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**INTERNATIONAL NUTRITION COMMUNICATION SERVICE**

**CONSULTANT REPORT SERIES**

**SUDAN / MADAGASCAR**

**— May 6 - 30, 1983 —**

**Development of a nutrition education strategy in  
each country for a Seventh Day Adventist World  
Service (SAWS) Ministry of Health PL-480  
Title II Program.**

by

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## INTRODUCTION

Food and nutrition policy makers and program planners often talk about the potential for using nutrition education to strengthen the impact of voluntary agency feeding programs. Seventh Day Adventist World Service (SAWS) is a PVO with a commitment to integrating education into its PL-480 Title II projects in developing countries. The strength of that commitment was evident when an INCS consultant was asked to help SAWS design the nutrition education components of two new country programs--Sudan and Madagascar. The consultant, Star Campbell-Lindzey, was part of a three-person team that spent two weeks in each country, visiting field sites and meeting with SAWS and host country officials.

The following report summarizes Campbell-Lindzey's observations and recommendations. In Sudan, Campbell-Lindzey recommended that the SAWS program establish specific behavior change objectives targeted to weaning practices, dietary practices during pregnancy and lactation, and infant diarrhea practices. She also recommended training field workers in the use of oral rehydration therapy, the preparation of locally based weaning foods, and community based growth monitoring and surveillance procedures. A similar program was recommended for Madagascar, with an added emphasis on the teaching of home remedies for diarrheal disease (there were no UNICEF ORT packets in the country), and the strengthening of the educational activities of the country's nutrition rehabilitation centers.

Preliminary feedback indicates that SAWS is pleased with Ms. Campbell-Lindzey's recommendations. It will take a continued sustained effort to put them into action in the field, but if SAWS can do this effectively, they will be blazing a trail that other voluntary agencies, involved in supplementary feeding, will want to follow.

Ron Israel  
Director, INCS

July, 1983



## ACKNOWLEDGEMENTS

The core team for the exploratory mission was: Mario Ochoa, Assistant Executive Director, Seventh Day Adventist World Service (SAWS); Jim Pines, Nutrition Planner, TransCentury; Marilyn Bennet, Maternal and Child Health Specialist, Community Systems Agency; Star Campbell-Lindzey, Nutrition Education Specialist, INCS.

The team was invited to explore the possibility of starting a PL-480 supplementary food, nutrition, and health education program in the Sudan and in Madagascar. Mario Ochoa was responsible for establishing the formal contacts with each respective government and for introducing SAWS; Jim Pines developed the proposals of the PL-480 MCH programs; Marilyn Bennet assessed the Maternal and Child Health (MCH) activities; and Star Campbell-Lindzey assessed the nutrition education component.

Special appreciation is extended to Mr. Gary Leinen, Health and Nutrition Officer, U.S.A.I.D., Khartoum, for arranging appointments with key officials in the Ministry of Health. We would also like to thank Dr. Gerald Whitehouse for providing us with nutrition and health statistics of the Juba region and Bob Blinci for supplying us with logistical information.

We are also grateful to Dr. Nur, Dr. Kamal, and Mrs. Alawia El Amin, Ministry of Health, Khartoum, for their time and effort in answering our questions and showing us various health facilities.

We would also like to thank Mr. Tuttle, U.S. Embassy, Madagascar, for arranging our stay in Madagascar. Special thanks go to Rosemary McCreery for providing a clear picture of the health, nutrition, and education activities in Madagascar. We are also very grateful to Professor Ramakavelo and Dr. Andrianasolo for providing us with nutrition and health statistics.

Last, but not least, I would like to thank Lisa Gaylord for showing me the beauty of the Malagasy culture.

Star Campbell-Lindzey



## BACKGROUND

In recent years, more thought and consideration has been given to developing stronger nutrition/health education components to PL-480 food programs. The Seventh Day Adventist World Service, Inc. (SAWS) firmly supports the idea of PL-480 as a nutrition education and health education program, not just as a food distribution program. It was with this foresight that our team was sent to Sudan and Madagascar to explore the possibilities of establishing a PL-480 Title II targeted maternal and child health program.

This report is an annex to the original proposals developed by SAWS and should be viewed as a complementary report. Nutrition education design strategies stated in this report are based on the SAWS PL-480 program developmental goals incorporated in the proposals.

The PL-480 programs will be a collaborative effort between SAWS and the Ministries of Health (MOH). The five-year program in the Sudan will begin in the city and province of Khartoum with later expansion to the province of North Kordofan and other provinces. The proposed program anticipates food delivery to 30,000 beneficiaries within one year, expanding to 60,000 the year after, and reaching a peak of 75,000 during the third year.

The program will target pregnant women until delivery, lactating women for the first twelve months of breast feeding, infants between six months and twenty-four months of age, and children, between twenty-four and sixty months, diagnosed as having second or third degree malnutrition.

The program in Madagascar will begin in the city and province of Antananarivo, targeted at 10,000 beneficiaries during the first year and eventually reaching 60,000. The beneficiaries will include: all pregnant women, lactating mothers up to 18 months, all infants between six months and twenty-four months of age, and children between twenty-four and sixty months of age diagnosed as having second or third degree malnutrition. The program will also be operated in collaboration with the Ministry of Health.

The food commodity package for the Sudan will consist of oil (1 kg.), nonfat dry milk (1 kg.), and red lentils (2 kg.). This package will provide each beneficiary enrolled in the program with 28 grams of protein and 530 calories per day. These commodities were chosen by the Ministry of

Health/Nutrition division staff in consideration of local preferences, market availability, and the program behavioral goals.

The food commodity package for Madagascar has not been finalized; however, it is proposed that the package consist of foods similar to those distributed by the CRS program in order to avoid competition and ill feelings among the beneficiaries. Therefore, the package will consist of oil (1 kg.), nonfat dry milk (2 kg.), and rice (2 kg.). This package will provide each beneficiary with 26 grams of protein and 773 calories.

## I. SUDAN

### BACKGROUND

The Sudan covers an area of 2.5 million square kilometers and is the largest country in Africa. Its 19.2 million population (est. 1981) is growing at a rate of 2.79 percent annually. Infant mortality rate (1980) is 124 per thousand. Protein-energy malnutrition of children under five years of age is categorized as follows: first degree, 33%; second degree, 17%, third degree, 2%. Studies show malnutrition reaching its peak between the ages of six and eighteen months with the zenith at eleven to thirteen months.

Diarrheal disease is the main cause of death. Khartoum province reports a prevalence of 35 percent, among the highest in the world. Malaria, measles, and other infectious diseases are also common.

### SEVENTH DAY ADVENTIST WORLD SERVICE (SAWS) PROPOSED PL-480 TITLE II TARGETED MCH PROGRAM

The SAWS MCH Program will be incorporated into the Ministry of Health (MOH) centers in Greater Khartoum and targeted to the "at risk" population of pregnant and lactating women, infants from six to twenty-four months, and children twenty-four to sixty months diagnosed as having second and third degree malnutrition. This Program has been designed based on the hypothesis that "through improved health services and food practices, supported by use of food as incentive and source of supplementary intake, pregnant women continuing in the program until the newborn reaches twenty-four months will have two-year olds with normal nutrition status that can be maintained thereafter through routine health services and without donated foods." (SAWS proposal)

The SAWS conceptual approach includes a) strengthening the existing health centers through improving and coordinating the health services now provided, and b) improving health and nutrition related behaviors of the target population.

## NUTRITION AND HEALTH EDUCATION DESIGN

The goal of the Program is improved health and nutrition related behaviors of the mother and child. The focus of the educational component will be on emphasizing the importance of providing a "good start" for the child. Therefore, the program should focus on three areas of special concern to the Sudanese target population: a) nutrition and health related behaviors during pregnancy and lactation, b) weaning food practices (frequency, quality, quantity), and c) management of infant diarrhea and infections.

The SAWS/MOH program will need to establish itself as a "new" program in order to avoid confusion with the previous Catholic Relief Service (CRS) PL-480 program. Officials in the Nutrition Division have selected the name NIMA for the title of the program, thereby identifying it as a new program and also promoting the concept of the special needs of a child (NIMA means "child of God" in Arabic and is also a special weaning food prepared for infants).

The design of the educational component will include the active participation of the mothers and other family members in the operation of the health center. Families should view the visit to the center as an educational experience which will aid in providing a "good start" for their children. The NIMA program should promote the idea that young children are dependent on family members for special health and nutrition care, and through utilizing the services at the health center and demonstrating proper nutrition and health behaviors, the risk of this population group becoming malnourished should be diminished.

## MINISTRY OF HEALTH/NUTRITION DIVISION

As stated earlier, the approach to this program is to strengthen the existing health centers so that they can effectively and efficiently meet the needs of the target population. Technical assistants, in the form of long and short term consultants, will work directly with Dr. Kamal Ahmed Mohamed, Director of the Nutrition Division, and Mrs. Alawia El Amin, Deputy Director. This office is responsible for research, surveys, recipe

development, and training of nutrition officers and nutrition educators who work in the MOH centers.

There are fifty-one health centers and each center devotes two days for pregnant women, two days for children, one day for family planning, and one day for home visits. It is the desire of the Nutrition Division to staff each center with one nutrition officer, one nutrition educator, one health visitor, and one clerk. Actual staffing patterns at the 51 centers is shown below:

<u>18 Centers</u>	<u>1 Center</u>	<u>3 Centers</u>	<u>9 Centers</u>	<u>20 Centers</u>
Nutr. Officer	Nutr. Officer	Nutr. Officer	Nutr. Officer	Health Visitor
Nutr. Educ.	Nutr. Educ.	Nutr. Educ.	Health Visitor	Clerk
Health Visitor	Health Visitor		Clerk	
Clerk	Clerk			

The training background and job responsibilities of the staff is comprised of:

Nutrition Officer - University degree in Home Science

Nutrition Educator - 9 to 12 years schooling plus 4 month training

Health Visitor - 6 to 8 years schooling plus training as nurse midwife

(3 years nursing, 1 year midwifery, 1 year health)

Clerk - approximately 9 years schooling

Since each center is not fully staffed, job responsibilities are shared. Specific job descriptions are now being developed by the Ministry of Health; however, for the present time, it appears that the Nutrition Officer supervises the activities, gives individual and group counseling, and helps weigh and mark growth charts; the Nutrition Educator gives individual and group counseling, demonstrates weaning food recipes, and helps weigh and mark growth charts; the Health Visitor gives individual counseling and physical exams of the pregnant women; and the Clerk weighs and marks the growth charts.

It is the intention of SAWS to begin the Program in those centers which are fully staffed and therefore utilize the specific trained qualifications of each staff person. Volunteers, selected from the groups who will attend the center, can form an additional workforce to aid in the distribution of

food commodities, maintenance of the storage area and health center property, development and delivery of educational messages, and reinforcement of specific nutrition and health practices.

#### CURRENT MOH NUTRITION AND HEALTH EDUCATION ACTIVITIES

Current nutrition education activities occurring at the health centers include individual counseling and group counseling. Some centers have cooking equipment and therefore demonstrate weaning food preparations. A simple didactic approach is used in presenting various topics, such as protein foods, iron-rich foods, after which questions are asked to determine if the mothers understood the information. There is no structured set of lessons to be given during any one particular month, and the nutrition officers can use their discretion in determining the topic of discussion. Audio-visual materials are scarce; however, a set of posters have been developed in Arabic and are to be placed in the health centers.

Health education activities include individual and group counseling on oral rehydration, and UNICEF rehydration packets are available and distributed by the nutrition staff in some centers. A 1981 evaluation study of the Diarrheal Diseases Control Project revealed that oral rehydration salts (ORS) have been poorly distributed to the health centers and that there was an inadequate referral system of diarrhea patients to the nutrition educator and health visitor responsible for distributing ORS.

#### SAWS PROPOSED NUTRITION AND HEALTH EDUCATION PROGRAM

There are several strong points within the current MOH nutrition education program on which to build a more concrete, focused, integrated nutrition and health component. These strong points are: priority on individual counseling, importance of early detection and treatment of diarrhea, awareness of conducting surveys, development of local weaning food recipes, and training of qualified staff. In addition to these points, the MOH has previously been exposed to a PL-480 program and is aware of the additional work responsibilities such a program can place on health center personnel. It is the desire of both SAWS and the MOH to place more importance on the educational component of the program and less

importance to the food supplementation. The educational component, therefore, should be reoriented toward nutrition and health related behavioral outcomes or goals with specific emphasis on weaning practices, dietary practices during pregnancy and lactation, and infant diarrhea practices.

#### BASELINE DATA

Before any educational messages are developed, data must be collected about each family and their dietary practices, attitudes, and behaviors. This type of information is seldom gathered in PL-480 programs; however, in this program it is absolutely vital to determine what the current behavior patterns are in order to design the messages accordingly. The baseline data can be collected at the initial inscription of the mother and child into the Program. Nutrition Officers, Nutrition Educators, and Health Visitors should be trained in interviewing techniques. Some data from surveys already conducted by the MOH and by the University of Khartoum, Department of Community Medicine, under the direction of Suzan Wesley, is available and should be analyzed for its inclusion into the Program.

The first baseline data collection to be performed at the initial inscription of the mothers and children should be viewed as just the first step in the process of designing the education program. A formative evaluation approach should be used throughout the development of the entire education program. The approach involves repeated consultation with individuals in the target group and observation of their responses to various new ideas and presentations.

The first stage of the formative evaluation, baseline data collection, should be designed to provide the following information:

- General household information: number and age of household members, occupation of adults, income of family per day, persons responsible for care of children, ownership of radio or T.V. and when and which programs are listened to, literacy level, whom they go to for advice, house location in the city
- Diarrhea: understanding of diarrhea, treatment procedure, rehydration, feeding during diarrhea, special foods/liquids

- Weighing: current weights of target groups, awareness of Program, attitude and knowledge about weighing, relation between weight growth and nutrition/health status
- Pregnant women's diet: quantity and quality of food consumed, special/taboo foods, behaviors, and practices, number of pregnancies
- Lactating women: quantity and quality of food and liquid consumed, offering of colostrum to newborn, nursing practices during normal and infectious periods, e.g., bouts of diarrhea, measles
- Children under twenty-four months: breast feeding patterns, early supplemental feeding, quantity and quality of food consumed, use of snack foods, special weaning foods and taboos

The initial baseline survey should be limited to just a few questions on each topic since this data will be collected at the health center during the first day of inscription into the Program. Additional in-depth surveys regarding one topic area, such as diarrhea, can be performed during one of the monthly weighings, at which time the resistance points can be identified and the mothers can actively participate in the development of the educational messages.

#### NUTRITION AND HEALTH EDUCATION PRIORITIES

It is impossible to try and solve all of the nutrition and health problems of the Sudanese mother and child within the five-year plan of this Program. Therefore, based on the high prevalence of diarrhea and the evidence of poor weaning practices, the Program will focus its efforts in three areas:

- A) oral rehydration therapy
- B) weaning food supplementation
- C) growth monitoring and surveillance

A) The incidence of diarrheal disease is extremely high in the Khartoum area. Many of the health centers are aware of the UNICEF oral rehydration salts (ORS) and some of the centers have a person responsible for the distribution and education of ORS. The SAWS/MOH Program should train or retrain one person for each center in oral rehydration therapy. This person should be responsible for demonstrating the preparation of the UNICEF packets as well as preparing oral solutions from indigenous plants

and foods (e.g., sugar/salt solution, baobab drink, hibiscus petal drink). A formative evaluation approach should be used to determine the mothers' perceptions of diarrhea, the treatment, etc. In talking to some mothers in the Sudan, they stated that diarrhea was a natural precursor to teething--these cultural beliefs and resistance points need to be determined before any educational messages can be developed and delivered.

Since the incidence of diarrhea has a synergistic effect on the health and nutrition status of the young child, this public health problem should be the first topic to be addressed in the educational component of the Program. Until the severity and duration of the diarrheal problem can be decreased, there will be little evidence of weight gain and improved nutrition status. A mass media campaign should be launched once the educational messages have been designed and pre-tested. The Nutrition Division can use the air time it now has for disseminating the message plus look into procuring additional air time. All educational messages must be acceptable to the target group and be oriented towards behaviors which can be easily practiced at home or within the community.

B) The current weaning food practices in the Sudan indicate that many mothers introduce some sort of porridge by six months of age; however, the quantity and quality of the porridge is not adequate to meet the growing needs of the child. A food recall should be used to determine the caloric and protein content of the average child's diet, and through consultation with the mother, determine which additional foods or number of servings should be introduced. Again, a formative evaluation technique should be used to determine which weaning food behaviors and practices will be easily accepted by the mothers.

The Nutrition Division has been instrumental in developing weaning food recipes from indigenous food products, and these have been tested on the target population of the previous CRS program. These weaning foods can play an important role in the new SAWS/MOH Program.

Some health centers demonstrated weaning foods during the CRS monthly baby weighing sessions; however, many did not because of lack of equipment. Training will need to be provided to those center personnel who have not previously given food demonstrations and retraining will be necessary for

the others in how to include the target audience (mothers, community members, etc.) in the actual preparation of the food.

As stated earlier, the concept of special foods for children is a well known and accepted practice in the Sudan. NIMA, a special weaning food, is prepared for small children. Women eat special foods for the first forty days after delivery of the child. There are also special foods consumed by pregnant and lactating women. These cultural practices can be used as the foundation for introducing new practices. In addition to these cultural habits, the religious beliefs of Islam can be an important support system for the education component with messages being developed using statements from the Koran.

The weaning food supplementation educational component should therefore focus its behavioral messages toward the quantity, quality, and frequency of the feedings given to the young child. Through individual and group discussions with the mothers, appropriate behavioral messages can be designed. These messages should be expressed at the health centers, on the radio and T.V., and practiced by the mothers in the communities. Evaluation of this component can be performed through observation of the mothers' food preparation practices in the home, through interviews with the mothers, through community surveys, and through improved weight gain as evidenced by the weight charts.

C) Growth monitoring and surveillance is the third area in which the Program will focus its efforts. Although this area does not imply explicit behavior change, certain attitudes and behaviors will be affected.

Most PL-480 programs have growth monitoring and surveillance as the core component, and in many countries, it is the only component other than food distribution. The SAWS/MOH Program in Sudan has an advantage in that the health center personnel are familiar with certain aspects of growth monitoring and surveillance. Most of the centers are still using the scales and charts which were instituted by CRS. These charts are soon to be changed, and in their place, the MOH will use an adapted form of the World Health Organization (WHO) "Road-to-Health Chart." Currently the weight charts are kept in the centers because it is reported that the mothers lose them if they are taken home.

Data from the monthly weighings is currently reported on the CRS master sheet and mailed to the Nutrition Division for analysis. It does not appear that the nutrition staff (nutrition officer or nutrition educator) at the health center understands how to interpret the monthly data which they collect, and it does not appear that the Nutrition Division returns the analyzed data for each individual center to assess its needs and evaluate its performance.

Given this situation, the SAWS/MOH Program will need to focus its efforts on retraining the health center staff in accurate growth monitoring (scale calibration, weighing, charting), and in analyzing and interpreting the data for immediate feedback regarding the needs of the target group. Educational messages are then targeted to those needs or problems.

A simpler method of growth monitoring should be introduced which will permit the nutrition staff and the mothers to look at the child's growth from month to month. This method, based on the Indonesia model, looks at weight gain (+), stable weight (=), and weight loss (-) in comparison to the previous month's weight. A simple tally system is kept through which the health center can determine how many children gained weight, lost weight, or stayed the same. This immediate feedback of information can lead the center personnel to explore with the mothers certain trends which may be forming, to determine the causes of the situation, and to elicit specific behaviors/practices to improve the situation. This simple method should therefore alleviate the problem of inability to analyze and interpret the Master Chart data. The WHO "Road-to-Health Charts" can still be used for more detailed record keeping required by the MOH.

The data from the WHO charts and the simple growth monitoring system will be used for evaluating certain aspects of the program, such as regular attendance of the mothers, behavioral responses, relationship between certain factors and weight status, e.g., socioeconomic status and nutrition status.

The training of growth monitoring and surveillance, even of the simple model, requires more time and supervision than one would expect. A recent evaluation of the MOH/UNICEF primary health care project showed that several trained personnel, who were given a six-day refresher course with specific training in simple growth monitoring, were unable to weigh and chart accurately the weights of children in their communities. The

training program should include adequate time for practical experience and an adequate supervisory staff capable of being present in the centers or travelling easily to them.

Part of the educational component of the growth monitoring activity is for the mothers to understand the relationship between the weight of the child and the health/nutritional status of the child. Data from most programs indicates that the mothers do not see this relationship. Few mothers use weight gain as a criteria for judging the health of their children. Instead, they tend to use other signs of disease, certain behaviors, and often the appetite of the child as indicators of health. These indicators, as well as the month-to-month weight progress of the child should be addressed in the SAWS/MOH education program. For example, analogies and associations could be used with regard to how crops grow when trying to teach mothers the importance of weight gain as an indicator of health.

Mothers and other community members should be actively involved in the growth monitoring system. The mothers should be responsible for taking care of the Road-to-Health Charts, to carry the chart back home, and to be instructed in how to teach others in the community about the importance of adequate weight gain. Other visual aids should be developed which the mothers can transport back to their communities to help in the support of the program and of the behaviors being introduced.

#### TRAINING OF MOH CENTER PERSONNEL

The SAWS/MOH Program will be first introduced in those centers which are fully staffed with a nutrition officer, a nutrition educator, a health visitor, and a clerk. All of these professionals will need additional training in growth monitoring and in the formative evaluation methodology. Volunteers from the groups of mothers who will participate in the Program will also need training in their roles and responsibilities. The Program is based on active participation of the mothers in every facet of the program; therefore, the training of volunteer mothers is crucial and should be given equal weight with the training of the nutrition professionals.

## Role Definition

Currently, within the MOH, the nutrition officers and nutrition educators are trained by the Nutrition Division and the health visitors and clerks are trained by the Technical Division. It appears that there is an overlap of responsibilities between the health visitors and nutrition educators which sometimes leads to problems when they work together in the same health centers. Specific roles and responsibilities of each staff person will need to be defined very clearly from the start. This role definition should also include other members of the health team who work in the centers, such as pediatricians, nurses, and other physicians. Since one of the SAWS/MOH goals is to strengthen the existing health services, a clearer understanding of the roles and responsibilities of each team member will aid in establishing a more integrated and cohesive maternal and child health program.

## Training of Nutrition Staff

Training of the nutrition staff should be conducted by the Director and Assistant Director of the Nutrition Division in collaboration with SAWS nutrition education and maternal and child health specialists. The training should include the following:

- 1) An overview of the nutrition situation in Sudan, emphasizing the priority nutrition concerns in the province of Khartoum
- 2) The goals of the new SAWS/MOH program and how these relate to the nutrition/health problems in Khartoum
- 3) Description of the nutrition/health education component and the food distribution component and how each relates to the goal of behavior change in the target population
- 4) Introduction of the NIMA program and description of the work entailed in establishing and advertising the new program
- 5) The roles and responsibilities of each staff member in helping the mothers and children adopt positive nutrition and health practices
- 6) Role of the baseline data survey and other in-depth follow-up surveys, review of the survey/questionnaire to clarify and explain the questions, role of dietary food recall—discussion and practice

- 7) Techniques on interviewing--questioning, discussing, observing, and eliciting information from mothers and other community members
- 8) Theory and application: growth monitoring--weighing, completing growth charts accurately, interpreting data, designing messages
- 9) Theory and application: diarrheal disease--oral rehydration fluids, determining current beliefs and practices, designing messages
- 10) Theory and application: weaning food supplementation and preparation, determining beliefs and practices, designing messages, creating acceptable recipes
- 11) Role playing, case studies, debates, discussions, community visits
- 12) Administrative details--managing the increased demand for services, food distribution logistics, education logistics

The training sessions can be conducted at the Nutrition Division headquarters in Khartoum; however, the training room will hold no more than twenty persons and has no fan or air conditioning unit. The possibility of using the larger training facilities in the Ministry of Education, School Gardening and Nutrition Education Division should be explored. Training sessions involving applied nutrition activities, e.g. weighing children, should be conducted in nearby MOH centers.

Interpersonal relationships can be a determining factor to the success of a health center. Training sessions should include the four members of the nutrition team (officer, educator, health visitor, and clerk), and these members should work together as a team on many of the training activities. In this way, personality or professional conflicts which might arise can be addressed early in the development of the program.

Since many of the nutrition staff members at the health centers have received quite a bit of previous training, the new training sessions should build on the nutrition foundation already established, improve accuracy and efficiency, and reorient the program toward behavioral outcomes. The importance of actual field experience in using the formative evaluation methodology cannot be overestimated. Confidence in using the various techniques involved in the new methodology is instrumental to establishing a relaxed atmosphere with the mothers. The emphasis which the Nutrition Division currently places on individual counseling should provide a strong, supportive basis for the new Program.

## COMMUNITY INVOLVEMENT AND DEVELOPMENT ACTIVITIES

The focus on urban malnutrition poses new challenges to assessing community needs and developing community involvement. There does not appear to be a distinct community with defined parameters for each MOH health center. Currently, the Sudanese can use the services of any health center; they are not required to attend the center closest to their home. Taking this into consideration, artificial communities should be established once the women are inscribed into the Program and their housing locations are known. Once this is established, community assessments can be done noting the educational and health services available, community and religious leaders, and other variables which paint a complete community picture. This information, coupled with the nutrition status and nutrition/health practices of the target population can be used in the design, revision, and evaluation of the nutrition/health education program. Community development activities, such as oilseed presses, and other income generating activities should eventually be introduced to lessen the dependency of participants on the program's donated food.

## MASS MEDIA

The Nutrition Division is currently offering a radio program once a week on nutrition topics. The radio should be used to introduce the NIMA program to the province of Khartoum and, in the future, broadcast messages that support the education being given at the centers. Television is not used as a medium for nutrition education at this time; however, with further exploration it may be possible. The Nutrition Division has developed a series of posters, but many centers have not received them. Additional educational materials should be developed for use in the centers and in the communities and homes.

## PROGRAM PLAN

The following phased program plan is suggested for developing the SAWS/MOH Program. The different activities are listed, as well as the audience for whom the activity is intended. The audience is comprised of

the people who will be trained as well as the beneficiaries who will participate in the educational process. The developmental supports column includes complementary support systems which should be utilized during the development and implementation of the activity.

The focus of each activity, within each phase of the program, must be targeted toward specific behavioral outcomes. If this is assured, the program has the potential of reaching its goal of improved nutrition and health related behaviors of the Sudanese target population.

<u>PHASE</u>	<u>ACTIVITY</u>	<u>AUDIENCE</u>	<u>DEVELOPMENTAL SUPPORTS</u>
I	Introduction of new targeted MCH/Nutr. behavior change program	MOH Nutr. Division Health Center Staff Beneficiaries (families, communities)	Mass media -radio, T.V., posters
II	Baseline survey design and data collection	Nutr. Division Beneficiaries Nutr. Officers, Educators and Health Visitors	Dept. of Community Medicine UNICEF Columbia Univ. Project
	Growth Monitoring - weighing & charting - interpretation of data	Clerks, Educators, Health Visitors, Officers Beneficiaries	UNICEF
III	Oral Rehydration Education - formative evaluation techniques	Nutrition Division Health Center Staff Beneficiaries & Communities	Mass media UNICEF ORS packets
IV	Weaning Food Education - formative evaluation techniques	Health Center Staff Beneficiaries & Communities	Mass media Community demonstrations
V	Development of Community-Based Activities - formative evaluation techniques - analysis of survey data	Health Center Staff Nutrition Division Beneficiaries Communities	Viable income-generating activities currently operating Knowledge that SAWS/MOH program will end in 5 years

## II. MADAGASCAR

### BACKGROUND

Madagascar is the fourth largest island in the world and is located in the Indian Ocean, 400 kilometers from the southeast coast of Africa. Its 9.45 million population (est. 1981) is growing at a rate of 2.8 percent annually. The infant mortality rate in 1982 was 177 per thousand. Limited data is available regarding protein-energy malnutrition; however, a 1980 survey showed the following breakdown in first degree malnutrition: 11-20% (0-12 months), 14-25% (1-2 years), 5% (over 2 years).

Diarrheal disease is a major cause of death. Madagascar reports a diarrheal disease rate of 179.12 per thousand, and the province of Antananarivo shows a rate of 230 per thousand. Respiratory problems as well as infectious diseases, including malaria, contribute to the high infant mortality rate.

### SEVENTH DAY ADVENTIST WORLD SERVICE (SAWS) PROPOSED PL-480 TITLE II TARGETED MCH PROGRAM

The SAWS MCH Program will be incorporated into the Ministry of Health (MOH) centers in the province of Antananarivo, first starting in the city of Antananarivo, and targeted to the "at risk" population of pregnant and lactating women (up to 18 months), infants from six to twenty-four months, and children twenty-four to sixty months diagnosed as having second and third degree malnutrition. Children with second and third degree malnutrition will be enrolled in a nutrition and health recuperation program. The SAWS/MOH Program is designed based on the hypothesis that "through improved health services and food practices, supported by the use of food as incentive and source of supplementary intake, pregnant women continuing in the program until the newborn reaches twenty-four months will have two-year olds with normal nutrition status that can be maintained thereafter through routine health services and without donated foods." (SAWS proposal)

The SAWS conceptual approach includes a) strengthening the existing health centers through improving and coordinating the health services now

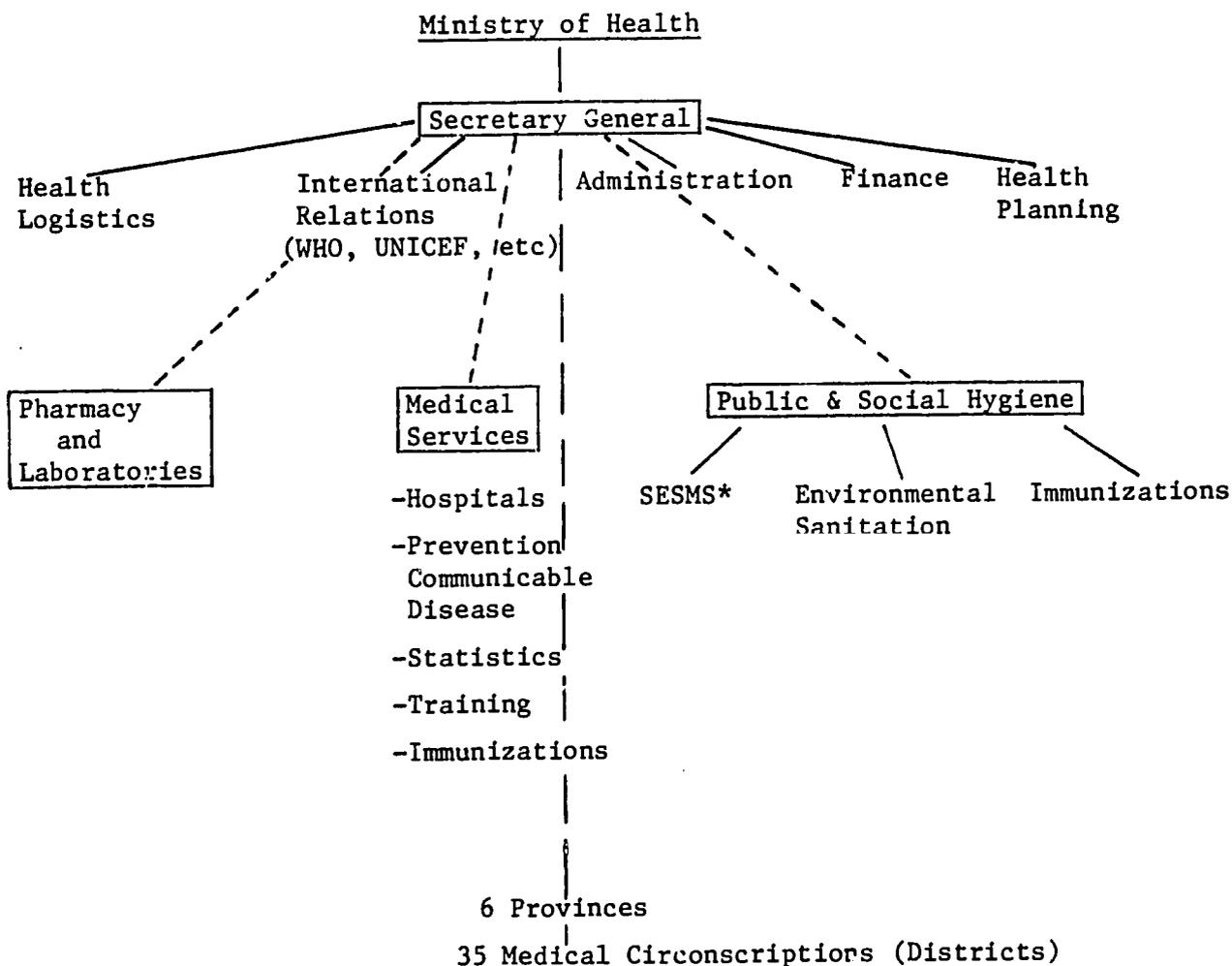
provided, and b) improving health and nutrition related behaviors of the target population.

#### NUTRITION AND HEALTH EDUCATION DESIGN

The goal of the Program is improved health and nutrition related behaviors of the mother and child. The program needs to address the nutrition and health risks involved for the Malagash woman who has pregnancies within a short period of time. Therefore, the focus of the educational component will be on emphasizing the importance of adequate nutrition and health care for the mother as well as the importance of providing a "good start" for the child. The program will focus on three areas of special concern to the Malagash target population: a) nutrition and health related behaviors during pregnancy and lactation, b) weaning food practices (frequency, quality, quantity), and c) management of infant diarrhea and infections. The educational component will also include a special recuperation program for those children severely malnourished. Active participation of the mothers and other family members will be required in both of these programs.

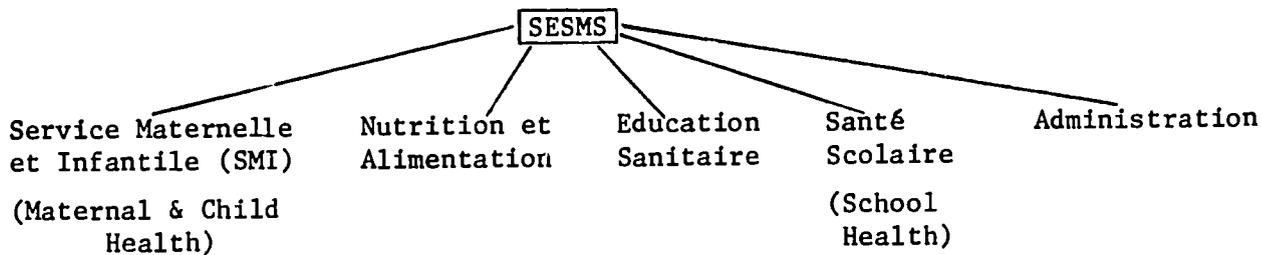
#### MINISTRY OF HEALTH/NUTRITION DIVISION

As stated earlier, the approach to this new program is to strengthen the existing health centers so that they can effectively and efficiently meet the needs of the target population. The Malagasy MOH has several strong units or divisions currently working in the areas of nutrition and maternal and child health. The following organizational chart gives an overview of where nutrition and the various health services are located within the Ministry.



\*SESMS--Service de l'éducation sanitaire et de la médecine sociale

This bureau is responsible for most of the nutrition activities and is divided into the following divisions:



It has been agreed upon that SAWS will work primarily with SESMS and institute the PL-480 program in the SMIs (Maternal and Child Health Centers in the province of Antananarivo). SESMS, under the direction of Dr. Ramangalahy and Aimee Rabehaja, is currently responsible for the design and implementation of the nutrition activities in the various MOH centers. SESMS also conducts training sessions for the health care workers, e.g., midwives, nurses, nutrition aides, etc., and has conducted a few localized surveys.

#### CURRENT MOH NUTRITION EDUCATION AND HEALTH EDUCATION ACTIVITIES

Under the division of SESMS, the SAWS/MOH Program will work with two units--the SMI and Nutrition and Alimentation. The SMI unit is concerned with the Maternal and Child Health Centers located in each of the six provinces and is also responsible for the MCH activities conducted in the smaller health care facilities throughout the country. Nutrition and Alimentation is concerned with the prevention of malnutrition through nutrition education and health education and is responsible for disseminating nutrition/health information through the mass media. It has also formed mobile teams of workers (nurses, midwives, and primary health care workers) called Equipe Feminine d'Education Nutritionnelle, which travel to villages demonstrating weaning food recipes, discussing small scale food production such as family gardens and chicken projects, and teaching sanitation, family education, and human relation techniques. These teams are comprised of volunteers who receive a condensed ten-day training program funded partly by UNICEF and FAO.

Since SAWS is tentatively planning to begin the PL-480 program in the city of Antananarivo, SAWS will integrate its Program into the SMI unit and also coordinate its activities with the mass media component of the Nutrition and Alimentation unit. Although the SAWS/MOH Program will not concern itself with the Equipe Feminine d'Education Nutritionnelle in the beginning stages of its development, there may be the possibility of including the Team in the latter stages of the Program.

Current nutrition and health education activities at the SMI centers include individual and group counseling, baby weighing for children up to five years of age, weekly distribution of anti-malarial syrup,

immunizations, prenatal and postnatal exams, and a nutrition recuperation center where a weaning food is prepared for second and third degree malnourished children. Child spacing is also discussed at the SMIs.

#### SMI-Tsaralalana

A visit to the one SMI center servicing the city of Antananarivo showed that this center serves both mothers and children on the same day. The center operates eight hours a day, 6 days a week. Dr. Ravelonanosy, the director of the center, stated that approximately 3500 mothers and children come to the center per week. There are approximately 800 pregnant women who attend the center per year and approximately 20 children who attend the recuperation classes per day (new inscriptions and returnees).

The center is staffed with two doctors, fifteen midwives, and one social worker. It appears that some of the staff are underutilized, in particular, the midwives. The building is quite small, and this may pose a problem once the PL-480 program starts.

#### Children's Hospital--Tsaralalana

The Children's Hospital is located next door to the SMI center. Dr. Randriambololona, Director and Pediatrician of the hospital, showed us around the 90-bed facility and introduced us to the staff of five doctors, three midwives, two nutrition midwives, and one pharmacist. The hospital provides service for children who are seriously ill. Over seventy-five percent of the children who attend the hospital are malnourished. Currently, the hospital has a lack of medicines and is only able to provide minimal food supplementation (carrot soup, rice) to its patients. Children with second and third degree malnutrition are referred from the SMI to this hospital.

#### Dispensary--Tsaralalana

This dispensary is located across the street from the SMI, and it services mothers and children as well as other community members.

The staff of the dispensary consists of five doctors, three midwives,

five nurses, one social worker, and two secretaries. The center services 400-500 children under six years of age per day. The amount of service rendered is limited due to the lack of medicines. Individual counseling is done; however, no group talks/discussion on nutrition and health are held.

#### Relationship Among These Three Centers

The role of the Children's Hospital as a recuperation and treatment center is quite clear; however, there appear to be duplicate services provided by the SMI center and the Dispensary. BCG, DTT, and polio vaccinations are provided free of charge to children attending the SMI and Dispensary. Malnourished children are referred from the Dispensary and the SMI Center to the Children's Hospital. It appears that basic first aid is provided at the dispensary but not at the SMI. Measles vaccine must be purchased at the SMI and the Dispensary. Anti-malarial syrup and pills are distributed at each center.

#### Additional Observations

It appears that many of the Malagash population see the importance of having their children vaccinated. Statistics from 1975 show that 48% of the children under six years of age received DTT vaccinations, 74% of children over one year of age received BCG vaccinations, and 21% of children under one year of age received BCG vaccinations. Only 30% of children under five received adequate chloroquine (anti-malaria) coverage.

From the visits of these three centers, there appears to be a lack of focus on the severe diarrheal disease problem facing the country. ORS packets are not available in the country and the Children's Hospital has little, if no, supplies for intravenous rehydration. No one appears to be teaching the "home remedy" of sugar and salt solution.

The nutrition talks at the SMI are given by a midwife and are presented to a large group of mothers. The talk is on a specific topic, such as protein foods, and questions are asked of the mothers. No audiovisual aids are used, and no weaning food is prepared. Individual counseling is provided for mothers of malnourished children and audio-visual aids and a weaning food demonstration are provided for children and mothers in the recuperation program.

## SAWS PROPOSED NUTRITION AND HEALTH EDUCATION PROGRAM

Within the province of Antananarivo, there are four SMI centers, two general hospitals, fourteen simple secondary hospitals, and thirteen dispensaries. The SAWS/MOH Program will work initially in the SMI in the city of Antananarivo and should expand to the other three SMIs located throughout the province of Antananarivo. A strong referral system should be established with the other hospitals and dispensaries located in the province. Since the MOH has never been exposed to a PL-480 program, the logistics of receiving and distributing food supplements should not become burdensome to the point that it interferes with the educational component.

There are several strong points within the current nutrition program on which to build the PL-480 program. These strong points are: numerous staff persons at each center, frequent training courses and refresher seminars for staff, recuperation centers in each SMI which include food demonstrations and audiovisual aids used in supporting the group and individual talks, anti-malaria prophylaxis for mothers and children, and group counseling.

Areas where the program needs strengthening and reorientation are: diarrheal disease treatment and prevention, growth monitoring and surveillance, discussions and demonstration of appropriate weaning foods, development of educational messages targeted towards specific practices, and development and use of audio-visual aids/mass media for all mothers and children, not just the malnourished ones.

The educational component, therefore, should be reoriented toward nutrition and health related behavioral outcomes or goals with specific emphasis on dietary practices during pregnancy and lactation and the need for child spacing, weaning practices, and infant diarrhea practices.

### BASELINE DATA

Before any educational component can be designed, data must be collected about each family and their dietary practices, attitudes, and behaviors. Some of this data is currently being collected at the SMI centers (see Annex 1--Fiche Medicale, Centre D'Education Maternelle de Protection Infantile). Most of this information is medically based and

very little data is collected regarding food practices during pregnancy and lactation and during the weaning period.

The new baseline data which will need to be collected can be acquired at the initial inscription of the mother and child into the Program. The midwives and social workers should be trained in interviewing techniques which will assist the mothers in speaking freely about sensitive issues. The surveys which have been previously conducted by SESMS should be analyzed and the data included into the design of the Program. The Nutrition Laboratory, under the direction of Dr. Roger Amarianasolo, can also be instrumental in the design and implementation of the data collection.

The baseline data collection is just the first step in the process of designing the education program. A formative evaluation approach should be used throughout the development of the entire education program. This approach involves repeated consultation with individuals in the target group and observation of their responses.

The initial baseline data should be kept as simple as possible and still provide information on the following topics:

- General household information: number and age of household members, occupation of adults, income of family per day, persons responsible for care of children, ownership of radio or T.V. and when and which programs are listened to, literacy level, house location in the city, whom they consult for medical and food information, family planning practice;
- Pregnant women's diet: quantity and quality of food consumed, special/taboo foods, behaviors and practices, number of pregnancies;
- Lactating women: quantity and quality of food and liquid consumed, offering of colostrum to newborn, nursing practices during normal and infectious periods, e.g. when infant has diarrhea, measles;
- Infant nutrition (under 24 months): breast feeding patterns, early supplemental feeding, quantity and quality of food consumed, use of snack foods, special weaning foods and taboos;
- Diarrhea: understanding of diarrhea, treatment procedure, rehydration, feeding during diarrhea, special foods/liquids;
- Weighing: current weights of target groups, awareness of Program, attitude and knowledge about weighing, relation between weight growth and nutrition/health status.

As stated earlier, the initial baseline data collection should highlight on a few key questions from each of these topic areas, as well as collect data on socioeconomic status. Additional in-depth surveys regarding specific topic areas, such as diarrhea practices, can be conducted during another time. These in-depth surveys will be necessary in identifying the current practices and resistance points to change, and in developing the educational messages that will target toward the desired behavior change.

#### NUTRITION AND HEALTH EDUCATION PRIORITIES

Many of the problems facing the Malagasy people stem from the poor economy of the country. Although the SAWS/MOH Program cannot directly affect the economic status of the target population group, it can help these families deal more effectively with the limited budgets that they live on.

The Program will focus its efforts in five areas:

- A) Nutrition and health status of the pregnant and lactating woman
- B) Weaning food supplementation
- C) Oral rehydration therapy
- D) Growth monitoring and surveillance
- E) Nutrition recuperation

A) The pregnant and lactating Malagasy women appear to be very much "at risk." Conversations with several government officials, as well as representatives at the Family Planning Office revealed that many urban women are pregnant on a yearly basis. The average Malagasy family is 5.3 persons, and the population is growing at a rate of 2.8 percent. Although family planning activities have been resisted in the past by the government, there is a belief that the government is changing its attitude. Child spacing is discussed in the MCH centers, and the Family Planning Office is expanding its services.

Recurrent close pregnancies adversely affect the nutritional and health status of the mother and child. The SAWS/MOH Program must address the serious consequences of these close pregnancies with both the wives and the

husbands. Many of the SMI Centers now ask the wives and husbands to attend a child-spacing session after the birth of the child. This should be further explored and a strong nutrition component developed for these sessions. Food commodities could be used as incentives for couples or families to attend these sessions. Through a formative evaluation approach, families could discuss the various issues involved in limiting the family size, determine the resistance points to child spacing, examine the nutritional and health consequences of large families, and develop educational messages aimed at improved practices.

The SAWS/MOH Program should work closely with any projects that the United Nations Family Planning Activities office may institute in the near future. A feasibility study will be undertaken shortly by UNFPA, and there is the strong possibility for collaboration with SAWS and the Ministry of Health. In addition to UNFPA, the Family Planning Office (FISA), executed by the International Planned Parenthood Federation, is active in developing curricula with the Ministry of Education and the Ministry of Population, and has conducted several workshops for teachers and adults. FISA also conducts a Family Guidance Center where its members receive health and nutrition education, food demonstration, and lessons in handicrafts. Close collaboration with these agencies could lead to a stronger, integrated nutrition/health and child spacing program.

The diet of the pregnant and lactating Malagasy woman should be analyzed. The typical Malagasy meal consists of boiled rice, a sauce made of boiled leaves, and if the family can afford meat there may be some fish, chicken, or beef in the meal. A food recall should be conducted in which any special or forbidden foods are discussed. More inclusion of beans into the diet and the possible inclusion of groundnuts should be explored. Milk products, such as yogurt, are sold in the marketplace. Data from any surveys conducted by SESMS should be used in designing the nutrition education component for the pregnant and lactating women as well as information gathered from the mothers during the interviews and discussions.

B) The Nutrition Laboratory is currently doing some analysis of diets fed to children at the Children's Hospital to determine the caloric, protein, vitamin, and mineral content of the weaning foods. As stated

earlier, weaning foods are discussed in the nutrition talk given at the SMI center; however, no preparations are made except for the children in the recuperation center at the SMI. Weaning food supplementation is also discussed, and foods are prepared at a special recuperation center located at SESMS. Children who attend the recuperation at SESMS have been released from the Children's Hospital and are asked to attend the SESMS center for 10-12 days prior to returning to the SMI Center for the monthly checkup.

The new SAWS/MOH Program should place more emphasis on actual weaning food preparation at the SMI. Mothers who attend the center should actively participate in the preparation of the food. Training will need to be given to center personnel on how to include mothers and other community members in the activities at the SMI.

After the baseline data has been collected on all of the mothers, a representative sample of mothers should be selected for further questioning and discussion about specific food practices, beliefs, attitudes, and behaviors. From this information, the mothers and staff at the center can design appropriate behavioral messages. These messages can be used in the SMI centers, the Children's Hospital, and the SESMS recuperation center and also be included in the weekly nutrition radio program. Evaluation of this weaning food education component can be performed through observation of the mothers' food preparation practices in the home, through interviews with the mothers and other community members, and through improved weight gain as evidenced by the weight charts.

It appears that mothers introduce weaning foods at an early age since many of the mothers become pregnant again within a few months after delivery of the child. These weaning foods, however, are not adequate with regard to the quality of the food (usually rice), the quantity given at any one time during the day, and the frequency of feedings. Many families state that they cannot afford to buy extra food. The educational component will need to explore the nature of a food budget and show that there are usually no additional incurred costs in preparing a balanced weaning food.

C) Oral rehydration therapy for diarrhea is not a current component in any of the health centers in Madagascar and yet the diarrheal disease rate is 179 per thousand. This serious public health problem must be addressed in the new SAWS/MOH program. Until the severity and duration of the

diarrheal episodes can be diminished, there will be little evidence of improved weight gain or improved nutrition status.

The educational component for diarrheal disease should contain distribution and demonstration of oral rehydration solution. UNICEF ORS packets are not available in the country; however, the UNICEF program administrator suggested that if the government or MOH were to request these packets, UNICEF may be able to help provide some.

One or two persons in each SMI center should be trained exclusively for ORS education. Since there is an abundance of midwives per center, this professional may be the best choice. Diarrheal disease and the attitudes and practices about it are often culturally based and difficult to change. Again, a formative evaluation approach should be taken to address the specific cultural issues involved with this disease and to determine the best educational approach. All members of the health care team--doctors, nurses, midwives, and social workers--should be trained in oral rehydration therapy and understand its crucial role in the SAWS/MOH program.

Water is not a problem for most Malagasy families--there is an abundance within the city. It should be determined whether the diarrhea is water related, food related, or both. Oral rehydration solutions made from sugar and salt or other indigenous foods/plants should be encouraged.

D) The growth monitoring and surveillance system in the SMI centers is currently being changed. The WHO Road-to-Health chart, printed in the Malagasy language, is replacing the medical chart (see Annex 2). These charts stay at the center. The mother has an individual book in which the weight of her child is stamped, and this book is retained by the mother.

It does not appear that the information on the individual growth charts is transferred to a master chart; therefore, the percentage of children within each range (normal, first degree, second degree, and third degree malnutrition) is unknown.

UNICEF has provided the scales for the SMI centers. An adult "detecto" metric scale is used for the women and a beam balance scale (16 kg.) with detachable weights is used for the infants and young children. There is a rumor that the detachable weights pose a problem because they disappear.

Given this situation, the SAWS/MOH Program will need to focus its efforts in additional training of the health center staff. Training should

include scale calibration techniques, accurate measurements in weighing and charting the growth of the child and mother, and recording, analyzing, and interpreting group and individual growth data.

A simpler method of growth monitoring should be introduced which will permit the nutrition staff and the mothers to look at the child's growth from month to month. This method, based on the Indonesia model, looks at weight gain (+), stable weight (=), and weight loss (-) in comparison to the previous month's weight. A simple tally system is kept through which the health center can determine how many children gained weight, lost weight, or stayed the same. This immediate feedback of information can lead the center staff to explore with the mothers certain trends which may be forming, to determine the causes of the situation, and to elicit specific behaviors/practices to improve the situation.

Part of the educational component of the growth monitoring activity should address the need for the mothers to understand the relationship between the weight of the child and the health/nutritional status of the child. Data from most programs indicates that the mothers do not see this relationship, and few mothers use weight gain as a criteria for judging the health of their children. Since the Malagasy population, on the whole, has a higher literacy level than most other African countries, this relationship may be understood more easily. It will be necessary to determine what indicators the Malagasy families use for determining whether their children are healthy, e.g. appetite, happiness, lack of infection, etc. These indicators can then be built into the educational component along with adequate monthly weight gain.

Mothers and other community members should be actively involved in the growth monitoring system. The mothers should be responsible for taking care of the Road-to-Health charts, to carry the chart back home, and to be instructed in how to teach others in the community about the importance of monthly weight gain. Audio-visual aids should also be developed which the mothers can transport back to their neighborhoods to help in the support of the program and of the behaviors being introduced.

Growth monitoring should be done on a monthly basis for all children 0-24 months of age and for those children from 24-60 months who have second or third degree malnutrition. Children growing at a normal rate after 24 months should be monitored every three months since they will not be

receiving food, they will have received their immunizations, and monthly monitoring is not necessary.

E) Nutrition recuperation services are provided at the Children's Hospital, the SMI centers, and at SESMS. Children who are severely malnourished and ill are referred from the SMI center to the Children's Hospital. Other children who are malnourished but not sick are asked to attend the recuperation activities at the SMI center. Children who are released from the hospital are asked to attend a ten-to-twelve day program at the recuperation center at SESMS before returning to the SMI for the monthly check-up.

Attendance at the SMI and SESMS recuperation centers is not required. The Director of the SMI at Tsaralalana and the Assistant Director of SESMS stated that the mothers do not attend on a regular basis. Many times this is due to lack of money for transportation on a daily basis.

The SAWS/MOH program should strengthen the existing recuperation centers through coordinating the services and providing a means by which the mothers and children can easily attend the centers for a reasonable period of time. Food commodities should be made available for use in these centers in addition to requiring the mothers to bring a little rice or a few beans. Children admitted to the hospital recuperation center are often severely malnourished and special tube feedings may be required, including intravenous rehydration solutions.

Detailed information should be collected from the mothers of the malnourished children to help in determining the causes of the malnutrition. Specific weaning food practices and beliefs should be addressed. Nutrition messages targeted at specific nutrition and health related behaviors must be acceptable to the mothers and families of the malnourished before any change will take place. Therefore, adequate time must be spent discussing the current beliefs and practices before changes can be suggested. Mothers and families should actively participate in the education process and in the feeding of their children at the recuperation centers.

Children attending the recuperation centers should be weighed on a weekly basis to determine if there is adequate weight gain.

The educational components of each of the five priority areas (nutrition and health status of the pregnant and lactating woman, weaning food supplementation, oral rehydration therapy, growth monitoring and surveillance, and nutrition recuperation) should be strongly based within the Malagasy culture which stresses the importance of ancestor worship. The Malagasy people believe that upon death people join their ancestors and that ancestors are intensely concerned with the fate of their living descendants. This concern for death can be built into the program and used in supporting the concept of giving a "good start" to the young child, thereby preventing malnutrition, sickness, and possible death.

#### TRAINING OF MOH CENTER PERSONNEL

Training of the staff at the SMI centers, the nutrition midwives of the Children's Hospital, and workers in the recuperation center at SESMS should be conducted by the Director of SESMS and the Director of the Food and Alimentation division of SESM in collaboration with SAWS nutrition education and maternal and child health specialists. Short term technical assistance will also be required in the areas of growth monitoring, formative evaluation, and in any other areas where there is a lack of knowledge or experience.

The training should include the following:

- 1) An overview of the nutrition situation in Madagascar, emphasizing the priority nutrition concerns in the province of Antananarivo
- 2) The goals of the new SAWS/MOH program and how these relate to the nutrition/health problems in Antananarivo
- 3) Description of the PL-480 food distribution program and the nutrition education component and how each relates to the goal of behavior change in the target population
- 4) The roles and responsibilities of each staff member in establishing and advertising the new program, in forming an integrated health care team, and in achieving the goal of appropriate nutrition and health related behaviors in the target population
- 5) Role of the baseline data survey and other in-depth follow-up surveys, design and review of the survey questionnaire, role of dietary food recall including discussion and practice with the questionnaires and food recall

- 6) Techniques on interviewing--questioning, discussing, observing, and eliciting information from mothers and other community members
- 7) Theory and application: nutrition during pregnancy and lactation--determining beliefs and practices, role of child spacing, designing educational messages
- 8) Theory and application: weaning food supplementation and preparation, determining beliefs and practices, designing messages, preparing weaning foods from PL-480 commodities and indigenous foods
- 9) Theory and application: oral rehydration therapy for diarrheal disease--determining current beliefs and practices, designing messages, preparing UNICEF ORS packets and solutions from indigenous foods, preparing sugar/salt solution
- 10) Theory and application: growth monitoring--weighing, completing growth charts accurately, interpreting data on a monthly basis, designing messages
- 11) Theory and application: nutrition recuperation--identification and referral of malnourished children, determining the causes, treatment of dehydration, design of messages pertaining to current beliefs and practices, appropriate weaning food preparations
- 11) Role playing, case studies, debates, discussions, community visits
- 12) Administrative details--managing the increased demand for services, food distribution logistics, education logistics (large groups vs. small groups, etc.)

All training programs must be cleared through Professor Rakotomanga, Head of Staff Training for the Ministry of Health. Since many of the staff members at the health centers have received previous training in nutrition and health, the new training sessions should attempt to build onto this foundation with improvements in accuracy and efficiency and to reorient the thinking of the staff members toward behavioral outcomes.

Before the training program is developed, the training team should examine what has been done by other local organizations with regard to training and developing educational programs. The Malagasy Lutheran Church conducts training sessions for primary health care workers and is currently translating into Malagash the following books: Where There is No Doctor, Nutrition in Developing Countries, and Primary Child Care. UNICEF has also been involved in the training sessions of the Equipe Feminine d'Education Nutritionnelle.

## COMMUNITY INVOLVEMENT AND DEVELOPMENT ACTIVITIES

The focus on urban malnutrition has not been a priority concern for the Malagasy government since its goal is to provide adequate primary health care in rural areas. The SAWS/MOH program will shed light on the serious nutrition problems facing the urban dwellers and the need for developmental activities which will enable city residents to meet their nutrition and health needs.

Urban nutrition programs pose a challenge to community development activities when there are no well defined neighborhoods in which to organize groups of citizens. If this is the case in Antananarivo, artificial community boundaries will need to be established. Within these communities, citizens can be organized to develop income generating projects. Two projects which have the potential of improving the economic as well as the nutrition and health status of a community are a peanut oil press and a simple mill. UNICEF is currently funding the development and implementation of these two projects at the Centre Artisanal in Fianarantsoa. This appropriate technology project is proving to be very popular; therefore, SAWS should examine the possibility of having some of the MOH staff receive training in this type of project.

## MASS MEDIA

The division of Food and Alimentation in SESMS is responsible for producing a weekly radio program, T.V. announcements, and newspaper articles. All forms of mass media should be utilized in order to advertize the SAWS/MOH Program to all pregnant and lactating women and to all families with children under two years of age. A special name should be created for the program which promotes the idea that the program is helping mothers provide a "good start" for their children.

Mass media in the form of posters and other educational audio-visual aids should also be developed for supporting the different educational messages the mothers are discussing at the SMI centers. Educational materials should be easily duplicated so that mothers can transport visual aids back to their neighborhoods.

## PROGRAM PLAN

The following phased program plan is suggested for developing the SAWS/MOH Program. The different activities are listed as well as the audience for whom the activity is intended. The audience is comprised of the people who will be trained as well as the beneficiaries who will participate in the educational process. The developmental supports column includes complementary support systems which should be utilized during the development and implementation of the activity. (see next page)

The focus of each activity, within each phase of the program, must be targeted toward specific behavioral outcomes. If this is assured, the program has the potential of reaching its goal of improved nutrition and health related behaviors of the Malagasy target population.

<u>PHASE</u>	<u>ACTIVITY</u>	<u>AUDIENCE</u>	<u>DEVELOPMENTAL SUPPORTS</u>
I	Introduction of new targeted MCH/Nutr. Program with SAWS & MOH	SESMS SMI Centers, Children's Hospital and SESMS Recuperation Centers	Mass media - radio, T.V., posters Other health care facilities
II	Baseline survey design and data collection - inscription of beneficiaries  Growth Monitoring - weighing and charting - interpretation of data	SMI Centers Beneficiaries  SMI Center Staff Beneficiaries Children's Hospital, SESMS Recuperation Centers - weekly basis	SESMS, Division of Nutrition and Alimentation Nutrition Laboratory, MOH  Technical assistance with Indonesia model UNICEF scales WHO charts
III	Oral Rehydration Education - distribution of ORS - formative evaluation	One or two ORT specialists per SMI Beneficiaries Children's Hospital	Mass media UNICEF ORS packets Intravenous ORS
IV	Diet during pregnancy and lactation/child spacing - formative evaluation - child spacing information	Pregnant/lactating women Husbands	UNFPA FISA (Family Planning Office) SESMS Mass media
V	Weaning food supplementation - formative evaluation - preparation from PL 480 commodities and indigenous foods	SMI Center Staff Children's Hospital Recuperation Center SESMS Recuperation Center	Mass media Equipe Feminine d'Education Nutritionnelle
VI	Community Development Activities - formative evaluation	Beneficiaries Communities SESMS	UNICEF Centre Artisanal de Fianarantsoa Malagasy Lutheran Church

ANNEX

(1 - 5)

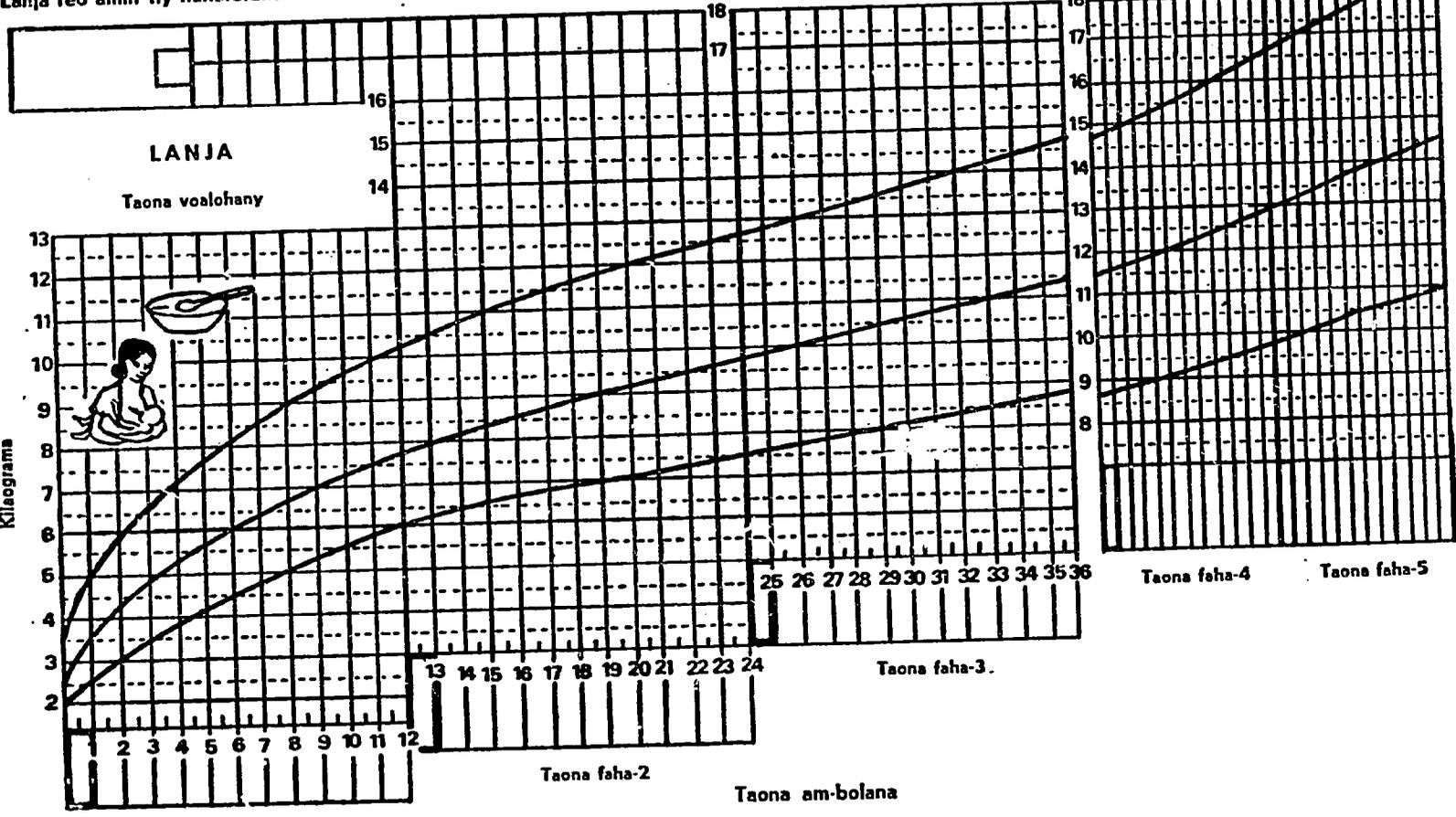




# ANTONY ILANA FANARAHAMASO MANOKANA

Anarana : .....

Lanja teo amin' ny nahaterahana : ..... kg





Annex 3. Persons Contacted in the Sudan

Dr. Richard Longhurst, Consultant, FAO  
Dr. Samir Basta, Director and Nutritionist, UNICEF  
Mr. Bruce Strassburger, Consultant, One America  
Mr. Tom McDermott, Senior Program Officer, UNICEF  
Mr. Gary Leinen, Health/Nutrition Officer, Health Division, AID  
Dr. Mary Ann Micka, health Division Head, AID  
Mr. Peter Kranstover, Assistant Projects Officer, AID  
Mr. Art Mudge, Director, AID  
Mrs. Suzan Wesley Stacy, Nutritionist, Dept. of Community Medicine,  
University of Khartoum  
Mr. Robert E. Blinci, Egypt Field of Seventh-Day Adventists, Cairo  
Dr. Jerald Whitehouse, Director, SAWS/Sudan, Juba  
Mrs. Alawia El Amin, Deputy Director, Nutrition Unit, Ministry of Health  
Dr. Kamal Ahmed Mohamed, Director, Nutrition Unit, Ministry of Health  
Mrs. Shahwa El Gizouli, Director, School Garden and Nutrition Education  
Division, Ministry of Education  
Dr. Halda Zair, Director, Comprehensive Child Health Center, Omdurman  
Patris Wanis, Nutrition Officer, El Khatima Health Center, North Khartoum  
Nutrition Guide, School Garden and Nutrition Education Program Center,  
Omdaun Nutrition Center

Annex 4. Persons Contacted in Madagascar

Seventh Day Adventist World Service

Mr. S. Coongadoo, SAWS Director  
Mr. Berkhart, Seventh Day Adventist College  
Mr. Randrianasolo, Secretary, Seventh Day Adventist Mission  
Mr. Augsberger, President, Seventh Day Adventist Union Mission

Ministry of Health

Prof. Ramakavelo, Service Statistiques Sanitaire et Demographique  
Dr. Roger Andrianasolo, Director, Nutrition Laboratory  
Prof. S. Rakotomanga, Director, Medicine and Public Health Training  
Division

Prof. Andriamampiantona, Secretary General

Mr. Ramangalahy, Director, Service d'Education Sanitaire et de la Medicine Sociale (SESMS)

Aimee Rabeaja, Director, Division of Nutrition and Alimentation, SESMS

Dr. Ramiaramanana, Director of Pharmacy and Laboratory

Dr. Ribaira, Director, Public and Social Hygiene

Prof. Randriambololona, Pediatrician, Childrens Hospital

Dr. Ravelonanosy, Director, Service Maternelle et Infantile (SMI)

Ministry of Population

Mr. Robinson, Education Specialist

Liliane Rajhonina, Pre-school Training Specialist, Sociologist

Mrs. Andreas, Director, Maternal and Child Conditions

Fianakaviana Sambatra (FISA) Family Planning Office

Mr. Andriamasinoro, Information and Education Officer

Dr. Razanatoro, Treasurer

Mrs. Rosoarivelo, Social Worker

Mrs. Ramandratoaso, Field Worker

Mrs. Ramatitera, President for Committee for Family Guidance Center

Malagasy Lutheran Church

Dr. and Mrs. Stanley Quanbeck, Directors

Agnes Rasamimampianina, Sociologist

Eva Falkenberg, Primary Health Development Project

Zo Rasamoely, Primary Health Development Project

U.S. Embassy and AID

Mr. Tuttle, Economic Advisor, U.S. Embassy

Mr. Robert Kidd, Regional Food for Peace Officer, Nairobi

United Nations

Mrs. Rosemary McCreery, Program Administrator, UNICEF

Mr. Paul Frenay, Joint Representative, World Food Program

Mr. Claude Paulet, Joint Representative of UNFPA

Catholic Relief Service

Father Bisson, Director

Miss Lisa Gaylord, Program Assistant

Consultants

Neil Wilkie, World Bank

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