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USAID OPERATIONAL PROGRAM GRANT (OPG) PROPOSAL

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Amount Requested from AID	$3,186,405 - Over Five Years
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PART I: PROJECT SUMMARY

A. Proposal Request

This is a proposal from the International/African Medical & Research Foundation to the United States Agency for International Development for a grant of $3,186,405 to meet the request of the Ministry of Health and Social Welfare, Southern Region Sudan to assist it in implementing its Primary Health Care Program.

ABBREVIATIONS

CHW	Community Health Worker
CHWTS	Community Health Worker Training School
GOS	Government of Sudan
"Green Book"	Primary Health Care Programme Southern Region Sudan 1977/78 - 1983/84, Juba, 7 February, 1976
I/AMREF	International/African Medical & Research Foundation
MA	Medical Assistant
MOH	Ministry of Health - Southern Region
NHP	National Health Program
PHCC	Primary Health Care complex
PHCD	Primary Health Care Department
PHCP	Primary Health Care Program
PHCU	Primary Health Care Unit
SSU	Sudanese Socialist Union
VDC	Village Development Committee
WHO	World Health Organization

B. Summary Description of Project

The I/AMREF has been requested by the Ministry of Health and Social Welfare, Southern Region Sudan (reference letter appendix to assist in the implementation of the Government of Sudan's Primary Health Care Program/Southern Region, (PHCP). This program is the most important element in the Government of Sudan's Health Plan to reach Sudan's rural poor with a comprehensive health delivery system that is community based and which relies upon community participation.

The PHCP's stated goal is to provide and extend maximum medical coverage and health care services to the rural population of Southern Region Sudan. The PHCP is the most feasible strategy for achieving this maximum coverage given the restraints of limited economic resources, the shortage of trained health manpower and the serious need for an established health system infrastructure in the region.

The MOH's plan is to bring curative and preventive health care services to this rural population at the community level. The key component of this program is the proposed Community Health Worker (CHW). These CHW's (who will staff the Primary Health Care Units), are a new cadre of health worker, recruited from and working within their home communities and trained in community health. These CHW's will provide simple curative and preventive services and participate in promotive health programs.

CHW's will be the front line health worker bringing health care services to a population which is presently grossly under-served. They will be involved in helping to improve not only the health care system, but will impact upon the social and economic development of the entire community.

A partial list of their responsibilities would include prevention and cure of the main local diseases and ailments, improvement of village sanitation, mother and child health programs, public health education and participation in mass immunization campaigns.

In addition to the PHCU's staffed by CHW's, two other important areas are addressed by the PHCP. The Program will establish a supply system for drugs and equipment to the rural areas, and will set up a data collection and health management system which will measure the impact of the entire Primary Health Care Program on the rural population of Southern Sudan.

As referred to above, there are several restraints that hamper the extension of medical services to the rural population of Southern Sudan. It is an area that is very poor with limited physical and financial resources. There is a limited capability to train and supervise health personnel and keep them current on public health information. There is, at present, a very limited health system infrastructure lacking personnel, health facilities, health data and a management information system. This is due in part to the prolonged civil strife that ravaged the country for 17 years.

The GOS, with the assistance of WHO, has developed a comprehensive plan - The National Health Program. This program lists the health related problems endemic to Sudan and describes the GOS health policy priorities to attack these problems:

1. Preventive and Social Medicine are the top priority, especially the control or eradication of endemic and epidemic diseases and improvement of environmental health conditions. Special attention is to be given to maternal and child health and school health services.

2. Rural health care facilities are to be strengthened to ensure complete coverage and fair distribution to the entire population with basic health care services.

3. Training facilities are to be provided for all levels of professional, technical and auxiliary manpower.

4. Existing curative health facilities are to be consolidated to provide better services for the population. Some expansion in curative health care facilities will be allowed in the less developed areas of the country.

5. Medical research is to be directed towards health problems according to their priorities.

The Primary Health Care Program is an integral part of this National Health Plan (N.H.P.) and has special relevance to the overall development goals of Sudan and of AID. The PHCP, as defined in the National Health Plan, is a comprehensive health delivery system which:

- is community based and reaches beyond the health center and dispensary;
- is specifically designed to have responsibility for the entire rural and nomadic population;
- lays stress on health services that are promotive and preventive rather than curative;
- includes rural development activities, and
- relies upon community participation and self reliance in the development of a rural health care system at the peripheral level.

The I/AMREF therefore proposes, with AID funds from this grant,($3,186,405, over five years), to assist the GOS/MOH Southern Region in the training, building, information system and supplies system components of the PHCP. I/AMREF is requesting the following inputs by AID:

1. Program technical and support personnel costs;
2. Re-training and refresher course costs for Southern Region Health personnel;
3. Program vehicles and commodities costs;
4. Construction costs for 2 dispensaries and 2 training schools. Bachelor quarters for 2 project staff and 2 two-bedroom houses for another 2 project staff in Juba.

I/AMREF PROJECT STAFF SUPPORTED BY AID

Training Staff:	*Medical Officer *Public Health Nurse *Sanitary Overseer	These three will assist in carrying out the MOH man-power development program, see "Green Book" pp 127-145.
Information System:	*Medical Records Technician (who will help establish a medical reporting system as explained pp. 146-156, "Green Book".)	
Supply System:	*Senior Supplies Officer (who will develop a systematized medical and drug supply system which will ensure the most effective utilization of limited funds for the provision of medicine and drugs. See "Green Book" pp 157-164.)	

Each of these people will have a counterpart assigned by the MOH. This project team in Southern Sudan (including MOH counterpart staff), will be technically and administratively supported by AMREF headquarters staff in Nairobi. Funds for 20% of their time is requested from AID. This staff includes:

1. Director of Training - to oversee and advise training staff.
2. Medical Director - to oversee the information and supplies systems, and to assist in overall project evaluation.
3. Project Director - administrative oversight for the management and evaluation of the project.

Funds are also requested for short and long term MOH counterpart training in the USA and third countries of East Africa.

*See Appendix for Job Descriptions

RETRAINING AND REFRESHER COURSES SUPPORTED BY AID

There will be 56 one-week retraining and refresher courses which will involve 1660 Community Health Workers and Medical Assistants over the life of the project. These courses will focus on keeping the participants up to date, and will increase their competence in the practice of community health and in the administration of the PHCU's and dispensaries.

As I/AMREF has approached implementation of its initial project in the Southern Suan to provide technical assistance to the Primary Health Care Department, the new I/AMREF project staff also will be seconded to the PHCP Department and will be responsible to the Sudanese PHCP Director. The I/AMREF staff will be replaced as trained Sudanese staff complete in-service and/or formal training programs.

PART II: PROJECT DESCRIPTION

A. Primary Health Care Program Southern Region Sudan (PHCP)

1. General

The PHCP for the Southern Region for the period 1977-78 is within the context of the National Policy and forms part of the National Health Program 1977/78 - 1983/84. (See pages 63-112, National Health Program Document 1977/78 - 1983/84 Document, Khartoum, 24 April, 1975). In the NHP Phased Policy of Action for Socio-economic Development, top priority is given to preventive and social medicine as well as strengthening of rural health care facilities to ensure complete coverage and fair distribution to the entire population with free basic health care. The method determined by GOS to achieve this goal is through adoption of a primary health care program.

Government of Sudan (GOS) policy regarding primary health care in the Southern Region is presented in detail in the document titled Primary Health Care Program Southern Region, Sudan 1977-78 - 1983/84, (Juba 7 February 1976). This document is more commonly referred to as the "Green Book". The I/AMREF OPG Proposal is to undertake a portion of the GOS PHCP and must be read in the context of the Green Book. (Instead of summarizing the Green Book in this proposal, it serves as an Annex to the I/AMREF OPG Proposal). A corresponding document for the Northern Region PHCP has also been prepared and serves as the policy document for implementation of the PHCP Northern Region.

The overall objective of the PHCP is maximum coverage involving community development and participation. (Green Book, pages 121-125). As far as rural population coverage is concerned, the PHCP is the most appropriate system in taking services to people at the community level to improve their situation not only in the field of health, but also socially. The PHCP is also the most feasible strategy with respect to the economic resources of the Southern Region. Regarding Southern Region Health Policy, the PHCP has priority regarding allocation of financial resources for health.

It is also stated in the description of the overall development and recurrent cost of the PHCP (Green Book p. 118) that "it is to be understood that all recurrent expenditure is to be borne by the Government while the development expenditure is to be shared between the Government and foreign governmental, inter-governmental and non-governmental agencies."

Unlike many less developed countries whose national health budget is consumed largely by curative facilities and services, this situation does not exist as acutely in the Southern Region since the health infrastructure throughout the region was damaged greatly by the 17 year civil strife. A factor in favor of the PHCP continuing to receive priority financial back by MOH is that the former Director of the Primary Health Care Program (Dr. P. Lolik) is now the new Minister of Health and Social Welfare for the Southern Region.

The PHCP envisages the creation of a new village service based on what is called a Primary Health Care Unit (PHCU) to serve a population of 4,000 within a radius of attendance of 16 km (10 miles). The PHCU is the first echelon for health care delivery to the rural population. For each five PHCU's, a Dispensary will be centrally established as a second echelon for referral and treatment not available in the PHCU. The dispensary is staffed by a medical assistant and a nurse will provide supervision for the respective CHW's. As a third and fourth echelon, the dispensary will be supported by district and provincial hospitals; however, this project will concentrate its efforts on the construction of two dispensaries and two training schools at Liria and Akat for primary health care personnel.

The PHCP is based on the training of a new cadre of staff, the Community Health Worker, (CHW). The CHW will work from the PHCU and is a junior secondary school graduate who is recruited from the villages in which they will serve. The training is over a 9-month period and is essentially that of community health (See Exhibit Curriculum for Community Health Workers which was developed by I/AMREF.)

Concerning CHW training, it is considered essential that CHW's be trained in a similar, nearby rural setting. The training involves a considerable amount of practical field work, some of which is to be done in the trainees' own villages. On completion of training, the tutors are to be involved in follow-up and refresher training. For this reason, it is proposed to have at least one school in each of the 6 provinces plus an extra school in each of the 2 largest provinces. (The Regional Government has not yet decided whether 7 schools are required - as stated in the Green Book - or 8 as subsequently stated by MOH.)

In order to begin the CHW training, four schools were established in 1977, three of which are located in temporary premises that are inadequate for the long term. The first priority is to get these schools into more suitable permanent headquarters and to build the other five schools. As an aftermath of the 17 years of civil strife, there is an absolute shortage of all types of buildings in the Southern Region of the Sudan. In addition to being necessary as training sites for CHW's, the buildings are also required for re-orientation courses and refresher courses for other staff involved in the PHCP. During those periods when not in use for CHW training, the buildings will serve as training for village midwives, environmental technicians, etc.

The proposed school buildings and staff houses are the simplest and most economical permanent structures feasible. Negotiations are underway with other donors for assistance with some of the other schools.

The Government of Sudan proposes in the Green Book that the CHW will be "recruited and supported by the local community and paid by the local government". The CHW is a civil servant and will continue in that status until such time as the community is able to meet his remuneration. The time this change will take place will differ from one village to another. The salary stated for CHW's is Sudanese pounds 265 per annum. (US$ 662).

The proposed numbers of CHW's in training and service (708 by 1983/84) and the budget to cover them is given in Tables 18 and 19 of the Green Book. The first group of CHW's who completed training in 1978 are currently being paid from Central Government of Sudan funds.

The CHW's will be supervised technically by a medical assistant and administratively by the community through the Village Development Committee. One medical assistant will be responsible for supervising 5 PHCU's which along with the dispensaries constitute a Primary Health Care Complex (PHCC) which will serve 24,000 persons (See p.70, Green Book). The Government's program hopes to build 61 permanent dispensaries and to renovate a further 80. At the same time, the program envisages the construction of 519 PHCU's and the renovation of 189. These simple buildings would meet the minimal requirements for a comprehensive rural health service. The 4 or 5 PHCU's around the 2 proposed project dispensaries will be built by self help with I/AMREF providing technical assistance and some materials. These Primary Health Care Complexes (Dispensaries and PHUC's) will be used for training the student CHW's. Some dispensaries and PHCU's have already been built near the Lirangu School with assistance from German Caritas. Negotiations are being conducted for further assistance.

2. <u>Role of Community Health Worker</u>

The CHW will cooperate at community level with the village development committee to help promote understanding among the people and orientate them towards the spirit of self-reliance. This entails involvement of the people to participate both in the planning and implementation stages of the PHCP at community level. Besides these promotive activities, the CHW will be involved with and have responsibility for:

- <u>Health Care Activities</u>
  a) prevention and care of the main local diseases and ailments;
  b) cooperation with antenatal care services;
  c) immunization: participate in and support immunization activities to be carried out on a scheduled basis in conjunction with the visits of the team delivering smallpox and BCG. Later on, the CHW will participate periodically in the Expanded Childhood Immunization Program;

- <u>Referral</u>

  Referring all cases which lie outside the limits set by his job description and all complicated cases to the attention of the Medical Assistant in charge of the dispensary in the area of the PHCP complex and some cases directly to the nearest rural hospital. He will take care that the referral is done by the way of the best and quickest available means.

- <u>Administration</u>
  a) recording and keeping records of his working including a record of all births and deaths in the community he serves;
  b) reporting periodically to the next supervisory level (dispensary) on all activities of the PHCU;
  c) discussing with the Medical Assistant during his supervisory visits to the PHCU problems concerning the supply of drugs and equipment. CHW is responsible for safe custody of drugs, equipment, instruments and other supplies in the PHCU;
  d) matters relating to the maintenance of the PHCU will be discussed by the CHW with the Village Development Committee, which will secure the community support. The CHW is to be given refresher courses to increase his professional knowledge. Those whose standards are reasonably good (i.e., full junior secondary school) will have the opportunity of being selected to join the Medical Assistants' Training Course.

Through the deployment of CHW's in accordance to the distribution and needs of the population to the following goals, as stated in the Green Book, will be achieved:

a) accessibility of basic health services (within walking distance);
b) coverage of the population will be warranted;
c) acceptability of the services;
d) pressure on dispensaries, health centers, hospitals (rural, district and provincial) may be reduced because of better distribution of services;
e) referral at the same time will be enhanced more selectively;
f) nurses and Medical Assistants will be returned to their normal point of involvement at dispensary level. At the same time, Medical Assistants will be awarded new supervisory functions and responsibilities;
g) as a consequence of (f) Medical Assistants' status will be raised;
h) the updating of hospitals and improvement of in-patient care will be facilitated, because a more economic expansion of rural health services will permit the saving of funds to be devoted to the above;
i) total integration with the accepted programs of socio-economic development of rural communities in the region will be achieved. Thus PHC has a "multipurpose" function in harmony with the programs of other Ministries and Cooperatives of Agriculture, and of Local Government.

3. Development Problems

The PHCP, based on this CHW approach, will help to alleviate some development problems faced by MOH i.e.:

Health Manpower - a failure to develop a suitable health plan previously, has given rise to an over production of some staff (Medical Assistants). More importantly, the actual training programs have tended to be based on irrelevant models with a bias towards cure rather than prevention and limited community health training. They have been "staff" oriented with a requirement for people to come to the health staff rather than "community" oriented with health staff going to meet the actual health problems in the environment. The insufficient numbers of health workers who work in the rural areas and who are working in the periphery, poorly motivated, with varying basic educational levels, may be partially explained by the prolonged period of civil strife.

Information System - there has been a need for the improvement in simple administrative functions of which the collection and recording of various figures related to health is one of the most important. Insufficient understanding of the need for reports to be sent regularly and poor filing and processing of reports centrally, has had negative effects. The need for a simple filing and recording system, as planned for in the PHCP, to include disease types, actual numbers, births and deaths, etc. is clear in order that the facts and figures can be collected and used subsequently as a sound basis for future planning.

Drugs and Supplies - In relation to the most common diseases occuring in these rural areas, the drugs obtained have not always been appropriate. The actual administrative procedure involved in budgeting and ordering of drugs for rural health facilities has become a complicated bureaucratic process. The expense of drugs has become inflated so that even the relatively simple medicines have become so costly as to be a major constraint to their supply.

Transport costs are also a considerable factor apart from the low number of vehicles available for drug distribution to the rural areas. Rural people have been obliged because of these circumstances, to rely on traditional medicines. The main reason for this is culturally related but another reason is the unavailability of competitive scientific products.

It is the policy of the Government of Sudan to render free health services to all people in the Sudan. The method of procurement, packaging of "medical kits" and distribution of drugs and supplies for the PHCU's is described in Section E of the Green Book. The estimated costs are given in Tables 22-25, pp. 113-116.

Through the project's technical assistance and commodity support (vehicles for drugs and supplies distribution from the provincial level) considerable improvement will occur regarding distribution of drugs and supplies to the rural areas.

4. <u>Relationship to other agencies and development programs</u>

Because of the lack of infrastructure which complicates program implementation in the Southern Sudan, the project will utilize appropriate resources of other international agencies for purposes of program support and implementation. As a result of two CODEL sponsored workshops, the following areas have been identified as ways in which CODEL members could participate:

- <u>Seminars and workshops in organization, planning and communication</u>
  The Maryknoll Fathers are willing to participate in workshops and seminars for the CHW tutors and CHW's on such subjects as organization and planning, techniques of communication at village level, accounting and purchasing.

- <u>Grinding Mills Project of International Voluntary Services</u>
  Grinding Mills are proposed to be built near the CHW Training Schools. The women waiting for their sorghum or grain to be ground represent a captive audience for health education and MCH services. IVS is supplying a volunteer and transport to the I/AMREF Southern Sudan Project to manage the Grinding Mills Project. Proceeds from the grinding mills will go towards payment of the CHW's salaries.

- <u>Training Program</u>
  The Lutheran World Federation Sister Tutor at Malakal could provide nursing back-up services for the CHWTS's at Doleb Hill and participate in the training program as required.

- <u>Transport</u>
  The Sudan Council of Churches and Catholic Relief Services representatives stated that the PHCP Department could utilize their transport systems when available in getting medical and general supplies to the CHWT's and CHW's in the field.

- <u>Selection Process of CHW's</u>
  CODEL member representatives and clergymen working at village levels could continue to assist the PHCP Department in the selection process for CHW's and educating the communities on the objectives of the PHCP. In addition, they could provide assistance with the information and evaluation programs.

I/AMREF will also maintain close coordination and contact with the World Health Organization, the ACCORD Technical Training Center in Juba, CUSO/ACCORD agency, UNICEF and other agencies carrying out development programs in Southern Region Sudan so that the project can be integrated as much as possible, with the development activities being undertaken in the rural areas.

Coordination of this project and the AID support program for the North as described will be:

- through the existing coordinating mechanism of the MOH-N and MOH-S;
- through mutually related activities such as the health data and management information system and the logistics/supply systems;
- through informal liaison between the two project coordinators;
- through the US/AID/Khartoum project officer.

As stated, I/AMREF is responding to a direct request for technical assistance from the MOH to strengthen its Primary Health Care Program Department, until more Southern Sudanese staff have been trained.

I/AMREF staff will be seconded to the PHCP Department and will be responsible to the Sudanese PHCP Director. The I/AMREF staff will be replaced as trained Sudanese staff complete in-service and/or formal training programs.

By the end of this project, it is anticipated that the Southern Region Sudan will have made significant progress in implementing its PHCP for the rural poor. The measurement of success will not only be the number of PHC Units and Dispensaries built, and the number of CHW's trained and in place, but the program will establish a data collection and evaluation mechanism which will measure the impact of the program upon the health status of these rural poor people.

COMMODITIES INPUT FROM AID

- 24 Landrovers to be supplied:
  - 5 Landrovers to each of 5 Community Health Worker Training Schools, (3 additional landrovers will be supplied from another donor for the other 4 Community Health Worker Training Schools);
  - 1 Landrover Project Vehicle assigned to I/AMREF Project Team;
  - 3 Landrovers each to 6 Provincial Health Departments (18 total) which will be used for supervision, drug and medical supply, emergencies and immunization programs.

- 600 Bicycles; to be supplied to each CHW assigned to a PHCU and their Medical Assistant (MA) Supervisors. (100 Bicycles will be supplied by another donor the 1st year);

- 4 Grinding Mills constructed at the site of 4 Community Health Worker Training Schools, (CHWTS). (4 Grinding Mills have already been supplied by CODEL to 4 other CHWTS's.) The schools will administer and supervise the activities surrounding the Grinding Mills which will be focal points for community activities and provide opportunities for public health education;

- Misc. instructional and building supplies.

Please see pages 50 - 53 for waiver request and justification for purchase of the above items.

C. I/AMREF

The International Medical & Research Foundation (IMRF) through its affiliated headquarters and operational organization in Kenya, the African Medical & Research Foundation (AMREF) has 20 years experience in delivery of rural health services in developing countries. Throughout, the aim of I/AMREF has been to "explore and implement new methods of providing health care in developing countries and to teach others those methods which prove of value".

United States administrative offices are located in New York, 833 United Nations Plaza and are registered as a charitable organization in the United States. It is also registered with USAID and will be the project holder. This office has 2 full-time staff members - Executive Director and Administrative Assistant,- and a Board of Directors. The U.S. Office is actively engaged in fund raising, liaison, administration and evaluation of rural health programs in East Africa and is an integral part of the Foundation's senior support services.

The field headquarters are located at Wilson Airport, Nairobi, Kenya. They are registered with the Government of Kenya as a charitable company limited by guarantee. As of 31st December 1977, these headquarters had 71 employees which were engaged throughout its 9 departments and sections:

- Training
- Health Behavior
- Printing and Publication
- Surgical and Anaesthesia
- Nursing and Radio Communications
- Management Services and Administration
- Mobile Medicine
- Research
- Aviation.

Reference is made to the Foundation 1977 Annual Field Report for a description of overall program activities, field and outreach programs.

CONSTRUCTION INPUT FROM AID*

- 2 Community Health Worker Training Schools (Liria, a village approximately 70 km east of Juba and, at Akat, approximately 50 km from Runibek, capital of Lake Province and over 500 km from Juba). The 2 CHWT's will provide initial training for CHW's, as well as re-orientation and refresher training for MA's and CHW's. During those periods when not in use for CHW training, the buildings will serve as training for village midwives, environmental technicians, etc.

- 2 Dispensaries (Liria and Akat) which will serve as training dispensaries for the 2 CHWT's as well as referral and back-up units for the 5 PHCU's (each).

- Bachelor quarters for 2 project staff and 2 two-bedroom houses for another 2 project staff in Juba.

* Please see pages 54 - 59 for construction cost justification.

B. AMREF Involvement in PHCP

Since the ending of the Sudan civil war, the African Medical & Research Foundation, (AMREF) has been requested to undertake a number of activities in the Southern Sudan. First, AMREF produced a report in May 1972 on Medical Development, stressing the importance of village health services and of training staff for them. Also recommended was a system of supply for vaccines and drugs, a technical maintenance unit and improved communication system.

This report was not particularly well received by the then Minister, who preferred building up the curative hospital services. However, the new Minister saw the report and invited AMREF to go back again and for AMREF Medical Director to join a World Health Organization formulation team preparing a program for Primary Health Care in the Southern Region. This was completed in December 1975 and reprinted in February 1976. ("Green Book").

To start the PHCP, AMREF in early 1976 was requested by the Ministry of Health and Social Welfare to:

- develop a detailed curriculum for the 9-month training program for CHW's (See Appendix V);
- plan a training program for teachers of CHW's;
- execute the training program for selected teachers;
- produce a manual for CHW's supplying 1,000 copies;
- supervise the CHW Training Schools throughout the first courses;
- conduct an evaluation of first CHW courses;
- conduct a refresher course for the first group of teachers, if necessary;
- assist in the orientation courses for medical assistants;
- train a further group of teachers for additional schools;
- supervise the CHW's;
- assist in supervising and evaluating the first group of CHW's in the field.

AMREF responded by placing a medical training officer in April 1976 in Juba at the MOH PHCP Department. To date, with assistance from AMREF staff Nairobi, the PHCP Department/AMREF Medical Training Officer have accomplished the following:

- developed a detailed curriculum for the 9-month CHW training program;
- produced a draft CHW Manual which is being tested during the training of the first group of CHW's;
- planned and executed a tutor training program for CHW Training School teachers;
- supervised the first 4 CHW Training Schools throughout the first courses;
- conducted orientation courses for medical assistants who will be supervising CHW's;
- carried out a community base-line study (socio-economic and medical data) for villages in Mugiri which will have a CHW.

Chronological AMREF operational experience regarding the PHCP is described below.

1976

As stated, a medical officer was recruited from Tanzania and posted to Juba in April 1976. After discussions with the Minister, Dr. Justin Yac Arap, and the Director of Medical Services, Dr. Noel Warille, they toured the prospective sites for the first three CHW schools with Dr. Pacifico Lolik, the Director of the PHCP. They visited Lirangu (West Equatoria), Kwajock (Bahr el Ghaza and Doleb Hill (Upper Nile). It was also decided that the tutors' training course could best be held in a waterless, unused, and somewhat derelict health center at Rejaf, 7 miles outside Juba.

An excellent self-help renovation program, led by the Minister of Health and his colleagues and staff together with an emergency discretionary grant from Oxfam to cover the cost of materials and equipment in Nairobi, and further financial support from the government established the Rejaf Primary Health Care Training Center.

Eleven medical assistants were selected from the 3 provinces and after helping with the renovation started training at Rejaf at the end of May. The initial part of the training was revision of community health including a number of field visits. In July 1976, they all came to the AMREF Training Center in Nairobi for one month.

They were able to visit a number of rural health and development activities as yet not done in the Sudan, as well as benefit from additional staff courses in community development and teaching methodology. They all returned to Juba in August and underwent a final assessment which they all passed.

By this time the outbreak of Marburg disease in Maridi and Western Equatoria was causing a major disruption of all activities, especially travel, throughout the Southern Sudan. The tutors went on leave to their districts and then helped with the recruiting of the first group of CHW's and preparations for the opening of the schools. The medical officer returned to Nairobi and completed a draft curriculum and manual.

A further disaster followed when a very localized tornado swept over the renovated Rejaf training center and its new well and tore the whole roof off it and the staff houses and severely damaged some of the walls.

However, the the end of 1976, things were again looking much better. Marburg disease was under control. Three temporary CHW schools would open shortly. The draft curriculum and manual had been accepted to begin with and would be revised at a workshop to be held in February 1977.

<u>January-June 1977</u>

Selection of CHW's

During January-March 1977, CHW's were selected. The following procedures were used:

1. Stage 1 - Preliminary visits to communities which will have CHW's and Primary Health Care Units.

   <u>Aim of Visits</u> - to enlighten the communities about the PHCU and the selection process of CHW's including nomination of CHW's by the communities.

   <u>Persons contacted during preliminary visits</u>

   - Chief or Headman of the area
   - Sudan Socialist Union basic unit members
   - Village Development Committee members
   - Primary school teachers, if any.

2. **Stage 2** - Final selection

Members of selection team

- CHW tutor or a senior staff member of PHCP Department as the team leader
- Representative of Rural Council or Chief of the area
- Representative of the Regional Ministry of Health and Social Welfare, e.g., Medical Assistant of the area.

Examiners

- CHW tutor, Chairman
- Primary school teacher, if any
- SSU member
- Chief of the area or his representative
- Clergyman, if any

Requirements

Each candidate was given a very simple oral and written examination in English. A successful candidate had to pass both types of examination.

3. Difficulties encountered

Some villages had no primary school graduates. Selection was then done from the next village.

No fuel was available for preliminary or selection visits. This was the major constraint in Bahr el Ghazal province.

CHW tutors in Bahr el Ghazal, Upper Nile and Jonglei provinces had difficulty in selecting CHW's because of the language problem. Very few primary school graduates know English, only Arabic. None of the tutors so far trained know how to teach in Arabic.

Alternative solutions include:

- have CHW tutors from the Northern Region train CHW's in these areas;
- make use of the Norther Region CHW manual produced in Arabic;
- train Medical Assistants who can read and write both in English and Arabic to be tutors for these areas.

Community Health Worker Training Schools

Three CHW Training Schools started during January-June 1977. The tutors were trained by AMREF.

Lirangu CHW Training School (West Equatoria)

On 1st April, the Lirangu CHWTS opened with 32 students under the guidance of 2 CHW tutors. The ages of the CHW's are from 18 to 35 years. The educational standard varies from Primary 4 to 6 with one candidate from junior secondary school.

The construction program was completed but water supply is a major problem. German Caritas is examining the water supply problem. Currently, the CHW students are doing their fieldwork in nearby dispensaries with German Caritas assisting with transport.

Gogrial CHW Training School (Bahr el Ghazal)

This school was started on 1st June with 25 CHW students. 5 more students are expected to join. His Excellency, Dr. Justin Yac Arap, the Minister for Health and Social Welfare, personally contributed funds towards the construction cost and repair of buildings at Gogrial and Dr. Pacifico Lolik, Director of the Primary Health Care Program, was also instrumental in getting this school started.

Rejaf Health Center and CHW Training School (West Equatoria)

As stated, a freak tornado had damaged the Rejaf Health Center, in particular the roof and some walls of the main building. The Regional Ministry of Health and Social Welfare took charge of the reconstruction and with financial assistance from Oxfam, CODEL, Brot fur die Welt and the Government, the repairs were completed with help from the CHW students. The existing classroom was also extended as part of the repair work.

On 17th April, training began at Rejaf with 27 students, one of whom is from secondary school and one a nurse. Since there was accommodation only for 24 students, the tutors mobilized the students to build a small hut to accommodate the extra students. In addition, construction of a pit latrine and a refuse pit was started by the students along with a vegetable garden.

Water is a chronic problem at Rejaf. A hand pump was installed and worked for 2 weeks until the inner pipe broke. It was repaired and a week later again broke down. According to a water engineer, a diesel pump is required to the depth of the well. The water level at dry seasons is 100 feet, hence the inability of the hand pump to work at such depths.

Doleb Hill CHW Training School (Upper Nile)

This school has not yet started because of lack of classroom space though a few CHW's have been selected. Until Booths Africa construct the school, very little training can be done a Doleb Hill.

July-December 1977

CHW Training Schools

There are now 4 CHW Training Schools running in the Southern Region of the Sudan. These are as follows:

- In Western Equatoria province, at Lirangu, the CHW Training School started as stated on the 1st of April 1977 with 32 students.

- In East Equatoria province, at Rejaf, the CHW Training School started on the 17th of April 1977 with 27 students. Later on this school will be shifted to Liria.

- In Bahr el Ghazal province, at Gogrial, the CHW Training School started with 25 students on the 1st of June 1977. Later on this school will be shifted to Kwajock.

- In the Upper Nile province, at Doleb Hill, the CHW Training School started on the 1st of October 1977 with 16 students.

4 more schools will be erected in the near future. They will be built in the following areas:

- In the Bahr el Ghazal province at Malik;
- In the Lake province at Akat;
- In the Jonglei province at Baideth and Bor.

This will bring the total number of schools to 8 and each one will have 15 to 20 students and two tutors. This will ensure an output of at least 100 CHW's every year until the target is reached.

Lirangu CHW Training School

The training has reached the point where CHW's are expected back from their own PHCU's where they went to undertake units 8(b), 9(b) and 10(b) of their curriculum. Their transport, etc., was made possible with the help of the German Caritas team.

During this period of reporting, the students have been able to produce enough food for their own consumption from their three fields. They have erected one pit latrine, one refuse pit and were in the process of erecting a recreation hall. This will be utilized as a library and a guest house for relatives of the students. There is at the moment, no building which can be used as a library.

Difficulty with water still persists. The students have to roll drums of water from a small spring situated in a valley about 300 yards away from school.

Because of misdemeanor, one student was dismissed from the school. Regarding the teacher side, the students initially found it hard to understand their tutors, particularly the expatriates. This was because of accent and the level of English used. But now students and tutors understand each other and teaching is progressing smoothly. This applies to all the schools.

A reorientation course for the Medical Assistants, from the dispensaries which form the center of the PHC complexes, was conducted in Lirangu. There were 9 Medical Assistants who took part in this course. This was done after consultation with the A/Commissioner of Health for Western Equatoria. The following were the guidelines for the reorientation course for Medical Assistants.

- Introduction to PHCP
- Job description of the following:
  MA
  CHW
  S/O
  Nurse
  Village Midwife and their roles and contribution to PHCP, e.g. supervision, administration and advise
- Preventive: MCH, immunization, nutrition and environmental health
- Promotive activities.

The course was held from 26th October to 13 November 1977. A/Commissioner of Health, the tutors and the German Caritas team participated in it. An assessment was made at the end of this course.

With no exception, the MA's who attended the refresher course displayed a great interest and everyone participated actively in the discussion. They all expressed optimism of the success of the Primary Health Care Program and they called for the cooperation of everybody in the Region.

Having finished this course, the tutors and the MA's concerned were able to follow the CHWs to their PHCU areas.

Rejaf CHW Training School

The Rejaf roof (damaged in a tornado) has been rebuilt. A kitchen, store and dining room have also been erected.

The students have just gone out for their units 8(b), 9(b) and 10(b). The Principal and the tutor have taken all the students to their respective PHCUs. At the same time, they are bringing in the MA's concerned for a reorientation course. This will start in January 1978. It will last for 3 days and will be based on the same guidelines as those used by the Lirangu group.

The water pump is still functioning. From the 27 students that started in the school, only 19 remain. The reasons for this are (a) self dismissal, attraction to city lights and life; (b) misconduct at school, e.g. drunkeness, fighting, and stealing; (c) poor performance in the school.

Gogrial CHW Training School

As pointed out above, the actual site of this school will be Kwajock. Gogrial is a temporary site. With financial help from His Excellency the Minister, the Principal and the tutor were able to construct buildings to start the school. An old building is being utilized as a classroom and office for the tutors. There are 3 concrete buildings housing 3 students each. There are 2 bigger concrete buildings housing 5 students each. Two new Tukuls have been built, each houses 4 students. There are also facilities for a store, kitchen and bathroom. There is one well in the middle of the school. Since the school is in the middle of Gogrial

town and the area surrounding the town is a swamp, no agriculture is possible here. But the tutors and students have started a small garden and a refuse pit. They are unable to dig a pit latrine because the underground water level is very high.

Out of the 27 students that started all remain (but 3 of them are rather poor). The training program has reached units 8(a), 9(a) and 10(a). The students will be sent to their respective PHCUs in January 1978 and a reorientation course will be held for MA's based on the guidelines used by Lirangu School.

Doleb Hill CHW Training School

The building situation is as follows (reported by the Principal of the school): The former Health Center buildings, composed of seven rooms - 3 rooms can accommodate 25 students, the fourth room can be used as a classroom, the fifth room being used by the Medical Assistant as an office. The sixth room can function as an office for both tutors. The seventh is being used as a laboratory.

There are two rooms near the police office, within the old dispensary building, which can be used as a clerk's office and the other can be used as a store, but needs repair. The former house of the doctor can be used as a dining hall and kitchen.

There are no latrines for the school. The two present bucket latrines are not functioning due to lack of buckets and they also need repair.

During the rainy season transport is only possible by boat. The only source of water is the Nile River.

In spite of all the above difficulties, the Doleb Hill School started on the 1st of October 1977 with 16 students.

General

In the meantime, the selection of MA's for the second tutor's course is underway. Also, the selection process for the new CHW's for next year's courses has been started. The actual selection will take place after the present group of CHW have qualified. These activities may be delayed a bit by the forthcoming general elections to be held in January 1978.

January - February 1978

General elections took place during the period. All candidates who contested were released from their duties. From the PHCP Department, this included the Director, Mr. P.L. Lolik and Mr. Francis Wajo. The Principal and Tutor at Rejaf CHW Training School also contested. There is an acute shortage of fuel in the Region, hence, day-to-day activities have slowed down.

A PHCP orientation course for medical assistants was held at Rejaf. Eight medical assistants including the senior medical assistant from the office of the Area Commissioner of Health for Eastern Equatoria took part in the course. The medical assistant who deals with leprosy in Eastern Equatoria also took part. The course lasted 4 days and discussions were held on the following topics:

- PHCP
- Present activities of medical assistants
- Job description and duties of medical assistant, CHW, nurse and village midwife and their roles and contributions to PHCP, e.g., supervision, administration and advice.
- Information system
- Expanded immunization program and nutrition

An evaluation test was given at the end of the course. The following questions were asked:

- What is your responsibility as a MA towards the CHW and PHCP?
- Did you enjoy the course? Yes/No
- Was the course too short? Yes/No
- Should the course be longer? Yes/No
- What other subjects of topics would you like discussed next time?
- Should such courses be held frequently? Yes/No
- Did you gain anything from this course? Yes/No

In general discussion, it was determined that except for 2 MA's, the rest have had no further education since they qualified. Some had qualified in the late fifties. The most important response was the desire to have similar short courses at regular intervals. In their response to the first question, almost all emphasized the responsibility for the curative aspect of the CHW work. They clearly need more courses to appreciate and integrate into the PHCP.

Lirangu CHW Training School

The CHW's arrived back from their field work in December. The tutors were able to visit all CHW's except two during their six week field work. All CHW's received good reports from their respective Village Development Committee Chairman. The VDS Chairman supported the philosophy behind the PHCP and promised cooperation and assistance to future CHW's. In January, 28 of the 31 CHW's at Lirangu passed the final assessment successfully. The 3 failures have been referred for 3 months after which they will resit the examination. The successful CHW's have gone to their PHCU's.

Rejaf CHW Training School

CHW's have gone for their field work. Due to lack of fuel however, only a few were visited by the tutors.

Gogrial and Doleb Hill CHW Training Schools

Preparations have been made to recruit 10 new MA's for tutor training. About 70 applications have been received from MA's for the positions. A selection test will be give on 15 March in the office of the various Area Commissioners of Health. Successful candidates will then be brought to Juba for a four month training course by AMREF and the PHCP Department.

Information System

A copy of the forms to be used by CHW's for reporting their activities has been received from Khartoum. A workshop was held in the PHCP Director's office to discuss these forms and it was decided to scrutinize the forms still further before final decisions are made.

500 copies of the CHW Manual for the Northern Region have been received by the PHCP Department. This Manual is printed both in English and Arabic languages. These will be distributed to the training schools.

The following organizations have provided financial assistance to I/AMREF to enable it to implement part of the PHCP's in cooperation with MOH:

- OXFAM (Oxford and Quebec)
- Canadian International Development Agency (CIDA
- CanSave (Canada)
- Development and Peace (Canada)
- United Church (Canada)
- CODEL (USA)
- Norwegian Church Aid
- Brot fur die Welt (Germany
- Union Carbide (Sudan)
- Pfizer Corporation (East Africa)

PART III: PROJECT ANALYSIS

A. Appropriateness of Technology Used

I/AMREF believes that the development and utilization of Community Health Workers, within the context of a Primary Health Care Program whose stated goal is the delivery of a balanced program of curative, promotive and preventive care to the people of Southern Region Sudan is the most appropriate means for establishing health care services for the Region.

The PHCP has been designed by the Sudanese with the assistance of some international experts, including I/AMREF. The plan has been developed in keeping with the technological constraints of the Southern Region Sudan. I/AMREF is carrying out the program based on the environmental realities as evidenced by the type of equipment, drugs, supplies and personnel (CHW's) utilized at the PHCU level. The same approach is used is designing the PHCU's, dispensaries, Training Schools, staff housing and the logistic/supplies system in support of the PHCP.

A further example of appropriate technology is the issue of bicycles to the CHW's and the Medical Assistants which give them mobility and transportation entirely suitable to their environment. Without proper roads, any more sophisticated form of transport would be inappropriate. Likewise, foot transport would be much slower and not cost effective.

Although not funded by AID, another form of appropriate technology is the use of radio communication linking MOH with the training schools. This is deemed especially important in the initial phases of the project when the focal point of the program is training of CHW's and their continuing educational programs. The PHCP Department and project training team will be able to coordinate training schedules and plan joint training programs with the schools more effectively through radio communication. During the rainy seasons, some schools will be cut off from supervision by the PHCP Department for periods up to 4 months making communication even more a critical factor.

In addition to being appropriate for the Sudanese environment, the entire concept of using CHW's to deliver health services at the rural level is being tested by this Program. The validity and appropriateness for this type of Primary Health Care Program in a rural setting will be determined through the evaluation methodology.

B. Social and Economic Analysis

Reference is made to the Demographic, Social, Economic Analysis contained in the "Green Book" pp 6-23 and a description of the Health and Development Policy of the Southern Region, pp 24-28, "Green Book". In addition, please refer to the Initial Environmental Examination prepared by REDSO/EA, May 1978, attached as an appendix to this proposal. All of the above address in great detail, the socio-economic cultural background of, and implications that the PHCP will have on, the Southern Region Sudan.

In summary, the economy of the Southern Region is predominantly agrarian with most of its production subsistence-oriented. About 90% of the population live in rural areas in poor social and economic conditions. There is little industry, i.e., only handicrafts could be considered. There are no recent income or employment statistics available for the Southern Region, but the average per capita income is known to be well below the average of the whole country, which is $120.

The PHCP will enhance the health awareness level of the rural Sudanese population, including rural poor women, especially concerning nutrition, child health care and health education.

Since CHW's will be chosen from the villages which they are to serve, they will be sensitive to the local customs, habits and health related behavior patterns of the people, which will help ensure their acceptance as development agents of change and health promoters.

The project is designed to deal with the health problems of the rural poor in Southern Region Sudan within the socio-economic-cultural framework of the Region. It will furnish facilities, equipment, drugs and professional know-how to areas where such services do not exist. Every effort will be

taken to integrate the Program into the total environment of the area. The participation of women in the program will be encouraged especially as they will be recruited as CHW's. There are some problems presented by the traditional role of women in Sudan, however, many of the activities performed by CHW's are appropriate to women. These would include health education, nutrition education, pre and post natal care, immunization campaigns and child related projects.

PART IV: IMPLEMENTATION PLAN AND MEASUREMENT/EVALUATION

As stated, the basic objective of the project is to assist MOH Southern Sudan Region implement its Primary Health Care Program, the goals and objectives of which are stated in the Green Book and serve as the official government guideline policy for PHCP implementation. The Project Team will therefore follow these policy guidelines and will take the following actions towards project implementation.

This is to be considered a preliminary implementation schedule. A detailed implementation plan for each project activity and sub-program will be prepared after the project team has been at post for 3 months.

A. Implementation Plan

Action	Project Month	Agent
1. Proposal submitted/approved	00	USAID
2. Long term project team members arrive	01	AMREF
3. Schedule/sites for 4 reorientation courses for MA's and refresher courses for CHW's. 1st year program.	01	AMREF, PHCD
4. Schedules/sites for 4 seminars/workshops for MA's, CHW's in principles of organization management and planning conducted by CODEL member Maryknown Fathers - 1st year program	01	Maryknoll Fathers AMREF/PHCD
5. Project team assesses present state of affairs and determines requirements regarding project 4 subprogram areas: training, information system, medical supplies, self-help building	01	AMREF, PHCD
6. Identification of 3rd country counterpart staff	01	MOH,PHCD
7. Vehicles (20) ordered	01	AMREF
8. Office and teaching equipment/supplies/materials ordered	01	AMREF, PHCD
9. Self-help building program tools/equipment/ supplies ordered	01	AMREF
10. Construction sites selected for 2 Community Health Worker Training Schools (CHWT's) dispensaries, 2 staff houses and one bachelor's quarters.	01	AMREF/PHCD
11. Equipment/instruments/drugs/supplies ordered for 2 dispensaries	02	AMREF, PHCD
12. Construction supplies ordered for 2 CHWT's, 2 dispensaries, 2 staff houses and one bachelor's quarters	02	AMREF
13. Training team (medical officer, public health nurse, public health officer) and counterparts to assist in training CHW's.	02	AMREF
14. Survey and Evaluation Officer and counterpart staff (Vital Statistician, Medical Records Technician): start developing a data collection and reporting system to provide information and baseline data on health conditions of population and on impact of PHCP and effectiveness of CHW's.	02	AMREF, PHCD

Action	Project Month	Agent
15. Identify 12 rural areas for baseline studies (2 per each province)	02	AMREF, PHCD
16. Printing of data forms	03	AMREF, PHCD
17. Baseline surveys begin	03	AMREF, PHCD
18. Training of 2nd Group CHWT's Tutors begin	03	AMREF, PHCD
19. Construction of 2 CHWT's, 2 dispensaries, 2 staff houses and one bachelor's quarters begins	03	AMREF
20. Self-help Building Supervisor and counterpart: organizes and supervises self-help program for construction of 10 Primary Health Care Units associated with 2 project dispensaries being constructed.	03	AMREF, PHCD
21. Assist with project building program - 2 CHWT's, 2 staff houses, 2 dispensaries, one bachelor's quarters	03	AMREF, PHCD
22. Assist in organizing and supervising PHCP self-help building program.	03	AMREF
23. Develop linkage to other groups involved in PHCP building program	03	AMREF
24. Supplies Offier develops and executes a plan of action and a strategy design for procurement, delivery and distribution of drugs and medical supplies for PHCP utilizing provincial transport system vehicles supplied by project.	03	AMREF, PHCD
25. Short-term advisors identified and scheduled	04	AMREF, PHCD
26. US participant training scheduled for 2 counterpart staff-Medical Training Officer and Vital Statistician	04	AMREF, PHCD USAID/5
27. Africa Region training scheduled for 6 counterpart staff	05	AMREF, PHCD USAID/5
28. Construction and contingency training scheduled.	05	AMREF, PHCD USAID/5
29. Training Team assists with selection of CHW's	05	AMREF, PHCD
30. Training Team assists in developing training program for sanitary overseers	05	AMREF, PHCD
31. Training Team reviews and evaluates prior training program with existing CHW's, CHW Tutors, community leaders.	07	AMREF, PHCD
32. 2nd Vehicle order placed (4)	07	AMREF
33. Bicycles (150) ordered for CHW's and MA's for 2nd year program.	07	AMREF

Action	Project Month	Agent
34. Grinding mills for 4 CHWTS's ordered	07	AMREF, PHCD, IVS
35. Schedule/sites for 8 reorientation courses for MA's and refresher courses for CHW's - 2nd year program.	13	AMREF, PHCD
36. Schedule/sites for 8 Maryknoll Fathers seminars/workshops for MA's and CHW's 2nd year program	13	AMREF, PHCD
37. 2 counterpart staff start MPH participant training in US	13	AMREF, PHCD
38. 2 counterpart staff start Africa Region long-term training	13	AMREF, PHCD
39. Contingency training program scheduled	13	AMREF, PHCD
40. Short-term advisors identified and scheduled for 2nd year program.	13	AMREF, PHCD
41. Self-help building program tools/supplies/ equipment ordered - 2nd order	13	AMREF
42. Office supplies/materials ordered-2nd order	13	AMREF
43. AMREF submits 1st annual project progress and financial report	15	AMREF, PHCD
44. Bicycles (150) ordered for 3rd year program	19	AMREF
45. Schedule/sites for 12 reorientation courses for MA's and refresher courses for CHW's 3rd year program.	25	AMREF, PHCD
46. Schedule/sites for 8 Maryknoll Fathers seminars/workshops for MA's and CHW's 3rd year program	25	Maryknoll Fathers AMREF, PHCD
47. Counterpart staff return from US MPH participant training and long-term Africa Region training.	25	AMREF, PHCD
48. Contingency training program scheduled	25	AMREF, PHCD
49. Short-term advisors identified and scheduled for 3rd year program.	25	AMREF, PHCD
50. Office and teaching equipment ordered 2nd order for 3rd year program.	25	AMREF, PHCD
51. Self-help building program tools/equipment/ supplies/ materials ordered 3rd order	25	AMREF
52. Office supplies and materials ordered 3rd order	25	AMREF
53. AMREF submits 2nd annual project progress and financial report	26	AMREF, PHCD
54. Evaluation team arrives	26	AMREF, PHCD, USAID
55. Bicycles (150) ordered for 4th year program	31	AMREF

B. Measurement and Evaluation

1. General

The activity targets for measurement of project accomplishment as per each sub-program appeared in the Implementation Plan. Evaluation of the project will include an analysis of the accomplishment of these activity targets.

The major objectives of the evaluation methodology are to evaluate:

- The condition of health of the population including morbidity and mortality changes;
- Population coverage;
- Drugs and supply situation;
- Activities of the community health worker in his district or province;
- Skills improvement of rural health workers receiving refresher training;
- The efficiency of the information system;
- The cost effectiveness of the PHCP.

On the social side, evaluation will be best carried out by means of special social surveys in the community.

The analysis of reports and data supplied through the information system by CHW's and MA's will enable PHCP personnel at local, district, provincial and Ministry level, with the help of the Project Survey and Evaluation Officer and AMREF personnel, to evaluate the efficiency of the PHC system according to the above objectives.

Additional information relevant to evaluating the project will include:

- Monthly reports by Project Team Members in each sub-program which will be compiled into a comprehensive project report. There will also be two annual reports.
- In-depth baseline survey data for 12 selected villages (2 for each province).
- Cost accounting financial reports supplied by I/AMREF in collaboration with Project Team Members and other PHCP personnel.

The general design of the information system and the reports if properly carried out by the individuals concerned, will help ensure the necessary efficient technical and managerial follow-up and evaluation of the activities of the Primary Health Care Systems. It will also ensure the evaluation of the population coverage. The addition of the column on address of patients attending the PHCU, or dispensary in the Register Book will make it possible to make a survey of the population coverage on monthly, three-monthly or six-monthly bases. For this purpose, a survey table of attendance is prepared which should be filled at the PHCU level or dispensary level every month.

2. Development of a Health Information System and Evaluation System

The Project Survey and Evaluation Officer will be responsible for developing an information system for purposes of measurement and evaluation of project accomplishment, in collaboration with all concerned project team members, PHCP and related personnel including I/AMREF Nairobi staff.

The information system will be designed with the objective to obtain data in a simple way that will be used:

- to provide information on the health conditions of the population using the PHC Services;
- to help in the supervision and evaluation of the health activities and;
- to serve as a basis for simple applied research.

It is, to some extent, a systemization on a large scale and an improvement of the existing information system with simplicity and utility as the two guiding principles. The information collected in this way by the CHW and Medical Assistant will be used for the follow-up and evaluation of the PHCP.

Basic Components - The basic components of the information system are:

- Registration
- Reporting
- Follow-up and evaluation

Registration

The Community Health Worker or Medical Assistant will register all activities they carry out in their areas. Draft registration and reporting forms and cards have been designed for this purpose together with some basic instructions for filling them in. These, including registration books, are given in the short list below:

- daily attendance books
- referral card
- tuberculosis and leprosy cases records
- child's records
- births and deaths register
- monthly drug consumption register and register of drugs and supplies
- register of other activities
- visitors books.

Daily attendance books

It is proposed that the Ministry of Health Statistics Form No. 2, "Registration of attendance at outpatients department, health centers, dispensaries and dressing stations", is adopted with some few but important modifications and additions. This form will consist of eight main columns as follows:

- serial number
- patient's name
- age and sex; age groups divided into five subdivisions thus:
  less than one year
  1 - 4 years
  5 - 14 years
  15 - 44 years
  45 years
- address
- old or new case
- diagnosis
- treatment
- remarks.

The CHW will, as far as he is able to identify them, register the 12 specific diseases that he is required to treat:

Malaria, gastroenteritis and dysentary;
Respiration diseases - upper and lower, including asthma;
Measles;
Wounds including minor burns;
Abscesses;
Skin diseases including yaws and scabies;
Malnutrition and anaemia;
Venereal Disease;
Eye infections;
Poisonous bites and stings (snake, scorpion, dog);
Guinea worm (in certain areas).

In addition, he will register the 8 diseases he is required to refer:
Leprosy; tuberculosis; sleeping sickness; onchocerciasis; bilharzia; CSM (report to MA and not necessarily refer); ear diseases; Kala Azar.
As his experience increases as a result of the length of service and/or refresher courses, the CHW will be able to recognize more diseases which he will be able to register in the daily attendance register book.

Referral Card

This form is to be carefully signed by the CHW or the Medical Assistant, when referring a case, and to be returned to the PHCU or dispensary by the health facility to which the patient is referred, when the patient returns to his community.

Child's Records

This is to permit the recording of the following information on the baby's health from the moment he is born up to the age of five (5) years: weight, height, development, immunization and important illnesses. These registers, if used properly and well kept, will be very valuable in the future. They will permit one to undertake retrospective surveys on the development of the Sudanese children, or the morbidity and mortality and causes of death among children at different age groups from one to five years, etc.

Births and Deaths Register

As the CHW is supposed to be in close contact with the whole community in the area of the PHCU or the dispensary, he should find out and recognize all important events in the area, particularly births and deaths. He should, therefore, keep a register of both births and deaths.

Monthly drug consumption register and register of drugs and supplies

Quantities of drugs received in the PHCU or in the dispensary must be registered in a special register. In addition, a second special form must be used to register the quantity of each drug issued per day by the CHW or Medical Assistant. This will serve the double purpose of assessing the total monthly consumption of each drug and to facilitate the checking and control of drug consumption at any time and also to control misuse or abuse of drugs.

Register of other activities

This register will help the CHW or Medical Assistant when he is compiling his monthly report.

Visitors' Book

It is expected that any government official or community representative visiting the PHPU or dispensary for one reason or another, should record his observations and comments in this book.

Reporting

Reporting is a very important activity aiming at transmitting summary of activities undertaken at the PHCU's and dispensaries to the higher supervisory level.
Reports to be performed are:

- The Monthly Report
- The Weekly Report of Infectious Diseases

Monthly Report Form

This form is designed to give an accurate, simple and readily visible picture of the health situation in the area in question at a given time. In addition, it is designed to demonstrate at a glance, the activities of the CHW.

The Report comprises five sections:

- The first section gives the total number of births and deaths which occur during the month in the area, broken down only by sex. The cause of death as far as it is known, and more than twenty deaths caused by the same disease within one month will be reported.
- The second section gives the number of attendances for the month according to disease entity, age group and sex and whether they are old or new cases. This section also includes the total number of cases referred to higher health institutions during the month.
- Next, the CHW will record in narrative form, all promotive and preventive care activities such as contacts with the village deveopment committees, health education activities and other community activities in which he/she participated. Visits and tours by some personalities to his/her area will be recorded here.
- The fourth section is included to give the CHW the opportunity to express hi observations and opinions on the general health and nutrition situation in his area. It will also give him the chance to make any suggestions for improvement of the health and nutritional situation in the area.
- The fifth section is also of importance because it gives the MA a chance to make his own assessment of the situation and to give his opinion and comments, including suggestions concerning the drugs, instruments and equipment supply situation, and particularly as regards their kind or quantities supplied accoridng to the actually agreed lists, aiming at introducing the necessary changes on these lists.

Weekly Report of Infectious Disease

These reports are usually transmitted to the central supervisory level by telegram.

Project Interim and Final Evaluations

An interim evaluation at month 26 and final evaluation at month 60 will be carried out by I/AMREF in cooperation with MOH, AID/Khartoum and REDSO/EA. Information from the monthly and first 2 annual reports will be utilized in the interim evaluation study, hence, the reason for carrying it out at month 26. This information will include analysis of data supplied through the information system from CHW's and MA's in the field. The data from the baseline surveys will also be utilized. On the basis of the interim evaluation, modification can be made in the third year. Detailed cost accounting will also be done as part of the evaluation process which will aid in the determination of the replication value of the project.

Other periodic evaluation studies will be carried out within the various sub-programs to assess effectiveness and goal achievement. All evaluation study material will be available for AID review and assessment.

PART V: FINANCIAL PLAN AND AID FINANCIAL INPUT

A. Summary

The total amount of the 5 year I/AMREF project, requested from AID is $3,186,405.

The major areas of AID financial input are:

- Personnel costs:	$394,555
- Retraining and refresher courses and MOH counterpart training costs:	264,470
- Commodity costs: (vehicles, etc. for program supervision and support)	551,125
- Construction costs:	971,200
- Other costs including transportation costs for project supervision; supplies, etc.	517,600
- Other Support Costs: (I/AMREF costs for management and evaluation and project monitoring)	487,455

B. Personnel Costs ($394,555)

AID will support 5 project staff who will oversee and administer the training, information and supplies systems components of the project. This staff includes: Medical Officer, Public Health Nurse, Sanitary Overseer, Medical Records Technician and Senior Supplies Officer.

In addition, I/AMREF Senior Staff, based in Nairobi will devote 20% of their total work time overseeing and administering and advising the field project staff. Funds for this 20% are also requested from AID (see Other Support Costs). This Senior Staff includes: Director of Training - to oversee and advise training staff, Medical Director - to oversee the information and supplies systems and assist in overall project evaluation, and Project Director - to administer and oversee the management and evaluation of the project.

The personnel support from AID includes salary and travel benefits for the third country personnel. In addition, AID is requested to support 2 short term advisors (18 person-months over 5 years) for the project and 7 local staff - 3 project team drivers and 4 project facility watchmen.

The Ministry of Health will support 7 counterpart personnel to the project staff.

Canadian University Service Organization (CUSO) will place and support 4 project team staff: Building Supervisor and his Sudanese Assistant, Survey/Evaluation Officer and Medical Secretary.

This total project staff will be an integral part of the PHCP Department and will be responsible to the PHCP Director for the establishment and day-to-day administration of the entire project. The I/AMREF Project Coordinator/Senior Medical Training Officer will serve as team leader. The project team will oversee all of the areas of the project and will insure the proper project outputs, i.e.:

- Construction of 2 training dispensaries and 2 CHWTS's;
- 56 Re-training and refresher courses for 1660 CHW's and MA's completed;
- Training for MOH counterpart personnel completed;
- Information/evaluation and supply systems established for the PHCP;
- Administrative infrastructure to supervise and implement PHCP established.

After five years of I/AMREF project implementation and management, the entire program will be assumed by the MOH, Southern Region Sudan PHCD. It is anticipated that this project will have assisted the MOH Southern Region Sudan to make significant progress in the implementation of the PHCP in extending health care services to the rural poor of Southern Sudan.

C. Training Costs ($264,470)

The initial 9 month training of the CHW's will be undertaken by CHW Tutors who were trained themselves by the AMREF Training Department, under a different aspect of the PHCP.

The AID input from this grant will result in 1,120 medical assistants and community health workers receiving reorientation and refresher courses at the Community Health Worker Training Schools during 56 one-week courses over 5 years. This training will be provided by the Project Training Team (Project Co-ordinator/Medical Training Officer, Public Health Nurse and Sanitary Overseer) and their counterparts in co-operation with the CHWTS's Tutors and other related staff. The project Sanitary Overseer will also assist in establishing a training program for Sudanese sanitary overseers.

Also, 540 medical assistants CHW's and other rural health personnel will receive instruction in principles of organization, planning and communication from CODEL member Maryknoll Fathers, in co-operation with the Project Training Team, CHWTS's Tutors and other related staff.

The breakdown of the training costs for the refresher training courses:
Cost per trainee:

Item	Cost	
Travel to/from Training Center	$ 10.00	
Trainee subsistence allowance	30.00	($5 x 6 days)
AMREF Training team subsistence allowance (2)	84.00	($7 x 6 days x 2 trainees)
Teaching materials	3.50	
	$127.50	

Also during the project period, counterpart staff will receive training either in East Africa or West Africa to improve their skills and knowledge for leadership roles in the MOH. The counterpart Medical Training Officer and Vital Statistician will receive MPH training in the United States. These counterpart staff, as assigned by the MOH, will form the nucleus of the staff which will ultimately assume total responsibility of this project within the larger context of the PHCP. The assumption of this total responsibility will occur after the 5 year life of this project.

D. Commodity Costs ($551,125)

It is necessary for each Community Health Worker Training School to have transport and 5 landrovers are requested from USAID for 5 CHWTS. Three landrovers will be provided by I/AMREF. One project vehicle is requested from USAID, 2 will be provided by I/AMREF. For purposes of supply/ supervision/immunization, 3 vehicles for each of the 6 provinces, (18) will be provided in the project by AID as recommended by REDSO/EA Nairobi.

Promotive and preventive health outreach services by CHW's are a key element in the success of the PHCP. A means of ensuring these activities is bicycle transport. AMREF will provide 100 bicycles during the first year and USAID is requested to provide 150 bicycles during the 2nd-5th project years, 15 per CHWTS (8) for each CHW and 30 for the Medical Assistants who will be responsible for supervising the various CHW's.

CODEL has provided 4 grinding mills for 4 CHWTS's and 4 additional grinding mills are requested from USAID for the remaining 4 CHWTS's.

For the self-help building sub-program of the project, it is important for the supervisor and his Sudanese assistant to have their own building tools and equipment for purposes of village demonstration and to provide assistance in the construction of the various rural self-help PHCP buildings.

Teaching equipment is required for the Project Training Team and office equipment is needed for the Project Team at their MOH office(s). Equipment and instruments will be supplied for 2 dispensaries which are called for in the project. Also, drugs and supplies for the 2 dispensaries will be provided for the first six-month period, with MOH taking over the cost thereafter. It is the policy of the Government of Sudan to render free health services too all people in the Sudan. The method of procurement, packing of "medical kits" and distribution of drugs and supplies for the PHCU's is described in Section E. of the "Green Book". The estimated costs are given in Tables 22-25.

I/AMREF is requesting a waiver from procurement from countries in AID Geographic Code 935 for the above mentioned commodities which are valued at $551,125.

Roads connect the regional capital of Juba with East Africa and Zaire and nowadays the South gets some of its basic commodities from these neighboring countries by road. The internal road system varies greatly between the six provinces from a fair skeleton system in Equatoria to poorer conditions in Bahr-el-Ghazal and Upper Nile Provinces where most of the roads are subject to serious flooding.

The nature of the terrain and high seasonal rainfall dictate the need for particularly rugged vehicles and bicycles. The rugged construction of the landrover plus its lighter weight and smaller size make it much better adapted to the project location in comparison to US models. Remote location of the project training schools, dispensaries, primary health care units and rural provincial centers further requires that the vehicles be maintained by local mechanics utilizing spare parts which can be obtained in the rural project areas. These reasons also pertain to the British Hercules bicycle which is a stronger bicycle than that manufactured in the US and can be maintained in rural towns and provincial centers.

Maintenance and spare parts availability

Although US manufactured 4-wheel drive vehicles are being introduced in the drier Northern Region Sudan, there is presently no maintenance or spare parts capability within the Southern Region for such US vehicles.

Possible vehicle breakdowns during remote area project implementation and long lead time involved in obtaining spare parts could impede accomplishment of project objectives if US vehicles are used.

Cost to host Southern Region Government and US

The Ministry of Health and Social Welfare Southern Region as well as other Government Agencies have attempted to standardize vehicles in order to facilitate maintenance operations and minimise costs. Government repair capability for Landrover vehicles already exists in the project area. Given other demands on Government funds and its extremely limited manpower base, costs of developing maintenance capability for relatively few US origin vehicles located in the remote project areas would not be consistent with overall development objectives.

H. MOH Cost Input

Since the project will assist the GOS carry out one of its priority development programs, GOS is committed to co-financing the project. As previously stated and as described in the Green Book regarding overall development and recurrent cost of the PHCP (Green Book, p 118), "it is understood that all recurrent expenditure is to be borne by the government while the development expenditure is to be shared between the government and foreign governmental, inter-governmental and non-government agencies."

Since the project cost is mainly for support of the I/AMREF technical staff, there will be minimal MOH project takeover cost requirements. The training costs for reorientation and refresher courses will become part of the MOH training budget after the project period. Costs for supervising the PHCP will also become an MOH recurrent cost for the PHCP Department. However, upon completion of the project and establishment of the provincial and district health infrastructure, centralized supervision by PHCP Department will not be required to such extent as in the initial phase of the project.

GOS has assured I/AMREF that it will participate in the project by undertaking to provide:

- staff salaries for Sudanese members of the PHCP department including national counterparts to project team staff;
- temporary housing (e.g. guest house) for each new PHCP Department staff member up to 3 months after arrival in Juba;
- one permanent staff house;
- office and training facilities as required;
- running costs and maintenance of CHWTS and provincial Health Department vehicles;
- all requirements for installing the radio system linking the CHWTS's with the PHCP Department;
- frequency allocation, local licenses, etc. and radio maintenance;
- exemption from import duties for household goods and supplies of AMREF project staff and liability for local income tax;
- exemption from import duties for all equipment and vehicles required for the project;
- exemption from local flying costs, e.g. landing and parking fees;

SUMMARY OF MAJOR AID COST AREAS

	1st Year	2nd Year	3rd Year	4th Year	5th Year	TOTAL
Project Team Personnel	$ 74,520	80,395	81,320	75,695	82,625	394,555
Training Cost including transportation and subsistence	24,200	86,940	54,200	51,240	47,890	264,470
Commodity Costs	379,390	98,550	24,625	23,500	25,060	551,125
Transport (Vehicles)	344,000	87,550	20,625	22,500	24,560	499,235
Equipment	27,160	11,000	4,000	1,000	500	43,660
Drugs/Medical Supplies	8,230					8,230
Construction Costs	971,200					971,200
2 CHW Training Schools and 4-6 dispensaries	766,770					766,770
2 Staff houses and 1 Bachelor Quarters	116,430					116,430
Construction Contingencies (10%)	88,000					88,000
Other Costs	89,700	94,170	101,640	110,955	121,135	517,600
Transportation costs for 4 sub-programs and supervision, evaluation	75,700	78,770	84,840	92,615	101,115	433,040
Office Supplies/Materials	1,000	1,100	1,200	1,310	1,430	6,040
Printing of teaching materials	3,000	3,300	3,600	3,930	4,290	18,120
Building supplies/materials	10,000	11,000	12,000	13,100	14,300	60,400
Other Support Costs including Contingency	88,325	94,660	100,995	102,915	100,560	487,455
TOTAL USAID SUPPORT US$	$1,627,335	454,715	362,780	364,305	377,270	3,186,405
I/AMREF Input	191,910	61,995	51,270	55,970	61,100	422,245
MOH Input	251,525	232,315	262,135	295,090	302,620	1,343,685
TOTAL PROJECT VALUE	$2,070,770	749,025	676,185	715,365	740,990	4,952,335

Calculation of Project Costs based on 10% inflation per annum.

I/AMREF believes, as well as WHO, that the PHCP offers an excellent opportunity for replication and therefore, the Foundation wants to ensure proper planning, monitoring and evaluation of the project.

G. <u>Other Support Costs</u> ($487,455)

In order for I/AMREF to properly manage, monitor and evaluate the project 15.3% ($487,455) of the AID total project cost is requested for other support costs or administrative overhead.

Based on operational experience with its initial PHCP project, I/AMREF senior staff will be required to spend at least 20% of its time in support of this proposed project.

F. Other Costs (517,600)

Other costs include transportation costs for carrying out the 4 project sub-programs (training, drugs/medical supplies, information/evaluation/supervision and self-help building) office supplies/materials for project team/printing of teaching materials and building supplies/materials.

MOH will be responsible for supplying the fuel costs for 8 CHWTS vehicles and the 18 provincial health department vehicles, while the fuel costs for the project vehicles is requested from AID.

Running costs for 3 project vehicles is required to carry out the 4 sub-programs. Two landrovers are programmed to cover 25,000 miles each at $.75/mile and one Juba town/area stationwagon-type vehicle at 12,000 miles at $.50/mile.

Due to the heavy rainy seasons and the fact that during the civil strife virtually no roads were maintained or constructed, road transport becomes impossible during 4-6 month periods. In order to maintain contact with the CHWTS's and the new CHW's in the field, the overall project calls for the use of light aircraft and radio communication. One hundred and twenty flying hours per annum at $245 per hour is requested from AID. This includes quarterly visits by the PHC Department staff and Project Team to the CHWTS's, provincial health departments, dispensaries, PHCU's and CHW's for purposes of training, supervision and evaluation. In addition, AMREF Nairobi based staff will spend 45 days in the Southern Sudan as back-up technical and management and evaluation staff for the project. Staff members will include the AMREF Director of Training, Medical Director and Projects Director and other resource personnel deemed necessary for technical support. Semi-annual visits will be made to USAID/S Khartoum by Project Team Co-ordinator and/or I/AMREF officials for purposes of program co-ordination, either by I/AMREF aircraft or commercial aircraft, if available. The flying cost of $235 per hour includes aviation fuel, spare parts, maintenance, pilot's salary plus indirect costs as insurance, hangar fees, navigation charges, etc.

Development Consultant

Juba, Sudan

16th March 1978

Ref.G/J/34D.

Estimate for the construction of Primary Health Care Dispensary's.

I.	Dispensary. 151 M^2. $ 287.00 per M^2	=	$ 43,337.00
2.	Staff Housing. (One Medical assistant) (One Sanitary assistant) 2 X 2 Bedroom Houses= 94.25 M^2 = 188.5 M^2. $ 287.00 per M^2.	=	$ 54,099.50
3.	Staff Housing. (One Nurse). I X I bedroom House. 75.6 M^2. $ 287.00 per M^2.	=	$ 21.697.20
4.	Pit Latrines.		
	(a) Single stand X 3 for staff houses. $ 780.00 X 3	=	$ 2,340.00
	(b) Two stand X I for Public use. $ I,423.00	=	$ I,423.00
	Juba. Basic price I Dispensary.		$ I22,896.00
5.	Transport Extra.		
	Juba to Liria. 72 Kilometers x $48	=	$ 3,456.00
	Juba to Akot. 510 Kilometers X $48	=	$ 24,480.00
6.	Transport Extra. Onwards from Liria and Akot $ 48.00 per Kilometer.		
	Total price one Dispensary at Liria.		$ I26,352.70
	Total price one Dispensary at Akot.		$ I47,376.70

[signature]

I6th March 1976.

Ref. [illegible]/I/34A.

<u>Estimate for the construction of Primary Health Training Schools.</u>

I.	Classroom & Offices. II2.86 M^2. $ 263.50 per M^2.	= $	29,738.60
2.	Dormitory for 20 Students. 159 M^2. $ 287.00 per M^2.	= $	45,633.00
3.	Dining room Kitchen. 75.6 M^2. $ 268.50 per M^2.	= $	20,298.60
4.	Staff Housing (Tutors). 2X2 Bedroom Houses = 94.25 M^2 = I88.5 M^2. $ 287.00	= $	54,099.50
5.	Staff Housing (Clerks). 2XI Bedroom Houses = 75.6 M^2 = I5I.2 M^2. $ 287.00	= $	43,394.40
6.	Staff Housing (Junior). 4XI Room Houses. = I4,86 M^2 = 59.44 M^2. $ I27.85	= $	7,599.40
7.	Ablutions. (Students) Block containing 8 Wash Hand Basins, and 4 Shower cubicles, with Dobhi sinks.	= $	6,880.00
8.	Pit Latrines.		
	(a) Single stand. 4 No. for Tutor and Clerks Houses. $ 780.00 X 4	$	3,I20.00
	(b) Two stand. 2 No. One for Junior staff, and One for Public. $ I,423.00 X 2	$	2,846.00
	(c) Four stand. I No. for Students. $ 3,8I0.00	$	3,8I0.00
	Juba. Basic price I School.	$	2I7,4I9.50
9.	Transport Extra.		
	72 Kilometers, Juba to Liria.	$	7,200.00
	5I0 Kilometers, Juba To Akot.	$	5I,000.00
	Total price One School at Liria.	$	224,619.50
	Total price One School at Akot.	$	268,4I9.50

<u>Estimated Capital Cost</u>

Plans and contractor cost estimates have been developed for the two 2-bedroom staff houses and the bachelor quarters as follows:

2-bedroom house 1,067 ft^2 x \$31.25 per ft^2 x 2	=\$ 66,680
Bachelor Quarters 1,592 ft^2 x \$31,25 per ft^2	=\$ 49,750
TOTAL	\$116,430

Cost estimates for the 2 CHWTS's and 2 Training Dispensaries at Liria and Akat are as follows:

	CHWTS	Training Dispensary
Liria	\$224,619.50	\$126,352.70
Akat	\$268,419.50	\$147,376.70

These cost estimates are as of March 1978 from Juba based contractor, Mr. P.J. Perry. His detail cost breakdown appears on pages following. Mr. Perry's letter to AMREF concerning construction of the 2 CHWTS's and 2 training dispensaries do not include any amount for inflation or contingency. Therefore, \$88,000 (10% of total construction cost) has been added for contingencies.

As stated earlier, as an aftermath of the 17 years of civil strife there is an absolute shortage of all types of buildings in the Southern Region of Sudan. In addition to being necessary as training sites for CHW's, the buildings are also required for re-orientation courses and refresher courses for other staff involved in the PHCP. During those periods when not in use for CHW training, the buildings will serve as training for village midwives, environmental technicians, etc.

The facilities in this project will become the property of the GOS and as such will be entered on the property list of Ministry of Works. The Ministry of Health will include funds in their regular recurrent budget for maintenance, which will be effected by MOW personnel.

P. J. Perry

Development Consultant

P.O. Box 32
Juba. Sudan

I6th March I978.

Ref. 2/I/34

Dr. Christopher Wood.
African Medical & Research Foundation.
P.O.Box. 30I25.
Nairobi
Kenya.

Dear, Dr. Wood.

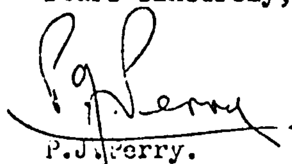
Please find herewith drawings and estimates for the construction of the two Primary Health Care Programme Training Schools, and the Dispensary's.

I have estimated the costs of construction on a price based on the Juba prices and have added additional costs for transport to the sites at (a) Liria. and (b) Akot. As the sites for the dispensary's are not exactly defined I have included a transport price Per Kilometer, from Liria or Akot. This price is for the transpottation of all materials for a complete centre as shown on the estimates and drawings.

Further copies of the drawings will be sent to you once they are printed.

Please let me know if any further details are required, and I will be pleased to send them on to you.

Yours sincerely,



P.J.Perry.

Construction standards

The Southern Sudan is extremely remote and isolated with many imports coming from Kenya through Uganda to Juba, the principal city in the South. These imports are transported overland by trucks over roads that leave a lot to be desired, which made construction materials very expensive, i.e., cement delivered in Southern Sudan would cost between $230 and $367 per ton, depending on delivery point, as of February 1978.

Other than stone, sand, gravel and some clay, all building materials will have to be imported; as a result, most construction is leaning toward prefabricated or partially prefabricated units. Ordinary labor is plentiful; however, skilled or semi-skilled labor is in short supply but qualified contractors are available, who are experienced in prefab construction.

The project area lies between four and ten degrees North of the Equator and is usually very hot. Therefore, insulation and ventilation are critical construction criteria. Observation of buildings presently in use, reveal that prefab buildings with composition panels are extremely hot and those with a metal roof and little ventilation are practically unbearable during the day. Personnel in the area express a preference for construction that is semi-prefabricated with a steel frame and trusses and a metal roof, however, the walls are to be made of block, stone or burned brick. These factors were incorporated in the sketch plan design for the staff housing and will also be included in the final construction drawings for the 2 CHWTS's and training dispensaries. In addition, cost estimates were projected on this type of construction.

Special Problems Foreseen

In view of the fact that practically no construction materials are available in the project area and will have to be imported, principally from Kenya, a waiver is hereby quested for procurement from countries in AID Geographic Code 935. It is anticipated that much of the material will be of Kenya source and origin; however, some will have also been imported by Kenya from other Free World sources. It is anticipated that goods and services falling into this category of construction materials will not exceed 65% ($631,280) of the total of $971,200 for construction.

E. Construction Program ($971,200)

The overall project will have a construction element consisting of staff housing for the project members living in Juba - 4 two-bedroom houses and a bachelor quarters for 2 staff. One staff house will be provided by the MOH and one by I/AMREF. USAID is requested to provide funds for 2 staff houses and the bachelor quarters for 2 staff ($116,430). Only very limited housing is available in Juba, therefore staff housing is required. The MOH will secure the land for the staff houses and bachelor quarters. Upon completion of the project, the staff houses will be turned over to the MOH, however, AMREF will be able to maintain use of the staff housing if the MOH request further assistance after the project period, the nature of which would require AMREF field staff to be stationed at Juba.

Also part of the project construction program will be 2 Community Health Worker Training Schools (one at Liria and one at Akat) and 2 Training dispensaries at Liria and one a Akat $766,770).

Construction costs for the CHW Training Schools and training dispensaries were added to the original project proposal at the request of REDSO/EA following the January 1978 visit to the MOH Juba by the AID Health Sector Assessment Team. Discussions were held with Dr. Noel L. Warille, MOH Director of Medical Services and Dr. Pacifico L. Lolik, then PHCP Director who requested assistance towards construction of CHW training schools and dispensaries. AMREF believes that the construction of 2 CHW Training Schools and 2 training dispensaries fits in appropriately with their original request for funds for technical assistance and support costs.

Building cost estimates, although high, are commensurate with similar construction costs in other remote areas of Sudan. Reasons for these relatively high costs include:

In addition to Government maintenance capability, Landrover and Hercules bicycle franchisers stock quantities of spare parts necessary for repairs and maintenance. Government drivers are able to do simple vehicle repairs and they have had the most experience with Landrovers. The Landrover and Hercules bicycle are considered dependable and reliable and have proven performance records.

Timing and accessability

Early availability of project vehicles is essential to timely and orderly project implementation. This can only be accomplished through proposed procurement from local assembly plant in Nairobi rather than through ship transport and importation through Mombasa port which can become congested. At the moment, 6 Landrovers are available in Juba for purchase. This is a special situation, but it would be very advantageous to purchase these 6 for immediate assignment as project vehicles.

In summary, concerning vehicles, the Southern Sudan Regional Government has no plans to switch over to US vehicles since Landrovers are the most suited for the type of rough and wet road conditions that exist in the region. Also, there are no US vehicle distributors in the Southern Region who handle spare parts. The government wants to keep its vehicle fleet standardized and that is with foreign vehicles, particularly the Landrover. GOS feels that the Landrovers are road proven and there is no similar US vehicle that can match their performance.

DETAILED FINANCIAL PLAN

	M/M	USAID 1st Yr	USAID 2nd Yr	USAID 3rd Yr	USAID 4th Yr	USAID 5th Yr	I/AMREF/OTHER DONOR AGENCIES 1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	MOH 1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	5-YEAR TOTALS PER CATEGORY
1. Personnel costs including indirect costs:																	
a) Third country personnel																	
Project Coordinator/ Medical Training Officer	60	$13,750	$15,125	$16,500	$18,010	$19,660											$83,045
Public Health Nurse	60	9,250	10,175	11,100	12,120	13,230											55,875
Sanitary Overseer	60	9,250	10,175	11,100	12,120	13,230											55,875
Senior Supplies Officer	60	12,500	13,750	15,000	16,375	17,875											75,500
Medical Records Consultant 4 months per annum	8	3,750	3,750														7,500
2 Advisors per year x 3 mths x 3 yrs @ $2,000 per mth	18	12,000	12,000	12,000													36,000
Building Supervisor	60						$10,000	$11,000	$12,000	$13,100	$14,300						60,400
Survey and Evaluation Officer	60						10,000	11,000	12,000	13,100	14,300						60,400
Medical Secretary	60						6,250	6,875	7,500	8,190	8,940						37,755
b) Local personnel																	
Assistant Building Supervisor	60						2,070	2,280	2,490	2,720	2,970						12,530
Drivers (3) for Project Team @ $900 each per annum	180	2,700	2,970	3,240	3,540	3,860											16,310
Watchmen (4) for Project Team houses @ $480 each	240	1,920	2,110	2,300	2,510	2,740											11,580
c) Counterpart Personnel Medical Training Officer	60											$4,025	$4,425	$4,825	$5,205	$5,745	$24,225

	M/M	USAID 1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	I/AMREF/OTHER DONOR AGENCIES 1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	MOH 1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	5-YEAR TOTALS PER CATEGORY
Public Health Nurse	60											3,050	3,355	3,660	3,995	4,365	18,425
Sanitary Overseer	60											3,050	3,355	3,660	3,995	4,365	18,425
Supplies Officer	60											2,500	2,750	3,000	3,275	3,575	15,100
Vital Statistician	60											3,300	3,630	3,960	4,320	4,720	19,930
Medical Records Technician	60											2,500	2,750	3,000	3,275	3,575	15,100
Medical Secretary	60											3,230	3,550	3,870	4,225	4,625	19,500
d) Staff travel benefits: East African staff Project Coordinator/Medical Training Officer, wife, 2 children @ $100 each, Nairobi-Juba		400	440	480	530	580											2,430
Public Health Nurse, husband, 2 children @ $100 each, Nairobi-Juba		400	440	480	530	580											2,430
Sanitary Engineer, wife, 2 children @$100 each Nairobi-Juba		400	440	480	530	580											2,430
Overseas staff Medical Records Consultant		1,000	1,100														2,100
Building Supervisor, wife, 2 children @ $1,000 each							4,000	4,400	4,800	5,240	5,720						24,160
Survey/Evaluation Officer wife, 2 children @ $1,000 each							4,000	4,400	4,800	5,240	5,720						24,160
Senior Supplies Officer wife, 2 children @ $1,000 each		4,000	4,400	4,800	5,240	5,720											24,160

	USAID					I/AMREF/OTHER DONOR AGENCIES					MOH					5-YEAR TOTALS PER CATEGORY
	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	
Medical Secretary, husband 2 children @ $1,000 each						4,000	4,400	4,800	5,240	5,720						24,160
Annual leave to Nairobi Project Team and families 23 passages @ $200 each	(16) 3,200	3,520	3,840	4,190	4,570	(12) 2,400	2,640	2,880	3,140	3,430						33,810
SUB-TOTAL PERSONNEL COSTS	74,520	80,395	81,320	75,695	82,625	42,720	46,995	51,270	55,970	61,100	21,655	23,815	25,975	28,290	30,970	783,315

	USAID					I/AMREF/OTHER DONOR AGENCIES					MOH					5-YEAR TOTALS PER CATEGORY
	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	
2. Training costs including transportation and subsistence																
a) Reorientation courses for medical assistants and refresher courses for CHWs. 4 courses 1st yr, 8 courses 2nd yr, 12 courses 3rd yr, 16 courses 4th and 5th yrs for 20 trainees per one week course @ $2,550 per course ($127.50 per trainee, (See Part 5,B)	$10,200[1]	$20,400[1]	$30,600[1]	$32,040[1] (80%)	$26,930[1] (60%)									8,160 (20%)	17,950 (40%)	146,280[1]
b) Seminars and workshops for medical assistants, CHWs and other health personnel in principles of organization, planning and communications conducted by CODEL member Maryknoll Fathers. 4 courses 1st yr, 8 courses 2nd to 5th yrs for 15 trainees per one week course @ $2,000 per course or ($133.33 per trainee, See Part 5,B)	8,000[2]	16,000[2]	17,600[2]	19,200[2]	20,960[2]											81,760[2]

[1] No of trainees in 1st yr=80; 2nd yr=160; 3rd yr=240; 4th and 5th yrs=320; total=1,120.

[2] No of trainees in 1st yr=60; 2nd, 3rd, 4th and 5th yrs=120; total=540

	USAID					I/AMREF/OTHER DONOR AGENCIES					MOH					5-YEAR TOTALS PER CATEGORY
	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	
c) Sudanese Counterpart Training																
Medical Training Officer for Master of Public Health degree		$12,000														$12,000
Vital Statistician for MPH degree		12,000														12,000
Public Health Nurse and Sanitary Engineer one-year course at University of Ibadan @ $6,770 each		13,540														13,540
Medical Records Technician and Supplies Officer 4-month in-service courses in Nairobi @ $2,000 each		4,000														4,000
Medical Secretary 4-month course in Nairobi		3,000														3,000
Construction and contingency training in East Africa 2 per yr x 3 months x 3 yrs @ $1,000	6,000	6,000	6,000													18,000
SUB-TOTAL TRAINING COSTS	$24,200	$86,940	$54,200	$51,240	$47.890									$8,160	$17,950	290,580
			($264,470)											($26,110)		

	USAID					I/AMREF/OTHER DONOR AGENCIES					MOH					5-YEAR TOTALS PER CATEGORY
	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	
3. Commodity costs:																
a) Transport																
i) Landrovers for 8 CHWTSs @ $17,200 each including 25% spare parts	(1) 17,200	(4) 68,800				(3) $51,600										137,600
ii) 3 Landrovers per province (6) (supply/supervision/immunization) @ $17,200 each	(18) 309,600															309,600
iii) 3 project vehicles 2 Landrovers @ $17,200 each and 1 Station wagon @ $6,250	(1) 17,200					(2) 23,450										40,650
iv) bicycles for CHWs and MA supervisors-100 1st yr. 150 2nd-5th yrs @ $125 each		18,750	20,625	22,500	24,560	12,500										96,935
b) Communications HF radio units for 8 CHWTSs and MOH base station Juba @ $2,500 each						(5) 18,750	(4) 15,000									(9) 33,750
c) Equipment																
i) Equipment/instruments for 2 dispensaries x LS 1306	6,660															6,660
ii) IVS Grinding Mills for 4 CHWTSs		(4) 10,000														10,000
iii) Building tools/equipment for self-help building programme	10,000	1,000	1,000	1,000	500											13,500

	USAID					I/AMREF/OTHER DONOR AGENCIES					MOH					5-YEAR TOTALS PER CATEGORY
	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	
iv) Teaching equipment-film projector, overhead and slide projectors, flip board and stand, etc.	$ 3,000		$ 1,500													$ 4,500
v) Office equipment for Project Team: tables, desks, filing cabinets, chairs, cupboards, typewriters, duplicator, miscellaneous	7,500		1,500													9,000
d) Drugs and medical supplies (6 months supplies) for 2 dispensaries x LS 1614	8,230										8,230					16,460
e) Furniture for staff houses and bachelor quarters						5,000					20,000					25,000
SUB-TOTAL COMMODITY COSTS	379,390	98,550	24,625	23,500	25,060	111,300	15,000				28,230					705,665
			(351,125)					(126,300)					(28,230)			

	USAID					I/AMREF/OTHER DONOR AGENCIES					MOH					5-YEAR TOTALS PER CATEGORY
	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	
4. Construction Costs:																
a) 2 CHWT Schools, 2 dispensaries (See Part 5,E)	766,770*															766,770
b) Bachelor quarters for two project staff 1,582 ft² @ $3,125 ft²	49,750															49,750
c) Four 2-bedroom houses 1,067 ft² @ $3,125 ft²	(2) 66,680					(1) 33,340					(1) 33,340					(4) 133,360
Contingencies 10%	88,000					3,300					3,300					94,600
SUB-TOTAL CONSTRUCTION COSTS	971,200					36,640					36,640					1,044,480

* Cost estimates as of 3/78, inflation factor, no contingency cost included in estimates.

	USAID					I/AMREF/OTHER DONOR AGENCIES					MOH					5-YEAR TOTALS PER CATEGORY
	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	
5. Other Costs:																
a) Transportation Costs																
i) Fuel																
- 8 CHWTSs vehicles 10,000 miles each @ $.75 mile											(4) 30,000	(8) 60,000	(8) 66,000	(8) 72,000	(8) 78,000	306,600
- 18 provincial health vehicles 10,000 miles @ $.75/mile											(18) 135,000	(18) 148,500	(18) 162,000	(18) 176,850	143,050	815,400
- 2 project vehicles 25,000 miles @ $.75/mile and 1 town project vehicle 10,000 miles @ $.50/mile	42,500	46,750	51,000	55,675	60,775											256,700
- delivery of 29 vehicles Mombasa-Juba including driver travelling expenses x $250 each vehicle	(20) 5,000	(4) 1,000				(5) 1,250										(29) 7,250
ii) Aircraft flying costs for supervision, communication and evaluation of project:																
- quarterly visit to each CHWTS																
- quarterly visit for AMREF support staff Nairobi-Juba return																
- semi-annual visit to Khartoum for programme coordination with AID Sudan (AMREF) aircraft or commercial if available) 120 flying hrs p.a. $235/hr	28,200	31,020	33,840	36,940	40,340											170,340

	USAID					I/AMREF/OTHER DONOR AGENCIES					MOH					5-YEAR TOTALS PER CATEGORY
	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	
b) Office Supplies and Materials	1,000	1,100	1,200	1,310	1,430											6,040
c) Printing, postage, reproduction of teaching materials	3,000	3,300	3,600	3,930	4,290											18,120
d) Building supplies and materials for self-help building programme	10,000	11,000	12,000	13,100	14,300											60,400
SUB TOTAL OTHER COSTS	89,700	94,170	101,640	110,955	121,135	1,250					165,000	208,500	228,000	248,850	271,650	1,640,850
	(517,600)					(1,250)					(1,122,000)					

	USAID					I/AMREF/OTHER DONOR AGENCIES					MOH					5-YEAR TOTALS PER CATEGORY
	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	1st Yr	2nd Yr	3rd Yr	4th Yr	5th Yr	
•. Other Support Costs: IMRF and AMREF Headquarters and material costs																
IMRF Executive Director (20%)	5,000	5,500	6,000	6,500	7,150											30,150
IMRF Administrative Asst (20%)	2,500	2,750	3,000	3,275	3,575											15,100
AMREF Accountant and Supplies Officer (100%)	10,000	11,000	12,000	13,100	14,300											60,400
AMREF Management and Training staff support (20%) (3 people)	25,000	27,500	30,000	32,750	35,750											151,000
Other direct costs: Rent telephone, postage, light and water	9,350	10,285	11,220	12,250	13,370											56,475
Insurance and bank charges	3,375	3,715	4,055	4,425	4,830											20,400
Printing and stationery	1,500	1,650	1,800	1,965	2,145											9,060
General expenses	2,100	2,310	2,520	2,750	3,000											12,680
Travel and subsistence for project management, supervision and evaluation:																
4 staff x 45 days x $25/day	4,500	4,950	5,400	5,900	6,440											27,190
Contingency cost	25,000	25,000	25,000	20,000	10,000											105,000
SUB-TOTAL OTHER SUPPORT COSTS	88,325	94,660	100,995	102,915	100,560											487,455
			(487,455)													
TOTAL PROJECT COST	1,627,335	454,715	362,780	364,305	377,270	191,910	61,995	51,270	55,970	61,100	251,525	232,315	262,135	295,090	302,620	4,952,335
			(3,186,405)					(422,245)					(1,343,685)			

ADDENDUM

ADDRESSING SPECIFIC QUESTIONS RAISED BY A.I.D./W.

IMRF Executive Director, Mr. Thomas Drahman and IMRF Board Member, Dr. Joseph Kennedy, attended an AID/W Project Committee Meeting on April 26, 1978 to review the I/AMREF OPG Proposal (for assistance towards implementation of Primary Health Care Program, Southern Region Sudan, February 1978). Although the Committee agreed that the proposal was conceptionally sound, several AID/W concerns and issues were raised in relation to the proposal format and content.

These concerns/issues were related to I/AMREF which has addressed them with REDSO/EA concurrance in a cable from REDSO/EA for Mr. M. McDaniel AFR/DR.

This additional information has been included in the attached revised I/AMREF OPG Proposal, and the I/AMREF Comments are given below in sequence with the issues raised in paragraph 2 REFTEL cable (P 052020Z, May, 1978) from AFR/DR to REDSO/EA:

AID/W Project Committee Issue #1:

The Project Proposal as written implies and alludes to background information not contained in paper, i.e., GOS Health Strategy for the South, GOS plan for training primary health care workers, social economic-conditions of country, etc.

I/AMREF Comment: - GOS policy regarding Primary Health Care in the Southern Region in presented in detail in Primary Health Care Program, Southern Region, Sudan 1977/78-1983/84 (Juba, 7 February 1976) more commonly referred to as the "Green Book". The I/AMREF OPG Proposal is to undertake a portion of the GOS PHCP and must be read in the context of the Green Book. Instead of summarizing the Green Book in the proposal, I/AMREF has recommended that all copies of the revised proposal be distributed with the Green Book as an annex. (On 7 June, 1978 I/AMREF sent multiple copies of the Green Book via PanAm to AFR/DR.)

AID/W Project Committee Issue #2:

Greater elaboration is needed in regard to AID financial inputs as it relates to project outputs.

I/AMREF Comment: Reference is made to Parts I and V: Summary and Recommendatio and Financial Pl[illegible] and AID Financial Input.

AID/W Project Committee Issue #3:

Construction components, i.e., two dispensaries and two training centers. Committee questioned need for model institutions of such magnitude as well as (a) the ability of GOS to replicate in other areas and (b) their ability to meet operational costs after completion of the project. If dispensaries were to be constructed as planned, based on the two contemplated, (one for every five villages) costs would exceed US$ 20 million. If this is not the plan, rationale is needed for construction of model facilities. Additionally, is there a need for training centers in each province. Final concern is compensation salaries for primary health care workers and provision of medical supplies after training is received. Who will pay: villages or GOS?

I/AMREF Comment: Training Schools - The PHCP is based on the training of a new cadre of staff, the Community Health Worker, (CHW). CHW's will be recruited from the villages in which they will serve. It is considered essential that they be trained in a similar, nearby, rural setting. The training involves a considerable amount of practical field work, some of which is to be done in the trainees' own villages. On completion of training, he tutors are to be involved in follow-up and refresher training. For this reason, it is proposed to have at least one school in each of the 6 provinces plus an extra school in each of the 2 largest provinces. (The regional government has not yet decided whether 7 schools are required - as stated in the "Green Book" - or 8, as subsequently stated by the Ministry of Health.) In order to begin training, four schools were established in 1977, three of which were located in temporary premises that are inadequate for the longer term. The first priority is to get

these schools into more suitable permanent quarters and to establish the remaining schools. As an aftermath of the 17 years of civil strife there is an absolute shortage of all types of building in the Southern Region of the Sudan. In addition to being necessary as training sites for CHW's, the buildings are also required for re-orientation courses and refresher courses for other staff involved in the PHCP. During those periods when not in use for CHW training, the buildings will serve as training for village midwives, environmental technicians, etc.

The proposed school buildings and staff houses are the simplest and most economical permanent structures feasible. Negotiations are underway with other donors for assistance with some of the other schools.

Dispensaries - The two project dispensaries will be training dispensaries, with staff housing, built in the vicinity of each of the two community health worker training schools at Liria and Akat. The 4 or 5 PHCU's around these dispensaries will be built up by self-help with I/AMREF providing some materials and the technical support. These primary health care complexes (dispensaries and PHUC's) will be used for training the student CHW's and students for other training programs undertaken at the CHWTS's when the schools are not used for CHW training. The Primary Health Care Complexes will also carry out health promotive, preventive and curative functions for their respective communities. The replication value of the dispensaries would be as training dispensaries for other CHW Training Schools. The term model is therefore not appropriate in relation to the overall GOS program for construction of dispensaries.

The GOS program envisages the building of 61 permanent dispensaries and the renovation of a further 30. At the same time, the program envisages the construction of 519 new primary Health Care Units (PHCU's) the the renovation of 189. These simple buildings would meet the minimal requirements for a comprehensive rural health service.

Some dispensaries and PHCU's have already been built near the Lirangu School with assistance from German Caritas. Negotiations are being conducted for further assistance.

Building cost estimates, although high, are commensurate with similar construction costs in other remote areas of Sudan.

Compensation/Salaries - The Government of Sudan proposes in the "Green Book" that the CHW will be "recruited and supported by the local community and paid by the local government". The CHW is a civil servant and will continue in that status until such time as the community is able to meet his remuneration. The time this change will take place will differ from one village to another. The salary stated is S£265 ($662) per annum.

The proposed numbers of CHW's in training and service and the budget to cover them is given in tables 18 and 19 of the "Green Book".

The first group of CHW's who completed training in 1978 are currently being paid from Central Government Funds.

Copy of letter:-

The Democratic Republic of Sudan
REGIONAL MINISTRY OF HEALTH
& SOCIAL WELFARE
PRIMARY HEALTH CARE PROGRAMME
SOUTHERN REGION - JUBA

Reference: RM/MOH&SW/SR/II.A.7/8

Date: 6th April, 1977

Dr C.H. Wood,
AMRF, Nairobi, Kenya.

Dear Dr Wood,

Re: Further assistance to PHCP-SR

As the operational scope of the PHCP-SR widens, our local resources become overstretched particularly in the field of personnel. We therefore strongly feel that AMRF should consider continuation and increase of assistance given in 1976 and 1977 towards implementation of the PHCP by providing extra staff and support funds in the following areas of activity.

1. Training Programme

While one staff from AMRF could manage the training of CHW Tutors this would not be possible in case of supervision of the training and work of CHW and other staff working with them in the rural areas. We would thus welcome a health officer, a public health nurse, and support funds as a contribution to refresher courses.

2. Building Programme

The Regional Ministry of Health and Social Welfare believes solving construction difficulties by using the self-help reliance of the people to build low cost units using local materials. But for the people to produce functionally acceptable units they need to be directed by a building foreman who is not at present available with the Ministry. We request AMREF to provide such a foreman and support funds for such low cost buildings.

3. Information System

PHCP will depend for its success on well designed forms and records to be used in dispensaries and PHC Units. So far materials are not yet available for use and assistance towards this line is considered of great value to the PHCP.

4. Supply System

We are expecting a great increase of supplies in our stores. At present we are experiencing difficulties with keeping of our stores in order and with distribution and ordering of supplies - What we need is a short term expert to organise our stores and re-train existing staff of the Ministry.

We are asking you to consider these requests and to look for funds towards their support and we hope this will meet your favour.

With best regards.

Signed by: Dr Justin Yac Arop, Minister of the Regional Ministry of Health & Social Welfare - JUBA.

c.c. Director,
PHCP - SR, Juba.

APPENDIX II

JOB DESCRIPTIONS OF PROJECT STAFF

POSITION: Project Coordinator/Medical Training Officer 5 year post

QUALIFICATIONS:
Registered Medical Practitioner. Further training in Public Health an advantage. Willingness to learn spoken Arabic.

EXPERIENCE:
At least 5 years experience, preferably in Africa, involving both rural health practice and teaching.

RESPONSIBLE TO:
Director, PHCP, Southern Region Sudan
Director of Training AMREF

RESPONSIBLE FOR:
As Project Coordinator

All PHCP staff - as instructed by the Director of PHCP

As Medical Training Officer

AMREF Public Health Nurse and Public Health Officer

FUNCTIONAL RELATIONSHIP WITH
As Project Coordinator

All Hq. staff of the Ministry of Health & Social Welfare and Provincial staff concerned with the PHCP.

As Medical Officer Training

All Tutors in CHW schools and other training institutions.

DURATION
Two year contract minimum - extension encouraged.

DUTIES:
As Project Coordinator:-

To assist the Min. of Health & Social Welfare, Southern Region Sudan implement its Primary Health Care Programme
To undertake the personnel management of all AMREF Sudan staff
To liase with AMREF Nairobi.

As Medical Officer Training:-

To assist the PHCP with all matters related to the basic and continued training of Community Health Workers and other staff working with them in the rural areas. In particular to:-

a) Develop 8 CHW schools
b) Train tutors for these CHW schools
c) Continue development of a curriculum and training materials for the CHW schools
d) Develop orientation courses for all health workers related to CHW's
e) Develop refresher courses for CHW's
f) Supervise the running of the CHW schools
g) Liase with other basic health training programmes.

To supervise the activities of the AMREF Public Health Nurse and Public Health Officer

Appendix II (cont'd)

POSITION: Public Health Nurse (5 year post)

QUALIFICATIONS:
RN with bias towards maternal, child health, nutrition and public. Willingness to learn spoken Arabic.

EXPERIENCE:
Five year preferred in all of the above as well as social welfare.

RESPONSIBLE TO
Director of PHCP (Southern Region), Medical Officer (AMREF)

RESPONSIBLE FOR:
Village midwives, (indirect).

FUNCTIONAL RELATIONSHIP WITH:
Provincial Nutrition Officer, Social Welfare Officer, Senior Public Health Nurse, Nutrition Assistants, Public Health Nurses, SSU Basic Units and/or Village Developmer Committees and/or Village leaders, medical assistants, village nurses and social workers.

DURATION:
Minimum 2 year contract - extension encouraged.

DUTIES:

(a) Training

- a1. Refresher courses for future nurses at PHCP complex and village midwi in MCH, nutrition, Public Health.
- a2. Reorientation courses for existing nurses at PHCP level and village midwives in MCH, nutrition, Public Health.
- a3. Any training required in existing nursing schools in Public Health and related fields.
- a4. Assist in the training of tutors of community health workers in PH, MCH, nutrition, etc.
- a5. Report regularly on activities and contribute to any special report requirements.

(b) Practical Fieldwork

- b1. Organize and conduct MCH clinics at the village level.
- b2. Conduct nutrition demonstrations at village level using local availabl foods.

POSITION: Public Health Officer (5 year post)

QUALIFICATIONS:
Certified Public Health Inspector or Health Officer. Willingness to learn spoken Arabic.

EXPERIENCE:
5 years, particularly environmental health field work in rural areas.

RESPONSIBLE TO:
Medical Officer (AMREF), Director PHCP (Southern Region).

RESPONSIBLE FOR:
Community Health Workers in field, (indirectly).

FUNCTIONAL RELATIONSHIP WITH:

Senior Provincial Public Health Inspector, Sanitary Overseer, SSU Basic Units, and/or Village Development Committees, and/or local leaders, and village agricultural and water assistants.

DUTIES:

(a) Training

- a1. Refresher courses for existing PHC Program tutors, future community health workers and sanitary overseers in subject of competence.
- a2. Reorientation courses for existing Medical Assistants, nurses and Sanitary Overseers in PHC complexes (rural).
- a3. Assist in training programs for Sanitary Overseers and existing Medical Assistant Schools.
- a4. Assist in the training of Community Health Workers in Environmental Health.

(b) Practical Field Work

- b1. With the aid of PHC personnel aid in the demonstration of practical Environmental Health techniques in village communities, i.e. pit latrines, wells and water supply, rubbish pits, vermin control, mosquito control, community hygiene and housing improvement.

(c) Reporting

- c1. Report regularly on activities and contribute to any special report requirements.

DURATION:
Minimum two year contract - extension encouraged.

Appendix II (cont'd)

POSITION: Self Help Building Supervisor (5 year post)

QUALIFICATIONS
Ability to communicate in English; possibly with trade/technical qualifications in building; willingness to learn spoken Arabic.

EXPERIENCE:
Five or more years essential particularly if candidate is without trade/technical qualifications.

RESPONSIBLE TO:
Director, PHCP (Southern Region), Medical Officer (AMREF).

RESPONSIBLE FOR:
Counterparts.

FUNCTIONAL RELATIONSHIP WITH:
Health Inspectors, SSU Basic Units and/or Village Development Committees, village leaders, C.H. Workers.

DURATION:
Two year contract minimum, extension encouraged.

DUTIES:

(a) Promotion of self help building programs with regards to PHC Program in village communities and aiding in the actual construction of units.

(b) Advising and helping village communities in improving their own level of housing.

(c) Provide an input into communities with regards simple and relevant (village) technology.

(d) Any building or renovation in the Southern Region PHC Program as required.

(e) Training of counterparts in the above.

POSITION: Survey Officer (Social Scientist) 5 year post

QUALIFICATIONS:
Masters level - Sociology or Anthropology. Some knowledge of statistics essential. Willingness to learn spoken Arabic.

EXPERIENCE:
2-5 years preferred with field work.

RESPONSIBLE TO:
Director, PHCP (Southern Region), Medical Officer (AMREF)

RESPONSIBLE FOR:
Junior field personnel.

FUNCTIONAL RELATIONSHIP WITH:
Area and District Commissioners of Health and Medical Assistants.

DURATION:
Two year contract minimum, extension encouraged.

DUTIES:

(a) Establishing contacts in rural communities and carrying out surveys and investigations in the field of applied social sciences.

(b) Developing plans of operations, conducting field work, testing procedures, collecting and analyzing data reporting and relative administrative work.

(c) Carrying out relevant sociological research in rural communities particularly in the field of community action and its links with the health care program.

(d) Participate in the training of Community Health Workers, especially in the field and especially with regard to statistics and evaluation of the program.

(e) Following up and evaluating the entire Primary Health Care Program in the Southern Region.

Note: Any research publications of the Survey Officer in any way connected with the above will be with the permission of and under the auspices of the Regional Ministry of Health and the African Medical and Research Foundation.

Appendix II (cont'd)

POSITION: (Administrative) Secretary to the AMRF-PHCP (SR) 5 year post

QUALIFICATIONS:
Secretarial training essential, shorthand, office routine and simple book-keeping qualifications and/or experience preferred.

EXPERIENCE:
2.5 years preferred.

RESPONSIBLE TO:
Medical Officer (AMREF)

RESPONSIBLE FOR:
Any local office and general personnel.

FUNCTIONAL RELATIONSHIP WITH:
Administrative staff, Ministry of Health.

DURATION:
Two year contract minimum, extension encouraged.

DUTIES:

(a) All secretarial, book-keeping and general administrative duties regarding the AMREF program in the Southern Region PHCP Office.

(b) All typing, office routine and general duties in support of following AMREF personnel: (a) Medical Officer, (b) Survey Officer, (c) Supply Officer, (d) Public Health Officer and Nurse, (e) Building supervisor, and (f) any short-term consultants.

(c) Training of 2-3 counterparts in the above duties.

Appendix II (cont'd)

POSITION: Senior Supply Officer (5 year post)

QUALIFICATIONS:
Minimum Senior Secondary School; preferred with administrative or technical qualification; organizational abilities essential.

EXPERIENCE:
5-10 years experience in stores distribution, ordering, supply logistics. Medical bias and ability to train preferred.

RESPONSIBLE TO:
Director, PHCP (Southern Region); Medical Officer (AMREF).

RESPONSIBLE FOR:
All junior medical stores personnel in PHC Program (SR).

FUNCTIONAL RELATIONSHIP WITH:
Assistant Director of Medical Stores and the Senior Store-Keeper in Regional Medical Stores.

DURATION:
Two year contract - extension encouraged.

DUTIES:

(a) Assist with the reorganization and improvement of existing system of Regional Medical Stores.

(b) Establish a simple working system for ordering and storing of medical equipment and drugs for the Central PHCP Store.

(c) Develop a simple working system of distribution for medical supplies to the outlying PHC Units.

(d) Train and supervise counterparts in (a), (b), and (c) above.

(e) Report regularly on activities and contribute to any special report requirements.

(f) Supervise procurement and storage of project equipment, materials and supplies.

APPENDIX III

PROJECT STAFF

List of currently available staff, but posts have been advertised and lists are not yet closed.

1. Project Coordinator/Medical Training Officer
   Dr Sem Singh Bhachu

   Dr Bhachu has been in Juba for 2 years undertaking the initial stages of the AMREF project. It is largely due to his success in helping the Ministry of Health & Social Welfare to start the Primary Health Care Programme that AMREF has been invited to supply more technical aid.

   Dr Bhachu is a male Tanzanian citizen aged 35. He is married with two children. He qualified in Dar-es-Salaam in 1970. He worked in the Tanzanian Government service for 5 years starting as a District Medical Officer and finishing as a Regional Medical Officer. He was involved in teaching auxiliary health workers. He speaks Swahili fluently and a little Arabic.

2. Public Health Officer
   Mr Abdul W. Choudhry

   Mr Choudhry is a resident of Kenya and works as a consultant to AMREF on occasions.

   He is a British Subject aged 40 married with 4 children. He first qualified as a Public Health Officer in Nairobi in 1959. While working as a Malaria Control Officer for Nairobi City Council, Entomologist for the Ministry of Health, Division of Vector Borne Diseases, and Pest Control Officer for the National Irrigation Board, he has undertaken numerous further courses in Tanzania, Nigeria, Egypt, Denmark and U.K. He has 11 publications.

3. Public Health Nurse
   Ms Abeba Wolderufael

   Ms Abeba is currently living in Kenya, having resigned from her post as Project Manager of the Integrated Family Life Education Project in Ethiopia.

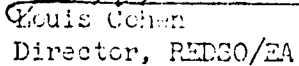
   Ms Abeba aged 38, obtained her RN at the Ethiopian Red Cross School of Nursing in 1955. She was the Chief Public Health Nurse at the Public Health College and Training Centre at Gondar Ethiopia and Director of Public Health Nursing at the Ministry of Health. She has a Diploma in Public Health Nursing from the American University of Beirut, A B.Sc. in Public Health Nursing from Syracuse University and an M.Sc. in Adult Education and Rural Sociology from Cornell.

APPENDIX IV

INITIAL ENVIRONMENTAL EXAMINATION

Project Location:	Sudan, Southern Region
Project Title:	Sudan Primary Health Care
Project Number:	AMRF-OPG
Life of Project:	5 years
IEE Prepared By:	REDSO/EA, May, 1978

Environmental Action Recommended: Negative Determination



Louis Cohen
Director, REDSO/EA

Concurrence:

Date: [illegible] 2 [illegible]

Assistant Administrator's Decision:

Date:____________

SOUTHERN SUDAN PRIMARY HEALTH CARE

I. Project Description

A separate section of the Sudan National Primary Health Care Program of 1975, was prepared dealing with Southern Sudan. The objective of the program (essentially the same for the North and the South) is to deliver Health Care services to the rural and nomadic population. However, the program for the Southern Region is designed to accommodate those unique features innate to the region.

In both programs, the Primary Health Care Unit (PHCU) is the first echelon for health care delivery to the rural population. For each five PHCU's, a Dispensary will be centrally established as a second echelon for referrals and treatment not available in the PHCU. As a third and fourth echelon, the dispensary will be supported by District and Provincial hospitals, however, this project will concentrate its efforts on the construction of two dispensaries and two training schools for primary health care personnel.

The activities proposed for the Southern Region will be carried out through an OPG by the African Medical Research Foundation (AMRF.) The AMRF has been engaged in a Primary Health Care Program in Southern Sudan since 1976, and the inputs of this project are designed to increase this assistance and train 450 Community Health workers (CHW), and 1,120 medical assistants and CHW will receive reorientation training by 1982. The inputs to this project funded by AID, include the following:

Technical and support personnel
Training and re-training course costs
Vehicles and commodities
Construction costs for two dispensaries, and
Two training centers

II. Climate and Ecology

The climate of Southern Sudan ranges between the tropical and the equatorial. When the North wind blows, there is a definite dry season, lasting for about three months. At this time, only 30 mm of rain are to be expected, but even so, the humidity is quite high and the noon cloud coverage averages more than 50%.

The long wet season cannot really be said to have either one or two obvious maxima, but rather rises to a monthly mean of more than 4" in April, and continues at much the same level for six to seven months. The influence of the relief on the rainfall totals is most marked, for the isohyets run almost parallel to the contours at the edge of the ironstone

plateau, and Juba at latitude 4 51' N, has less rain than Wau at latitude 7 42' N. The mountain masses at Southeast Equatoria have essentially the same climatic pattern as the rest of the region, but storms are more frequent over the peaks at all times of the year.

The topography of the project area consists mostly of rolling savanna terrain of varying degrees of elevation interdicted by streams, rivers and swamps. Climatic conditions including extremely high seasonal rainfall, lasting between six to seven months, further exacerbate the difficult terrain.

One Training Center and Dispensary is to be constructed at Liria, a village approximately 70 Km east of Juba. The village is situated between hills and granite outcrops that extend south to the mountains bordering Uganda. The vegetation in the immediate area is mostly scrub accacia; however, bored wells indicate the presence of ground water. The ground surface slopes gradually to the east, with good drainage. Buildings observed in the area show no signs of foundation problems even where shallow footings were evident.

The other Training Center and Dispensary is to be constructed in Akat, approximately 50 Km from Runibek (capital of Lake Province) and over 500 Km from Juba. This area is mostly flat savanna with low growing scrub and scattered trees and nut palm. The soil is light sandy loam underlain with dense laterite; however, there is no visible evidence of drainage problems.

III. Construction

The increased demand on the municipal water supply by the construction and operation of these facilities will not present a problem. There is no municipal sewer available for connection, so septic tanks of approved design will be installed for all buildings. Construction will be on communal lands which have been allocated by the Government to the Ministry of Health, who will have ultimate responsibility for their utilization and maintenance. At both locations, the two facilities have not been sited on one compound, but have been sited roughly one on one side of the village and the other on the opposite, thus assuring separate, but cooperative operation.

Buildings will be simple one story structures using steel frame, trusses and metal roof. Walls will be sand cement block or cut laterite plastered smooth. Preliminary sketch plans have been prepared for all buildings and final construction plans and specifications are under preparation. Buildings have been sited adjacent to existing roadways so that access to the compounds will be assured.

The chosen sites and the anticipated use will not cause excessive traffic. Some dust can be expected, however, the increase attributable to

this activity will be hardly noticable. No other air pollutants will be generated, and noise resulting from this project will be negligable.

IV. Discussion of Impacts

A. Land Resources

All buildings have been sited on communal lands in what is considered an urban area. The selected sites are ample and removed from congested areas, i.e. markets, etc. Provisions have been included for the disposal of refuse. There is no part of this project that will change soil characteristics, nor will natural resources be extracted. The sites are in a populated area (urban) and no land clearing will be required. The population of the village will be increased by the number of instructors and students involved at each facility; however, the population of remote villages in the Sudan is a very fluid figure as people come and go, depending on market days, public meetings, holidays etc. Therefore, the addition of the anticipated numbers will not be noticed.

B. Water Quality

The water utilized in this activity will only be for domestic use and will be from the municipal system presently in use. Due care and consideration will be given to the location, design and construction of pit latrines and septic tanks to insure that no system or source of water could be contaminated.

C. Atmospheric

Except for dust due to added traffic, there will be no air additives or pollutants.

D. Natural Resources

There will be an increase in the use of municipal water, but this will have only a slight effect on the total use by the village. No other natural resources will be affected by any activities of this project.

E. Cultural

No physical symbols will be altered by this activity. Improved health care and modern medicine will have some effect on the traditional medicine man or witch doctor's power and income; however, community participation should ameliorate this problem.

F. Socio-economic

1) No significant changes in Socio-economic patterns are anticipated. The project will provide additional employment opportunities for women to the limited extent that women are recruited as community health workers. As midwives and some traditional herbalists and bone setters are

still active in most Sudanese communities, health workers will not be perceived as performing entirely new roles, but rather, roles which have some similarities with existing "traditional" specialists.

2) As the community health worker will be selected by the community, there should be a very low incidence of movement of individuals directly involved in the project. The nomad community health workers, of course, will be moving within the greater community of the group he/she will serve. A possible impact of the project which may alter the structure of the population in the long run is an overall decrease in infant mortality. As more and more children survive, parents will have to adjust to a larger family size. The eventual introduction of family planning methods should address this trend in the longer term.

3) An important goal of the project is to introduce improved health ideas and practices into the community and family setting. The new ideas and practices will certainly alter traditional medico-religious beliefs and practices to some extent. They may also reduce the authority and income of indigenous healers and "witches"; these individuals may be a source of resistence to the achievement of project goals. The role of the village development committee and the locally recruited health worker will be critical in maximizing certain desired changes in health care, while minimizing undesirable consequences of such changes. The identification and use of ehalth technology which is appropriate and supportable in the Sudanese rural environment should reduce the negative impacts resulting from new ideas of health and illness and the introduction of modern preventive and curative practices. It is anticipated, then, that the intended changes in beliefs and practices will have a wide-reaching, but not disruptive, impact on the bulk of the population.

G. <u>Health</u>

This is a public health project. The project is designed to furnish facilities, equipment, drugs and semi-professional know-how to regions or areas where such services do not exist. The entire activity was conceived and is being implemented to improve the health and living conditions of the rural and nomadic population and as such, should produce a positive and beneficial effect on the health of the population in the regions.

V. <u>Recommendations</u>

Environmental impact of this project is not significant and thus a negative determination is recommended.

IMPACT IDENTIFICATION AND EVALUATION FORM

	Impact Identification and Evaluation[1/]
A. LAND USE	
1. Changing the character of the land through:	
a. Increasing the population	L
b. Extracting natural resources	N
c. Land clearing	N
d. Changing soil character	N
2. Altering natural defenses	N
3. Foreclosing important uses	N
4. Jeopardizing man or his works	N
B. WATER QUALITY	
1. Physical state of water	N
2. Chemical and biological states	N
3. Ecological balance	N

1/ Use the following symbols:
N - No environmental impact
L - Little environmental impact
M - Moderate environmental impact
H - High environmental impact
U - Unknown environmental impact

IMPACT IDENTIFICATION AND EVALUATION FORM

G. HEALTH

1. Changing a natural environment------------------------------ N
2. Eliminating an ecosystem element---------------------------- N
3. Public Health services-- M

H. GENERAL

1. International impacts-- N
2. Controversial impacts-- N
3. Larger program impacts--- N

APPENDIX V

PRIMARY HEALTH CARE PROGRAMME

SOUTHERN REGION SUDAN

COMMUNITY HEALTH WORKERS

GUIDELINES FOR FIRST COURSES, 1977

Prepared by:

Training Department
International/African Medical &
Research Foundation

Regional Ministry of Health and Social Welfare, Juba, March, 1977

7. Skin diseases including yaws and scabies
8. Malnutrition and anaemia
9. Venereal diseases
10. Eye infection
11. Poisonous bites and stings (snake, scorpion, dog)
12. Guinea worm.

List 2 — Diseases for referral to Dispensary

1. Leprosy
2. Tuberculosis
3. Sleeping sickness
4. Onchocerciasis
5. Bilharzia
6. CSM (Report to Medical Assistant and not necessarily refer)
7. Ear diseases
8. Kala Azar

To record all births and deaths in the community.

To keep safely and maintain all the equipment, instruments, drugs, supplies in the P.H.C.U.

To keep records of his work.

TRAINING PROGRAMME

A Community Health Worker (C.H.W.) will undergo a basic 9 month practical training This will be followed by refresher courses.

Broad Educational Objectives of Basic Training

On completion of his/her course a C.H.W. will be able to:-

1. Obtain information about customs, habits and taboos that are directly or indirectly related to the health of the community, in which he is serving;
2. discuss community problems with local leaders and help work out solutions for improving the life of the population, and to know the sources of help in the health field;
3. describe, demonstrate and supervise villagers in constructing appropriate methods of improving the village environment in particular
   - improving water supplies
   - disposing of refuse

..../3

- disposing of excreta
- improving housing
- improving food production, storage and hygiene
- control of vectors

4. assist the village midwife in providing care for women during pregnancy, delivery and after birth and in giving advice on child spacing;
5. advise mothers on the care and feeding of children, in particular by completing and maintaining a growth card for all children;
6. control communicable diseases by:-
   - assisting mobile vaccination teams
   - improving the village environment
   - identifying, treating and when necessary reporting and referring epidemics o ver, diarrhoea and respiratory diseases
7. recognise the common causes of sickness, and give treatment for those in list 1 of the job description and refer those in list 2;
8. establish a system of registration of births and deaths, and to complete the necessary forms and returns;
9. establish and maintain an inventory of equipment and supplies in a PHCU and to obtain further supplies;
10. keep the required records and submit reports.

It should be noted that the formulation of the P.H.C.P. in general and the job description of the C.H.W. in particular requires that the C.H.W. is a very practical self-reliant person, capable of working with his community without close supervision. The curriculum is designed to achieve this by concentrating on discussion, practical assignment and field work rather than lecturing and bookwork. For practical assignm... and field work to be an effective learning experience it is essential that students should be given:-

- adequate background knowledge before they start
- detailed briefing, preferably verbal and written instructions, explaining what they should observe, do and report on
- adequate supervision during the field work and opportunities to collect information
- opportunity to report either verbally at a seminar and/or in writing, and to discuss what has been observed, done and learnt.

The whole training programme has been broken down into 11 learning units. Approximate time allocations have been given to each, though these may have to be varied to fit in with local circumstances.

ASSESSMENT

Students will be assessed on each learning unit. Where appropriate the assessment will be based on an evaluation of practical work - a map drawn, a talk given, a latrine constructed - by the tutor, or other person, supervising the assignment, or by short written tests. Assessments will be graded as "passed" or "to be repeated". No student may graduate as a Community Health Worker until each learning unit has been passed. A student failing to pass a unit will be given an opportunity to be re-assessed at a time to be determined by the Principal. Students must retain all assignments returned to them after assessment and to produce them again when required. The Principal will keep a personal records of assessments for each student.

At the end of unit 7 all assessments will be reviewed by the School Principal. After consultation with the Ministry of Health and Social Welfare and the students own supporting community, unsatisfactory students may be discontinued.

The assessment of units 8, 9, 10 and 11 will constitute the final examination. Students failing this examining may be required to repeat any part of it at a time to be determined by the examiners.

OUTLINE OF PROGRAMME

Week	Unit	Activity		Location
1	1	Visits and practical assignments		In and around trai[illegible] school
2 and 3	2	The community - customs, environment and size		Training school
4	3	First Aid		Training school
5, 6 and 7	4	Community field work		Community near
	5	Start family case study		training school
8, 9 and 10	6	The body in health and disease		Training school
11, 12 and 13	7	Dispensary work - practical		Dispensary near training school
14		- report & discussion		Training school
15 and 16		Revision		Training school
17-28	8a	Environmental Health & Community Development	) Basic introduction	Training school
	9a	Maternal & child health, and nutrition	)	
	10a	Diseases and injuries	)	
29-34	8b	Environmental Health & Community Development	) Field work	Students own PHC[illegible] areas
	9b	Maternal & child health, and nutrition	)	
	10b	Diseases and injuries	)	
35 and 36	8c	Environmental health & community development	) Reports and seminars arising out of field work	Training school
	9c	Maternal & child health, and nutrition	)	
	10c	Diseases and injuries	)	
37 and 38	11	Administration and records		Training school

PRE-COURSE UNIT

It is essential that all students should be present before Unit 1 starts. If some students come early they should be occupied with the following activities:-

- maintenance duties at the training school cleaning compound, cutting grass, etc.
- working in school garden
- visits to the local PHCP units Juba/Wau/Malakal
- visits to local market, water supplies, etc.
- visit to dispensary or hospital.

UNIT 1

INTRODUCTION

Week 1

During this period the student will get to know his fellow students and the staff and at the end will be able to:-

1. describe his own community and its health problems
2. describe in outline the P.H.C.P. and his role in it
3. describe what he needs to know and how the course will enable him to learn it.

1. Describe his own community

Each student will prepare, with help from the staff, and present to a study group an account of his community including:

a description of the area, its location, physical features, communications
- the number of people, predominant occupations
- the social organization, leaders, V.D.C., SSU, churches, etc.
- the environment - water supply, excreta and refuse disposal, housing

a description of common illnesses and injuries
- local names for diseases of children and adults
- causes of deaths
- local and personal beliefs about such diseases

a description of health resources and how they are used
- home remedies, local practitioners
- nearest dispensary and hospital

2. Describe the Primary Health Care Programme

Based on the health problems of the students communities an outline of the PHCP will be given so that he will be able to:-
- describe his job
- community development, prevention, treatment and referral of disease;
- describe his relationship with other health workers M.A., nurses, sanitary overseers and village midwife;
- describe his relationship to the community authorities V.D.C. and SSU.

3. Describe what he needs to know and how he will learn it

An outline of the knowledge, skills and attitudes required to fulfil his will be given, emphasizing the practical skills. The curriculum will be explained so that he will be able to
- describe a learning unit, how he will follow it, and how he will be assessed.

ASSESSMENT - a) Presentation of description of own community

UNIT 2

THE COMMUNITY - CUSTOMS, ENVIRONMENT AND SIZE

Week 2 and 3

During this period, through reading, discussion and practical work the student will learn to:

1. describe some aspects of behaviour in his community
2. discuss the relationship between behaviour and illness
3. describe the family in his commun ty
4. describe the physical environment in his community
5. discuss communication and motivation in his community
6. enumerate the population in a given area.

1. Describe behaviour

he will be able to outline some of the important aspects of behaviour in relation to feeding, personal hygiene, child care, pregnancy, child birth, family ceremonies and illness.

2. Relationship of behaviour to illness

he will be able to define habit, custom, health and illness and discuss their relationship

3. The family

he will be able to learn about families by home visiting. He will be ab to collect, analize and record information for a family history

4. The community environment

he will be able to collect information about housing, communication, water supplies, food production, storage and preparation, rubbish and excreta disposal. He will be able to record this information in the form of a report and a m

5. Communication and motivation

he will be able to list the advantages and disadvantages of different wa of communicating with individuals, families and larger groups.

6. Enumerate a population

he will be able to complete a simple census form and compile an age, sex population table.

ASSESSMENT

(a) Presentation of reports on practical assignments including family visited, map and population table.

UNIT 3

Week 4

FIRST AID

When the student CHW goes into any community he will be asked many questions. Before this happens it is important to have some knowledge of First Aid. By lectures, demonstrations, and practical work on each other he will learn to:

1. Assess an accident situation
   - ask what has happened
   - decide what action to take first
   - stop cause of injury (fire, accident) or remove the patient from danger
   - pay attention to personal safety
   - quick examination of patient.
2. Preserve life
   - ensure air passages open
   - control bleeding
3. Prevent the condition from becoming worse
   - cover wounds and bandage
   - immobilize fractures and large wounds
   - position the patient correctly.
4. Help recovery
   - reassure the patient
   - give any other treatment needed
   - move the patient as little as possible and handle him gently
   - relieve pain
   - prevent people from crowding around
   - watch for any change in patient's condition.
5. Arrange for transport
   - improvise a stretcher
   - if seriously injured or ill notify M.A.
6. Do not give anything to eat or drink to a patient
   - who is unconcious
   - who has an internal abdominal injury
   - who may shortly be operated upon.

ASSESSMENT

Checklist of practical assignments including bandaging, splinting, and transport of an injured person.

UNIT 4

Weeks 5 and 6 — COMMUNITY-FIELD WORK

Week 7 — -REPORT & DISCUSSIONS

This period will be spent working in groups and applying the techniques learnt [illegible] it 2 in a community within easy reach of the training school and reporting.

The group will survey a village and prepare a report that will:

- Give the number of persons in the defined area by age and sex.
- Record the number of births and deaths that have occurred in the past year.
- Indicate on a map

    the communications

    houses

    water supplies

    facilities for rubbish and excreta disposal

    food production and storage

From their observation will be able to discuss:

- the behaviour of the community in regard to feeding, personal hygiene, child care, pregnancy, family ceremonies and its relation to illness
- the organization of the community, the role of the headman, village development committee and S.S.U.

ASSESSMENT

Presentation of group reports (verbal) and map.

UNIT 5

Weeks 5, 6	FAMILY CASE STUDY - field work
7	- preliminary reports and discussions

n.b. final report at
end of course

During this period, while working in a local community, each student will be assigned one family which will be observed and helped over a period of 6 months. The family selected will either have a mother about to deliver or some health problem such as a case of chronic diseases e.g. T.b. or malnutrition.

The student will make a number of visits during the initial period to get acquainted with the family and to record basic data, and will present his findings at a seminar.

He will then visit the family not less than once per month to observe their state of health and to give, or obtain for them, what help he can.

On completion of his study he will be able to present a report to a group of his fellow students and staff which will include:-

A description of family and household members by age and sex
home environment
the illness/health problem they suffered from and how they dealt with them.

A discussion - of the family behaviour in relation to health and disease
the help needed to enable them to live healthier lives.

ASSESSMENT

Initial seminar and final report.

UNIT 6

Weeks 8, 9, 10 THE BODY IN HEALTH AND DISEASE

During this period the C.H.W. will learn about the healthy body, and about [illegible] of diseases and how the body fights against them. He will learn how to take a history [illegible] examine a patient, and about the equipment of a P.H.C.U.

At the end of this period the C.H.W. will be able to:

1. Name the different parts of the body
2. Describe in outline the main functions of the body
3. Describe the main causes of common injuries and diseases and how they attack the body
4. Describe how the body fights against disease
5. Take a history of complaints and examine a patient
6. Recognise and use the equipment in a PHCU.

1. Parts of the body

Name the head, eye, nose, mouth, ears, neck, trunk, chest, abdomen, belly, genitals, shoulder, arm, elbow, wrist, hand, fingers, hip, buttocks, leg, thigh, knee, ankle, foot, toes

main bones - humerus, radius, ulnar,
femur, tibia, fibula
spine and ribs.

2. Functions of the body

Outline the functions of the main systems
musculo - skeletal, respiratory, circulatory, digestive, nervous, reproductive.

3. Causes of injuries and disease

Describe the effects of

Trauma - falls, accidents, burns, wounds

Germs - what they are (including worms); how they get into the body, methods of spread, vectors

4. Body defenses

Describe the skin and mucous linings, inflamation, immunity.

..../2

5. History and examinations

Ask questions relevant to presenting complaint

Examine patients with eyes and hands

Practical skills - taking a temperature
- weighing a baby.

6. Recognise and use equipment

Practical skills - clean a wound and apply dressing
- stitch a small wound
- sterilize syringe and needle
- prepare an injection
- give an intra muscular injection.

ASSESSMENT

Checklist of practical procedures including - taking temperature, weighing, dressing a wound, sterilizing a syringe, preparing and giving an injectio , stitching a wounc

Short written test.

UNIT 7

Weeks 11, 12, 13 DISPENSARY - PRACTICAL WORK

14 - REPORT & DISCUSSION

During this period the student will be attached fulltime to a training dispensary in the neighbourhood of the school for 3 weeks. He will:

1. Observe the work of the dispensary, assist the M.A. and practice the techniques that he has learnt in units 3 and 6.
2. Follow 5 cases with home visits.

1. The work of the dispensary

The students will work as extra staff for the dispensary and do such work as is directed by the M.A. in charge. In particular they will observe his management of patients and practice

- history taking and examination
- giving out drugs
- giving injections.

The student will keep a daily diary of activities done. At the end of each week he will anclize the records of patients attending by age, sex and presenting complaint or diagnosis.

2. Case studies

During this period 5 cases, representing acute and chronic illnesses in children and adults and a recent delivery will be assigned to the student.

By home visiting he will be able to describe the home environment, the likely cause of the disease and its effects on the family.

He will be able to present and discuss these cases on return to the training school.

ASSESSMENT

Report on the student by M.A. in charge of dispensary

Student's daily diary and analysis of patients attending

Presentation of 5 cases followed to their homes.

UNIT 8 a

Week 17-18

ENVIRONMENTAL HEALTH AND COMMUNITY DEVELOPMENT - basic instruction

During this period the CHW will learn about the environmental factors that directly affect health in his community and how to work with villagers to improve

1. Water supplies
2. Sanitation
3. Housing
4. Food production and hygiene
5. Control of vectors

He will also learn about other community development activities. Learning will be by lectures, demonstrations, practical work, visits and group discussions.

1. Water supplies

he will be able to:

1. List the main sources of water and the advantages and disadvantages of each type of source
2. List the main methods of water storage
3. Describe in outline the sources of water contamination
4. Describe in detail the main methods of protecting each type of local water source
5. List the diseases spread by contaminated water
6. Describe in outline some simple methods of water purification (boiling, chlorination, iodine and sand filter)

2. Sanitation

Refuse disposal

1. Describe the types of refuse occuring in villages
2. Describe the dangers to health due to poor disposal of refuse
3. Describe the main methods of village refuse disposal - burying, burning, composting.

Excreta disposal

1. Describe the methods of excreta disposal used in villages and their advantages and disadvantages
2. Describe the dangers to health due to poor disposal of excreta and outline the mode of transmission of local excreta borne diseases
3. Describe in detail the construction of a pit latrine.

..../2

3. **Housing**

1. Describe the criteria for an adequate rural house
2. List the materials used for floors, walls and roofs and describe the advantages and disadvantages of each
3. Describe the dangers to health due to poor housing
4. Describe the methods by which rural housing may be improved
5. Describe the factors to be considered in sighting a house and laying out a village.

4. **Food production and hygiene**

1. List the foods commonly used by his community
2. List additional nutrition foods that might be grown in his area
3. Describe the practical methods of producing the above foods including eggs, beans, groundnuts, green vegetables (list to be completed locally)
4. Describe the ways in which food may become unfit for drinking or eating
5. Describe the method of preservation, storage and cooking of local foods and how they may be improved
6. Describe the diseases spread by bad food - particularly milk a. [illegible]
7. Describe the health problems related to food at markets and public eating places and how to control them.

5. **Control of vectors**

1. List the animals and insects in his community which may spread disease - including house flies, tse-tse flies, sand flies, black flie[s] mosquitoes, house ticks, snails and rats
2. Describe the practical steps that can be taken in a village to contr[ol] the spread of these diseases

Other Community activities

1. Discuss [the re]lation of all community development activities to the health of the community
2. D[escribe] how the road from the village to the dispensary and market may be maintained
3. Describe how adult education classes may be organized and what may be learnt
4. Describe the social activities which may take place in a village
5. Describe other communal activities that may take place locally e.g. weaving, carving, etc

ASSESSMENT

UNIT 8 b

Week 29 - 34

ENVIRONMENTAL HEALTH AND COMMUNITY DEVELOPMENT - practical fieldwork in his own PHCU

During this period the CHW will develop the practical skills required for improving his own village environment. In particular he will:

1. Visit the Sanitary Overseer based nearest to his PHCU
   - ascertain the job that he does, what help he may be able to give to the local community and how he may be contacted.

2. Make a detailed environmental study of his village including a description of
   a) water supplies
   b) sanitation
   c) housing
   d) food production and hygiene
   e) vectors
   f) communication

   and record the information in a report and map.

3. Suggest and discuss with the community how a local water source may be improved and if possible do it or at least start it.

4. Clean an area of his village (e.g. around the PHCU or his own house)
   - dig a pit for refuse
   - construct a pit latrine

   if possible this should be done in cooperation with members of the community through their leaders.

5. Make a report on any community development activities in progress including any work on roads, adult education, social activities.

UNIT 8 c

Week 35 and 36 — **ENVIRONMENTAL HEALTH AND COMMUNITY DEVELOPMENT** - reports and seminars

During this period each CHW will complete and present a report on the environmental health and community development of his own PHCU to a group or his colleagues. All reports will be discussed. Further instruction will be arranged to cover problems or lack of knowledge encountered.

ASSESSMENT

Report on the student by the V.D.C. chairman
Presentation of report on his community
Short written test.

UNIT 9 a

Week 17-28 MATERNAL & CHILD HEALTH, AND NUTRITION - basic instruction

During this period the CHW will learn about maternal and child health problems and nutrition. The Village Midwife plays a major role in these activities. The CHW will learn to cooperate with her in providing service. Learning will be by lectures, demonstrations, practical work and discussions.

At the end of this unit the CHW will be able to:-

1. Describe the ways to help keep mothers healthy, before, during and after pregnancy.
2. Describe the ways to help keep children healthy especially those who are "at risk".
3. Describe the ways to maintain and improve the nutrition of his community with local foods.

1. Maternal Health

CHW with the help of V.M.W. will keep mothers healthy before, during and after pregnancy and will care for some of the health problems of women.

Before pregnancy:

The CHW will be able to:-

- recognise the common illnesses of women and treat or refer them
- recognise and refer women who are sterile, to dispensary for further help
- advise on family spacing.

During pregnancy:

The care of women during pregnancy is the job of village midwife, but the CHW should have the knowledge to help wherever possible.

CHW will be able to:-

- recognise pregnancy
- list signs and symptoms of pregnancy and decide the length of pregnancy
- advise mothers on good nutrition, give iron tables, and measure weights
- recognise and refer cases that will require hospital or dispensary management including abortions, malpresentations, pre-eclamptic toxaemia, vomiting, and premature labours
- say when labour has started
- recognise presenting part

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- conduct normal delivery
- deliver placenta
- recognise and refer to dispensary any complications of labour and delivery including malpresentation, retoined placenta, and post-partum bleeding.

After delivery:

A CHW will be able to:

- recognise the common post-delivery complications in first few weeks and deal with them or refer these to dispensary including peurpural sepsis, anaemias, engorgement of the breast and breast abcesses
- advise mothers on family spacing/welfare to go to dispensary
- advise breast feeding the child for at least 2 years and to take nutritious foods for weaning.

2. Child Health

During the first five years of a child's life there are a number of important health problems that need special care. The responsibility for providing care is shared with the Village Midwife. The CHW will be able to:-

- arrange to see all children in his community regularly
- weigh them, enter the weight on the growth chart and explain the meaning to the mother
- list the advantages of breast-feeding and advice mothers
- list and demonstrate the preparation of good local weaning foods
- list the factors that put some children "at risk" and plan special attention for them
- list the diseases that can be prevented by immunization and know how to explain to mothers the need to bring children when the national immunization team visits
- to recognize malnutrition and the factors which lead to it
- to list, recognise, and give basic treatment or refer common diseases of children.

UNIT 9 b

Week 29-34 MATERNAL & CHILD HEALTH, AND NUTRITION - practical field work in his own PHCU

N.B. The practical activities that the student CHW will be able to do during this period will depend on the availability of a completed PHCU building and the posting of a Village Midwife. In the initial stages individual plans will have to be made for each student.

During this period the CHW will develop practical skills required to improve maternal and child health and nutrition in his village in cooperation with the Village Midwife. In particular he will:

1. Maternal Health
   - visit the Village Midwife in his village - or the one in the dispensary if none exists in the village. Ascertain the work she does by working with her. In particular
     - assist in ante-natal clinic
     - assist or conduct at least one normal delivery
     - follow up at least one normal delivery by home visits.

2. Child Health
   - weigh at least 10 children - either at the PHCU or in their homes and fill in growth charts
   - observe, help and advise mothers in the preparation of weaning foods and food for children
   - find, weigh, record and advise or refer at least two malnourished children
   - assist the national immunization team - if they are available.

3. Nutrition
   - make a list of all foods eaten by his community which are for sale and their price
   - categorize the above by nutritional value
   - list the foods suitable or weaning foods
   - visit nearest agricultural officer, learn what he does, what food production including poultry is recommended in the village and how he can help
   - establish the sites for the PHCU and his own personal gardens and clear part of the ground. If appropriate plant on area.
   - construct a rat proof food store

UNIT 9 b

Week 29-34 — MATERNAL & CHILD HEALTH, AND NUTRITION - practical field work in his own PHCU

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- construct a rat proof food store

UNIT 9 c

Week 35 and 36 MATERNAL & CHILD HEALTH, AND NUTRITION - reports and seminars

During this period each CHW will complete and present a report on the Maternal and Child Health, and Nutrition in his own PHCU to a group of his colleagues. All reports will be discussed. Further instruction will be arranged to cover problems or lack of knowledge encountered.

ASSESSMENT

Report on the student by the V.D.C. chairman
Presentation of report on his community
Short written test

UNIT 10 a

Week 17-28 — DISEASES AND INJURIES - basic instruction

During this period the CHW will learn to deal with illnesses and injuries that occur in his community by prevention where practicable, but also by recognition and treatment or referral of existing cases.

He will learn by means of lectures, case demonstrations, practical work and discussion.

At the end of the period the CHW will be able to:

Take a history, examine, diagnose, decide whether he can treat or should refer and advise patients presenting with:

- feverishness
- diarrhoea
- respiratory diseases
- skin diseases
- eye diseases
- headaches
- belly pains
- pains in joints
- intestinal worms
- weakness and tiredness
- diseases of mouth and teeth
- lump under the skin
- venereal disease
- mental disease
- burns
- wounds
- fractures
- bites

in particular he should be able to

(a) recognise and treat the following diseases

- malaria
- gastroenteritis, diarrhoea and dysentry
- respiratory diseases, upper and lower including asthma
- measles
- wounds including minor burns

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- abcesses
- skin diseases including yaws and scabies
- malnutrition and anaemia
- venereal disease
- eye infection
- poisonous bite and stings (snake, scorpion, dogs)
- guinea worm

(b) recognise, give first aid treatment, refer and where appropriate continue recommended treatment for, the following diseases

- leprosy
- tuberculosis
- sleeping sickness
- onchocerciasis
- bilharzia
- C.S.M.
- ear diseases
- kala Azar

- be able to recognize an epidemic and take appropriate measures
- be able to identify, state type of preparation, route of administration, dose, frequency, duration of treatment, indications for any precautions in use of all the drugs used at the PHCU including
    - aspirin tablets
    - benzyle benzyle emulsion
    - camphor liniment
    - chloroquin tablets
    - cough medicine
    - dettol
    - fersolin
    - iodine tincture
    - injection penicillin
    - suplhatriad tablets
    - sulphaguanidine tablets
    - tetracycline eye ointment

UNIT 10 b

Week 29-34 DISEASES AND INJURIES – practical fieldwork in his own PHCU

N.B. The practical activities that the student CHW will be able to do during this period will depend on the availability of a completed P.H.C.U. building. In the initial stages individual plans will have to be made for each student.

During this period the CHW will learn to deal with any member of his community who come to him with illnesses or injuries, and to know what help the Medical Assistant in the nearest dispensary can provide.

At the end of this period the CHW will be able to:

- deal with illnesses and injuries as laid down in 10 a
- record attendances in the standard form
- account for the drugs and supplies issued
- describe the method of reporting to his M.A.
- obtaining drugs and supplies, and refering patients.

UNIT 10 c

Week 35 and 36

DISEASES AND INJURIES - reports and seminars

During this period each CHW will complete and present a report on the prevention and treatment of illness and injury in his own PHCU to a group of his colleagues. All reports will be discussed. Further instruction will be arranged to cover problems or lack of knowledge encountered.

ASSESSMENT

Report on the student by the V.D.C. chairman
Presentation of report on his community
Short written test

UNIT 11

Week 37 and 38

ADMINISTRATION, RECORDS AND SUPPLIES

Details to be added.