARY WORKPLAN/PLAN OF ACTION
Financial Period 1988/89

COUNTRY: SUDAN — Programme No. SUD/CDD/001

Responsible Unit: Dept. of National CDD Programme, MOH — Activity No.

TITLE of Programme Activity: National CDD Programme

Date approved:

Action to be Taken and Purpose	By Whom	When	Resources
1. Temporary staff			
Utilization of post of administrative secretary by N/CDD Programme.	N/CDD Programme	Feb. 1989	7,500
Appointment of WHO/CDD local administrative officer	N/CDD Programme	Feb. 1989	7,500
2. Consultants/Temporary advisers			
Conduction of 4 clinical management courses lasting 3 days to be held in major regional cities for local physician	N/CDD Programme	April 89 July 89	9,000
2 paediatricians would be recruited as temporary advisers to conduct training in regions		Sept. 89 Nov . 89	
3. Supplies for field projects			
Provision of computer soft wear	N/CDD	March 88	7,300
4. Participants			
Supervisory skills courses 2 courses 20 participants each	N/CDD	March 89	6,600
Fellowships at 2200 dollars/month 4 months each x 3 chances	N/CDD N/CDD	Aug. 1989	26,400

DR MAGDA M. A. ALI — DIV — Date: 4.2.1989

ESTIMATED BUDGET FOR THE PROPOSED CDD EXTENDED PLAN OF ACTION - 1989 - 1992

TITLE OF ACTIVITY	VOLUME OF ACTIVITY AND TIMING			FUNDS REQUESTED BY YEAR			TOTAL
	1989/90	1990/91	1991/92	1989/90	1990/91	1991/92	
1. OFFICE STAFF & MANAGEMENT							
1.a. Consultant fees and topping	x	x	x	17,000	24,000	30,000	71,000
1.b. Staff travel, tickets, lodging and perdiems	x	x	x	40,000	50,000	60,000	150,000
1.c. Rebuilding and Rennovation	Reg. office rennovation	Reg. office rennovation	Reg./HQ. office rennovation	30,000	50,000	60,000	140,000
1.d. Office Supply and Equip	Reg. & HQ.	Reg. & HQ.	Reg. & HQ.	30,000	30,000	45,000	105,000
1.e. Data Processing and establishment of surveillance system	D. & T.C. Omdurman	D. & T.C. Regions	D. & T.C. Regions	20,000	30,000	40,000	90,000
1.f. Newsletter	4 issues	4 issues	4 issues	76,000	80,000	90,000	246,000
1.g. Communication	x	x	x	40,000	50,000	60,000	150,000
SUB TOTAL				253,000	314,000	385,000	952,000
2. WORKSHOP & MEETINGS							
- NCDD Annual meeting	1 meeting (Sept. 89)	1 meeting (Sept. 90)	1 meeting (Sept. 91)	40,000	50,000	60,000	150,000
- Reg. Planning Meeting	2 meetings	1 meeting	-	20,000	15,000		35,000
- Co-ordination meeting within the Health Sector & Related Sectors	Regions	Regions	Regions	25,000	35,000	45,o00	105,00Q
SUB TOTAL				85,000	100,000	105,000	290,000

ESTIMATED BUDGET FOR THE PROPOSED CDD EXTENDED PLAN OF ACTION - 1989 - 1992

TITLE OF ACTIVITY	VOLUME OF ACTIVITY AND TIMING			FUNDS REQUESTED BY YEAR			TOTAL
	1989/90	1990/91	1991/92	1989/90	1990/91	1991/92	
3. ORS SUPPLY							
3.a. Local procurement	3 million sachets	4 million sachets	4-5 Million sachets	600,000	800,000	1,000,000	2,400.000
3.b. Production 1 litre container	x	x	x	200,000	200,000	200,000	600,000
SUB TOTAL				800,000	1,000,000	1,200,000	3,000,000
4. TRAINING							
4.a. National Demon. & T.C. Maintenance & Equip.	x	x	x	40,000	40,000	40,000	120,000
4.b. Reg. ORT D. & T.C. -Establishment & Rennovation	x	x	x	60,000	80,000	100,000	240,000
4.c. Clinical Training courses for senior medical staff	4 courses	4 courses	4 courses	50,000	60,000	60,000	170,000
4.d. Health Management and Planning courses(abroad)	4 persons	4 persons	6 persons	80,000	100,000	140,000	320,000
4.e. Equipment for Reg. ORS Centres & supporting ORT activities in peripheral health posts	x	x	x	110,000	125,000	140,000	375,000
4.f. Clinical Training courses for Paramedical staff	60 courses	60 courses	60 courses	120,000	130,000	140,000	390,000
4.g. Training of non-health staff & comm. leaders	90 courses	50 courses	40 courses	180,000	100,000	80,000	360,000

ESTIMATED BUDGET FOR THE PROPOSED CDD EXTENDED PLAN OF ACTION - 1989 - 1992

TITLE OF ACTIVITY	VOLUME OF ACTIVITY AND TIMING			FUNDS REQUESTED BY YEAR			TOTAL
	1989/90	1990/91	1991/92	1989/90	1990/91	1991/92	
4.h. Management & Supervision courses & Supervisory skill course for first level supervision	15 courses	15 courses	15 courses	120,000	130,000	145,000	395,000
4.i. Development of Training material - revision, new development and production	x	x	x	120,000	150,000	200,000	470,000
SUB TOTAL				880,000	915,000	1,045,000	2840,000
HEALTH EDUCATION & COMMUNICATION							
5.a. Development of H. E. material	x	x	x	250,000	250,000	300,000	800,000
5.b. Development of communication material (pamphlets, etc.)	x	x	x	35,000	40, 00	40,000	115,000
5.c. Prod. of material for and use of mass media	x	x	x	90,000	90,000	100,000	280,000
SUB TOTAL				375,000	380,000	440,000	1195,000

ESTIMATED BUDGET FOR THE PROPOSED CDD EXTENDED PLAN OF ACTION - 1989 - 1992

TITLE OF ACTIVITY	VOLUME OF ACTIVITY AND TIMING			FUNDS REQUESTED BY YEAR			TOTAL
	1989/90	1990/91	1991/92	1989/90	1990/91	1991/92	
6. MONITORING AND EVALUATION							
6.a. Vehicles	3 regions	3 regions	-	300,000	300,000	-	600,000
6.b. Spare parts	x	x	x	25,000	4o,000	50,000	115,000
6.c. Fuel and lubricants	x	x	x	120,000	130,000	140,000	390,000
6.d. Survey							
MM & T Survey to measure change	-	x	-	-	25,000	-	25,000
6.e. Develop modifications of routine surveillance system and follow up				125,000	125,000	60,000	310,000
SUB TOTAL				570,000	620,000	250,000	1,440,000
7. OPERATIONAL RESEARCH							
7.a. National Level	D. & T.C.	D. & T.C	D. & T.C.	30,000	35,000	35,000	100,000
7.b. Regional Level	x	x	x	15,000	20,000	20,000	55,000
7.c. Under graduate level	x	x	x	10,000	10,000	10,000	30,000
7.d. Post graduate level	Reg. University	Reg. University	Reg. University	20,000	2o,000	20,000	60,000
SUB TOTAL				75,000	85,000	85,000	245,000
GRAND TOTAL				3,038,000	3,414,000	3,510,000	9,962,000

NOVEMBER 1988

SUMMARY OF THE CSWG PROPOSED BUDGET FOR THE GRANT FUNDING OF CS ACTIVITIES, 1988 - 1990.

TITLE OF ACTIVITY	TIMING/RESPONSIBILITY FOR THE ACTIVITY	FUNDS (US$) REQUESTED BY YEAR
	1988 - 1990	1988 - 1990
1. Social Mobilization	December 88 - December 89 (CSWG, UNICEF, USAID)	264,000
2. Radio Network/Data transmission	November 88 - April 89 (UNICEF - MOH)	125,000
3. ORS supplies	December 88 - December 89 (UNICEF)	55,000
4. EPI Supplies	December 88 - December 89 (UNICEF)	448,000
5. Cold Chain supplies	December 88 - December 89 (UNICEF)	1,016,000
6. Microcomputer Application	December 88 - July 89 (CSWG - UNICEF)	55,000
7. Vehicles and Transport	November 88 - January 89 (CSWG - UNICEF)	395,006
8. Regional Operations	December 88 - January 89 (CSWG - UNICEF)	122,897
9. Evaluation/Research	January 89 - December 89 (CSWG - UNICEF)	60,000
GRAND TOTAL		2,540,903

WORLD HEALTH ORGANIZATION
Regional Office
for the Eastern Mediterranean

SUMMARY WORKPLAN/PLAN OF ACTION

Financial Period 1990 - 91

Page No. 6

COUNTRY: SUDAN

Programme No. SUD/CDD/001

Responsible Unit: Dept. of National CDD Programme, MOH

Activity No.

TITLE of Programme Activity: National CDD Programme

Date approved:

Action to be Taken and Purpose	By Whom	When	Resources
1. Temporary staff			
Utilization of post of administrative secretary by N/CDD Prog.	N/CDD Programme	90 - 91	30,000
Appointment of WHO/CDD local administrative officer	N/CDD "		
2. Consultant/Temporary Admin.	N/CDD		18,000
3. Supplies and Equipment (list will be forwarded)			12,600
4. Participants			14,000
5. 2 Fellowships Public Health Fellowships			
* Budget is tentative based on result of evaluation			

EM.16 WHO/MPW NAT WR UNIT DIV Date:

STATUS OF UNICEF/CDD ASSISTANCE

1 9 8 7

I T E M	COST IN US $.	DATE OF REQUEST	RECEIVED/NOT RECEIVED
- ORS 3.45 million sachets	240100	March 1987	Received 09/87 & 02/88
- 5 vehicles - Toyota	50310	"	" 12/87
- 8 photo copiers and accessories	17900	June 87	" 11/87
- Computer	11600	"	" (partially) 12/87
- Installation for the above	3000 (1)	Dec. 87	Committed
- Funds for jugs (1 litre measure)	40800 (1)	Nov. 87	Received
- Generator	519	March 87	in pipeline
- Office equipment and audio visual aids (8 typewriters - 8 duplic. machines) 8 slide projectors - 8 overhead projector 2 cameras - stationery)	31140.16	June 87	Received 01/88
- 10 Toyota vehicles SCF 249	100620 app.*	"	Not yet (in pipeline)
- Visual Aids SCF 257	13500 app.*	"	Not yet (in pipeline)
- Training kits SCF 258	10.000 app*	"	" " "
- ORT Unit kit SCF 259	10.00 app*	"	" " "
- Secretary's salary	2.100 (1)	Jan. 87	Received 03/87 & 09/87
- TOT course Atbara (LS.4500)	1,800 (2)	Jan. 87	Received 02/87
- ORT course for nursing LS.30,000	12,000 (2)	Aug. 87	" 09/87
- National CDD Workshop LS.7400	1644 (1)	Aug. 87	" 10/87
- Spare parts for vehicles	44000	Nov. 87	Committed
- 6 Motor (Honda)	6600	Not requested ordered 1987	Not received
- 12 camels	10000	" "	" "
TOTAL	606533.16		

(1) Dollar exchange rate 1 = 4.5 LS. (2) Dollar exchange rate 1 = 2.5 LS. * Stated cost is an approximate (official cost is not yet given by UNICEF).

SUPERVISON, EVALUATION, SURVEYS AND RESEARCH

12.1. System of Supervison

Supervision is one of the problematic areas in the development of the CDD Progrmme in the Sudan. The current supervisory system is having 3 different levels i.e. central, Regional and district level.

At the central level supervision is carried out through regular visits to the regions and discussions with CDD Co-ordinators during their visits to Khartoum. Also the three monthly report submitted by the Co-ordinators to NCDDP functions as part of supervisory system and feed back is always given.

At the Regional level the CDD co-ordinators conduct supervisory vists to the districts mainly to conduct training activities. Such visits were found useful to the co-ordinators, however they do not provide full or regular information on CDD activities at the district level.

At the district and peripheral level where majority of health workers are trained in ORT, yet supervision is very much lacking. At this level the supervisory activity is supposed to be implemented as part of the existing health structure and by the senior paramedical staff e.g. district dispensary inspector. Main excuse given by those supervisors for not doing proper supervision is the lack of transport and perhaps travel motivation (incentives..)

- Frequency : There is no clear supervision frequency at all of the three levels. The only exception may be the three monthly report submitted by Regional co-ordinators to NCDD. Visits paid by central staff to the regions range from 1-2 visits/region/year. On the other hand frequency of supervisory visits made by regional co-ordinators to districts depend

largely on current training activities which may be at a rate of 2 to 3 times a year to district headquarters. Frequency of supervisory visits to peripheral health facilities is at an average of 1 visit per/year/facility.

- Check list : To improve supervisory activities at different levels, the NCDD department had developed a special check list format (~~copy attached~~).

- Evaluation : The only evaluation carried since the start of the programme in 1985 is this evaluation to which this report is giving the findings and results.

- conduct of surveys :

  Baseline surveys

  With the start of the CDD Programme in 1985, 3 baseline surveys were conducted with main purpose to provide baseline information on diarrhoea morbidity, mortality and treatment. The three surveys were carried out in Khartoum Rural (86), Khartoum urban (86) and Rashad district (Kordofan Region (Dec. 86). Results from the three surveys showed that diarrhoea disease is an important cause of morbidity and the single most important cause of death among children under five years of age. ORS was used in about 24% of the cases (range : 22 - 27.7%). It was also found that diarrhoea episodes in < 5 years treated with adequate ORS is 5.9% (Rashad).

- Home treatment survey

  In October 1987 a survey on diarrhoea management in the home was carried out in collaboration with WHO. This survey was a pilot testing for a new WHO survey for investigating the quality of ORT given in the homes. Results from this survey showed that amount of fluid given at home during diarrhoea

48.1% less than usual and percentage of fluid stopped was zero %. On the other hand, percentage amount of food given during diarrhoea was 20.2%, the same as usual. 4.3% more than usual , 74.4% less than usual and 7.3% stopped feeding.

Morbidity follow survey.

While the programme was approaching the end of its first planning phase, a morbidity and treatment survey was carried out in New Halfa (Eastern Region) in October 1988. The survey was conducted after the implementation of extensive training in ORT for health workers in the area. This survey indicated a significant increase in the use of ORS compared with the baseline surveys, for instance ORS was used in 50.6% of the cases surveyed. However, the amount of fluid intake during diarrhoea is still low and this indicates that mothers are not yet well oriented.

CDD/EPI Surveys

In 1987, the CDD and EPI departments had agreed on collaboration in collection of data through the regular EPI cluster surveys. The CDD was allowed to attach 5 questions to the EPI coverage surveys. Since then, three such surveys have been conducted, Kordofan, October 1987, Eastern Region June 1988 and Um Rwaba district, North Kordofan October 1988. Results from EPI/CDD surveys showed that the amount of fluid given during diarrhoea showed 29.4% people surveyed in the Eastern Region gave more fluid than usual, in Kordofan, the percentage is 24%, those who stopped fluid during diarrhoea was 7.5% in the Eastern Region and 7.0% in Kordofan.

On the other hand, the survey results showed that almost 14% of people surveyed stopped giving food during diarrhoea in both sites and the percentage of those who continued food during diarrhoea in the same amount as usual was 21.6% in the Eastern Region and 37% in Kordofan.

14. Research.

Research activities were confined to joint efforts between CDD and students from the Faculty of Medicine who are interested in diarrhoea related subjects, for instance in 1987, a Master in Community Medicine degree student conducted a study on supervision in PHC with emphasis on CDD and EPI in Rashad district. He received technical assistance from CDD. In 1988. another post-graduate Master of Community Medicine conducted a KAP study among mothers in Khatoum North Area. She was sponsored and technically assisted by the NCDD Department.

(Addendum to Report of Joint Management Revie
of the Diarrhoeal Disease Programme, Sudan: Jan. 1989)

PROPOSED TIME TABLE FOR IMPLEMENTING RECOMMENDATIONS OF THE REVIEW TEAM ON MANAGEMENT OF NATIONAL CDD PROGRAMME

Unit Responsible for Action	Recommendation No	Main Activity	Secondary Activity	Time Frame
Ministry	7	Review of ORS and IV supply system	Establish stronger system	Immediate
Ministry	8	Review information systems to match planning monitoring needs	Install CDD computer	Immediate
Ministry	14	Provide adequate space for CDD dept		Immediate
Ministry	16	Ensure CDD is maintained as a Central, specialised unit	Provide guarantee and budget	Continuing
Ministry PHC CDD	20	Create PHC technical advisory committee	Develop terms of reference and identify members	First meeting: May/Jun
Ministry PHC	22	Be aware, make greater use of Gezira University	Visit by Ministry staff to examine university	Continuing
Ministry PHC/CDD	25	Strengthen physician training in CDD case mangment	Workshop for professional leaders	Ap[illegible]
Ministry CMS	39	Review status ORS and IV supply	Prepare improved distribution plan	Immediate

Unit Responsible for Action	Recommendation No	Main Activity	Secondary Activity	Time Frame
Ministry	43	Enforce Regulations packet size and use non-specific anti-diarrhoeals	Produce written, enforcing Regulations for Ministry	March
Minstry	51	Enforce WHO/ UNICEF recommendation on breast-milk substitutes	Reissue recommendation	Continuing
Ministry	52	Strengthen/ improve supervision	Prepare new plan/ guidelines on principles of supervision	Immediate attention Plan by August
Ministry	53	Improve supervisory efficiency	Provide better facilities, including transport Reduce duplication in supervision	Continuing August
Ministry PHC	56	Remove inequalities in field allowances of PHC units	Enforce standard rates. Inform donors	May, after EPI Review
Ministry PHC	57	Concentrate supervision on suport & training	Issue guidelines for supervisory staff Strengthen training	May Continuing
Ministry PHC CDD	64, 19	Move CDD towards full integration with PHC	Participation in coordination meetings	Continuous
Ministry PHC	65	Unify allowances of PHC staff	Enforce standard rates	May, after EPI Review

Unit Responsible for Action	Recommendation No	Main Activity	Secondary Activity	Time Frame
Ministry PHC	66	Field allowances to be related to performance	Create discussion group to examine practicalities of this proposal	Immediate: to implement by May
Ministry PHC CDD	67	Create Research committee	Define terms of reference and identify members	March
Ministry	70	Guarantee financial support to CDD indefinitely	Prepare budget line	June
PHC CDD	1, 2, 10	Appoint essential CDD staff	Identify candidates for recommended posts	Immediate
PHC	3, 15 17, 18	Develop stronger central level coordination	Create effective coordination committee	First meeting: March
PHC CDD	11	Appoint expat. M. O. Adviser	Identify suitable source & candidate	Immediate
PHC CDD	32	Share experiences and prepare CDD Communication Plan	Hold workshop to help prepare the Plan	July
PHC	33	Develop central working group on communication	Develop terms of reference and identify members	March
PHC Regions	37	Hold Regional communications workshops	Identify participants; prepare programme	August

Unit Responsible for Action	Recommendation No	Main Activity	Secondary Activity	Time Frame
PHC	38	Continue to involve local communities in PHC planning	Prepare demonstration PHC areas for training staff	Continuous
PHC CDD	50	Officials directing ORT corners to take full responsibility for maintenance	PHC to issue orders and guidelines	Immediate
PHC CDD	54	All supervisory staff to receive supervisory skills training	CDD to prepare training plan Coordination with EPI, ARI, MCH, NUT	April Start trg: May
PHC CDD	55	Consider unconventional ways of improving supervision	Possibly create working group	Continuous
PHC CDD	58	Produce quantifiable indicators of work performnce	CDD to produce such indicators for health staff	May
PHC CDD	59	Feedback to be part of supervisory visits	CDD gidelines to prepared as part of training	May
CDD	4	Evaluate gains in communications. Prepare Communications plan	Convene working group and workshop	June
CDD [illegible]	5	Review physician & pharmacist trg Develop regional DTU's	Convene working group: examine subject Identify possible DTU sites: discuss and establish	April/May May

Unit Responsible for Action	Recommendation No	Main Activity	Secondary Activity	Time Frame
CDD	6, 23	Evaluate training and identify need for followup and in-service traing	Produce paper based on survey of work performance of trained and untrained staff	by September October
CDD	9	Continue feedback to CDD staff	Continue Newsletter and guidelines	Continuous
CDC	12	Replace Technical Officer	Identify suitable candidate	March
CDD	13	Continue short and medium term plans	Identify dates for plan preparation and lists of activities to be completed	Continuous
CDD [illegible]	21	Promote regionality based Arabic training in management and training	Finalize course and identify place, time and participants for trial	April onwards
CDD PHC [illegible]	23, 48	Emphasise the need for continuous feeding during diarrhoe, increasing feeding during recovery and better hygiene in clinical mnagement	Issue guidelines to regions during training	Immediate
[illegible]	26	Prepare information package for physicians and pharmacists	Identify individual or institution to create the package	February March

Unit Responsible for Action	Recommendation No	Main Activity	Secondary Activity	Time Frame
CDD CMS	27	Continue/extend storekeper training		Continuing
CDD	28	Prepare video for limited time training	Identify topics and collaborating agencies	Ready by June
CDD	29	Continue to issue and update health messages on CDD		Continuous
CDD Gezira University	30	Strengthen training in communications; increase use of Gezira Univ		Continuous
CDD	31	Employ communication specialist to evaluate existing activities and prepare for wrkshp		April
CDD Regions	34, 35	Encourage local communications activities	Share experiences	Continuous
CDD	36	Evaluate, then promote schools programme	Define means of evaluation and and identify suitable official/ unit to conduct evaluation	May
CDD	40 41	Inform CMS of supply needs of ORS. Develop betr supply system. Train staff	Collect data on ORS needs from Regions Develop planning for better system; prepare trg materls	by July by Septem.

Unit Responsible for Action	Recommendation No	Main Activity	Secondary Activity	Time Frame
CDC Regions	42	Develop/extend ORS stock keeping system	Discuss with CMS and prepare guidelines	May/June
CDD	44	Examine potential of cost recovery schemes	Identify suitable individual/unit to conduct study	August
CDC Industry	45	Encourage ORS production		June
CDD	46	Further distribute ORS jugs		Continuous
CDD	46, 47	Further extend ORT numbers	Identify problem areas Establish minimum needs Issue illustrated guidelines	Continuous
CDD NUT	49	Screen all DD children for nutritional status Provide followup for malnourished children	Emphasise need for this activity Issue guidelines on screening	April
CDD	60	Coordinators to give increased priority to supervision and followup/in-service training	Issue guidelines	May
CDD	61	Identify indicators of progress and means of collecting them	Issue a paper on possible indicators. Prepare schedule and trial area for collection	September

Unit Responsible for Action	Recommendation No	Main Activity	Secondary Activity	Time Frame
CDD Regions	62	Use collected data for local and district analysis and planning	Issue guidelines	Continuous
CDD Regions	63	Use local data for display to demonstrate PHC progress	Establish demonstration units for trial purposes Then issue guidelines	June
CDD	68	Prepare protocol guidelines for operational research		March
CDD	69	Develop and circulate the list of possible operational research subjects		June
CDD Regions	71	Regions to develop CDD budget lines	Prepare letter demonstrating the need and justification. Circulate	June
Donors: Ministry to issue request	72	Inform CDD of their financial commitment and status of spending		Continuous
Donors: WHO to initiate	73	Meet to agree on field allowances to be paid		By May
Donors	74	Recognize need for long term support		Discus during May meeting

Unit Responsible for Action	Recommendation No	Main Activity	Secondary Activity	Time Frame
CDD	75	Develop research study on cost/benefit of CDD	Identify research and jointly develop protocol	August

NW:Jan 25, 1983