

World Relief Mozambique

DETAILED IMPLEMENTATION PLAN

Vurhonga Child Survival XI Project

**Mabalane and Guijá Districts
Gaza Province
Mozambique**



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COOPERATIVE AGREEMENT NO:

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September 30, 1995 - September 29, 1999

SUBMISSION:

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DIP DEVELOPMENT TEAM:

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LIST OF ACRONYMS

AMDA	Association of Medical Doctors of Asia
CS	Child Survival
CSSP	Child Survival Support Program
DIP	Detailed Implementation Plan
GM	Growth Monitoring
HIS	Health Information System
HQ	Headquarters
KPC	Knowledge, Practice, and Coverage
LAM	Lactational Amenorrhea Method
LBW	Low Birth Weight
LWF	Lutheran World Federation
MOH	Ministry of Health
MSF	Medecins Sans Frontieres
NGO	Nongovernmental Organization
OMM	Organizaçao da Mulher Moçambicana, the Women's Organization of Mozambique
ORS	Oral Rehydration Solution
ORT	Oral Rehydration Therapy
STD	Sexually Transmitted Disease
TBA	Traditional Birth Attendant
TOT	Training of Trainers
TT	Tetanus Toxoid
VPD	Vaccine Preventable Diseases
WR	World Relief

TERMS USED IN THE WORLD RELIEF VURHONGA CS PROJECT

aldeia	a village
animator	health worker, salaried by the project to train the aldeia volunteers who will, in turn, train the mothers in the child survival interventions
block	a group of 10 families who live close to each other. This structure has existed in the rural areas since before the civil war
care group	a group of 10 volunteers, from the aldeia, who meet twice a month to be trained to teach mothers the child survival interventions.
quarter	a group of 4 blocks or 40 families
socarista	a volunteer at the aldeia level, often a man, trained by the MOH in first aid, who charges people for basic consultations. His basic medication supply is refilled by the MOH at no charge to him.
supervisor	three project supervisors will oversee the work of several animators in the field
volunteer	a woman, chosen by her block of 10 families, to give leadership to the block, keep harmony in the block and receive training in the child survival messages

Section A. FIELD PROJECT SUMMARY (See Table A)

Section B. PROJECT GOALS AND OBJECTIVES (See Table B)

Section C. LOCATION AND FORMAL AGREEMENT

C.1. Location Maps: See Appendix A for maps of the project location.

C.2. Location Description

The Vurhonga¹ project is situated within the province of Gaza in southern Mozambique on the eastern bank of the Limpopo River. The impact area encompasses the entire district of Guijá and all of the district of Mabalane east of the Limpopo, two contiguous districts.

The impact area is almost all rural except for the town of Guijá which could be considered periurban. Mozambique is emerging from a long war in which many of the people lost everything and fled for their lives. Now that peace has been established many people have returned with their few belongings to their original communities. Displaced people still continue to trickle back into the project communities. Most have little more than their clothes, a few cooking utensils and the grass roofs over their heads. A few have chickens and goats. A prolonged drought has contributed to the on-going pain and misery. The people of Mabalane and Guijá are Shangaan. Tsonga is their language. Most Shangaan in Gaza are animists who worship ancestral spirits. The culture is patriarchal. Women are primarily responsible for food production and child care. Results of the Vurhonga child survival (CS) baseline survey showed that only 27% of the 300 mothers interviewed were literate.

Several major constraints tend to jeopardize child survival initiatives. First, poverty and climatic conditions keep the people at a subsistence level. Most women spend long hours in the fields working to produce food for the family. Over the last few years, drought has greatly reduced their food production. This year's rains, which started out to be very promising, have not improved the situation. January's rainfall was so heavy that much of Guijá was flooded causing widespread crop damage. Poverty has kept the people from replenishing their small animal herds which were destroyed during the war. Consequently, food security remains a major problem. The heavy rainfall and flooding have also caused a malaria epidemic. During the week prior to the writing of this report in March, twenty-two children, almost all under 5, died from malaria in the Vurhonga impact area. The Mozambique Ministry of Health (MOH) requested that the Vurhonga CS staff track malaria morbidity and mortality for children under 10 and over 10 during this emergency period.

The second constraint is socio-political. Villagers have become very skeptical of outsiders who attempt to hold meetings for any purpose. They are tired of coming to meetings where they were

¹Tsonga word for "Dawn"

DIP TABLE A: FIELD PROJECT SUMMARY

PVO/Country: World Relief Mozambique

Cooperative Agreement No.: FAO-0500-A-00-5023-00

Project Duration (mm/dd/yy):

Start Date September 30, 1995--September 29, 1999

Estimated Completion Date September 29, 1999

1. PERCENT OF TOTAL USAID CONTRIBUTION BY INTERVENTION

Percentages must add to 100%.

INTERVENTION	Percent of Total Project Effort (%)	Percent of Total USAID Funds in US \$
Immunization	20	220,000
Diarrhea Case Management	20	220,000
Nutrition	20	220,000
Micronutrients		
Pneumonia Case Management		
Maternal Care	12.5	137,500
Family Planning	12.5	137,500
Malaria Prevention & Management	15	165,000
HIV/AIDS Prevention		
Other (specify)		
Other (specify)		
TOTAL	100%	\$1,100,000

2. SIZE OF THE POTENTIAL BENEFICIARY POPULATION

Note: Potential beneficiaries are the individuals eligible to receive services under Child Survival funding to whom you will provide services. Females (ages 12-49) should only be included as direct beneficiaries of services (for example, TT immunizations or family planning services), and not for educational interventions (for example, education on proper use of ORT).

Current Population Within Each Age Group	Number of Potential Beneficiaries
Infants, 0 - 11 months	5,362
Children, 12 - 23 months	5,362
Children, 24 - 59 months	16,086
Children, 60 - 71 months (If Vitamin A component)	0
Females, 12 - 49 years	24,451
Total Potential Beneficiaries Per Year	51,261

**World Relief Mozambique
Vurhonga Child Survival Project Objectives**

Objectives	Year 1	Year 2	Year 3	Year 4
Immunization				
1. Children completely immunized by 12 months	37.4%	45%	60%	80%
Diarrhea Case Management				
2. Children with diarrhea in the last two weeks who have received ORT	46.8%	50%	55%	60%
3. Mothers who give more food than usual to a child during recovery (at least one week) from diarrhea	8.4%	15%	25%	35%
4. Children weighed in the last 3 months	58.6%	60%	65%	70%
Nutrition/Growth Monitoring				
5. Mothers who receive rehabilitative nutrition counseling for children who have not gained weight since last being weighed	20%	40%	60%	80%
6. Children exclusively breastfed	15.8%	20%	25%	30%
Malaria Case Management				
7. Children treated within 24 hours for malaria	11.4%	15%	25%	35%
Maternal Care				
8. Mothers who receive at least one prenatal care check during the last pregnancy	30%	45%	50%	55%
9. Women who have received at least 2 doses of tetanus toxoid	37.3%	45%	50%	60%
Birth Spacing				
10. Women using family planning	6%	10%	12%	15%
Sustainability				
11. Care groups which met 4 times during the last six months of the year	90	85	80	75
12. World Relief installed borehole pumps functioning at least 11 months annually	50	55	60	70
13. Meetings between MOH personnel and care group representatives annually at each mobile EPI/GM session	0	0	1	3

DIP TABLE B: PROJECT GOALS AND OBJECTIVES
World Relief Mozambique Vurhonga CS Project

- PROJECT GOALS:**
1. To reduce mortality and morbidity for children under 5 years of age and women 12-49 years
 2. To strengthen the capacity of the MOH to implement CS interventions
 3. To empower communities to make decisions that protect the growing minds and bodies of their children

(1) Project Objectives by	(2) Measurement Method for Objectives	(3) Major Planned Inputs	(4) Outputs	(5) Measurement Method for Outputs
1. To increase the number of children completely immunized by 12 months from 37.4% to 80%	1. KPCs - baseline, midterm and final 2. HIS	1. Training supervisors, animators, volunteers and OMM leaders 2. Training mothers on home visits and at mobile sessions 3. Meetings with MOH personnel to establish linkages between volunteers and MOH at EPI mobile sessions 4. Negotiate with MOH and assist them to maintain regular EPI sessions 5. Quarterly feedback to the aldeia on progress made on this objective	1. Increase in number of children attending EPI sessions 2. Trained supervisors, animators, volunteers and OMM leaders 3. Trained mothers 4. Volunteers assisting MOH personnel at the EPI mobile sessions	1. HIS quarterly reports
2. To increase the number of children with diarrhea in the last two weeks who have received ORT from 46.8% to 60%	1. KPCs - baseline, midterm and final 2. HIS	1. Training supervisors, animators, volunteers and OMM leaders 2. Training mothers on home visits and at mobile sessions 3. Working with MOH to maintain ORS supplies at the aldeia level	1. Increase number of children with diarrhea who receive ORT 2. Trained supervisors, animators, volunteers and OMM leaders 3. Trained mothers	1. HIS quarterly report 2. Observation of mother preparing and administering ORS on home visits

DIP TABLE B

<p>3. To increase the number of mothers who give more food than usual to a child during recovery (at least one week) from diarrhea from 8.4% to 35%</p>	<p>1. KPCs - baseline, midterm and final 2. HIS</p>	<p>1. Training supervisors, animators, volunteers and OMM leaders 2. Training mothers on home visits and at mobile sessions 3. Quarterly feedback to the aldeia on progress made on this objective</p>	<p>1. Increase number of children with diarrhea who receive more food than usual during recovery from diarrhea 2. Trained supervisors, animators, volunteers and OMM leaders 3. Trained mothers</p>	<p>1. HIS quarterly report 2. Observe mothers' infant/child feeding pattern following a child's diarrhea episode</p>
<p>4. To increase the number of children 0-35 months weighed in the last 3 months from 58.6% to 70%</p>	<p>1. KPCs - baseline, midterm and final 2. HIS</p>	<p>1. Training supervisors, animators, volunteers and OMM leaders 2. Training mothers on home visits and at mobile sessions 3. Quarterly feedback to the aldeia on progress made on this objective</p>	<p>1. Increase number of children weighed in the last 3 months 2. Trained supervisors and animators to do growth monitoring 3. Train volunteers and OMM leaders to understand and interpret the marks on the growth card with relation to the direction of the arrow and the bottom line on the road to health 3. Trained mothers to attend the mobile GM sessions</p>	<p>1. HIS quarterly report 2. Return demonstrations during the training sessions for supervisors and animators 3. Post test for volunteers and OMM leaders in the care group sessions using several filled in GM cards</p>

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DIP TABLE B

<p>5. To increase the number of mothers who receive rehabilitative nutritional counseling for children 0-35 months who have not gained weight since last being weighed from 20% to 80%</p>	<p>1. HIS</p>	<p>1. Training supervisors, animators and OMM leaders to provide nutritional counseling to mothers of growth faltering or malnourished children 2. Training volunteers to counsel mothers of growth faltering and malnourished children on home visits and at mobile EPI/GM sessions 3. Quarterly feedback to the aldeia on progress made on this objective</p>	<p>1. Increase number of mothers of children with growth faltering and/or malnutrition who given nutritional rehabilitative counseling 2. Trained supervisors, animators to give rehabilitative nutrition counseling 3. Train volunteers and OMM leaders to understand and interpret the marks on the growth card with relation to the direction of the arrow and the bottom line on the road to health and provide rehabilitative nutrition counseling 4. Trained mothers to improve their infant/child feeding practices</p>	<p>1. HIS quarterly report 2. Post test using role plays of counseling scenarios 3. Observation of mothers infant and child feeding patterns during home visits</p>
<p>6. To increase the number of children 0-4 months exclusively breastfed from 15.8% to 30%</p>	<p>1. KPCs - baseline, midterm and final 2. HIS</p>	<p>1. Training supervisors, animators and OMM leaders 2. Training volunteers 3. Training mothers on home visits and at mobile EPI/GM sessions 4. Quarterly feedback to the aldeia on progress made on this objective</p>	<p>1. Increase the numbers of mothers who exclusively breastfeed 2. Trained supervisors, animators and OMM leaders 3. Trained volunteers who exclusively breastfeed their own children 4. Trained mothers</p>	<p>1. HIS quarterly report 2. Post test using role plays</p>

DIP TABLE B

<p>7. To increase the number of children 0-59 months treated within 24 hours for malaria from 11.4% to 35%</p>	<p>1. KPCs - baseline, midterm and final 2. HIS</p>	<p>1. Training supervisors, animators, volunteers and OMM leaders 2. Training volunteers 3. Training mothers on home visits and at mobile EPI/GM sessions 4. Quarterly feedback to the aldeia on progress made on this objective</p>	<p>1. Increase number of children treated within 24 hours for malaria 2. Trained supervisors, animators and OMM leaders 3. Trained volunteers 4. Trained mothers</p>	<p>1. HIS quarterly report 2. Documenting any lack of chloroquine at the aldeia level in the HIS</p>
<p>8. To increase the number of mothers who received at least one prenatal care check during the last pregnancy from 30% to 55%</p>	<p>1. KPCs - baseline, midterm and final 2. HIS</p>	<p>1. Training supervisors, animators, volunteers and OMM leaders 2. Training volunteers 3. Training TBAs in conjunction with the MOH 4. Training mothers on home visits and at mobile EPI/GM sessions 5. Quarterly feedback to the aldeia on progress made on this objective</p>	<p>1. Increased numbers of pregnant women who receive early prenatal checks 2. Trained supervisors, animators and OMM leaders 3. Trained volunteers 4. Trained TBAs</p>	<p>1. HIS quarterly report</p>
<p>9. To increase the number of women who have received at least 2 doses of TT from 37.3% to 60%</p>	<p>1. KPCs - baseline, midterm and final 2. HIS</p>	<p>1. Training supervisors, animators, volunteers and OMM leaders 2. Training TBAs in conjunction with the MOH 3. Training mothers on home visits and at mobile EPI/GM sessions 4. Reinforcing the importance of avoiding missed opportunities with the MOH mobile teams 5. Quarterly feedback to the aldeia on progress made on this objective</p>	<p>1. Increased numbers of women immunized with TT. 2. Trained supervisors, animators and OMM leaders 3. Trained volunteers 4. Trained TBAs 5. MOH personnel who offer TT to mothers who attend the mobile sessions to immunize their children</p>	<p>1. HIS quarterly report 2. Observations made of the MOH mobile team during EPI session</p>

DIP TABLE B

<p>10. To increase the number of women using family planning from 6% to 15%</p>	<p>1. KPCs - baseline, midterm and final 2. HIS</p>	<p>1. Training supervisors, animators, project drivers and OMM leaders 2. Training volunteers 3. Training TBAs in conjunction with the MOH 4. Training mothers on home visits and at mobile EPI/GM sessions 5. Negotiating with MOH to increase access to contraceptives at the aldeia level by providing them to the socaristas 6. Quarterly feedback to the aldeia on progress made on this objective</p>	<p>1. Increased numbers of women using a modern contraceptive 2. Trained supervisors, animators, project drivers and OMM leaders 3. Trained volunteers 4. Trained TBAs</p>	<p>1. HIS quarterly report 2. Documenting any lack of contraceptive supplies at the aldeia level in the HIS</p>
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promised there would be food distributed only to find that there was no food, only some external agent's agenda. It has become difficult to bring the community together for community activities unless the people are somehow convinced of the importance of the initiative.

Finally, the Shangaan believe that their wealth and their well-being in old age lies with many children. The staff estimate that approximately 2/3 of the men have more than one wife in the project area. A woman must continue to bear children as long as the cows given for her dowry are still calving. This belief contributes to a very low contraceptive use rate. Modern contraceptive use was only 6 % on the baseline survey.

The infant mortality rate in Mozambique is 164/1,000 live births; the under-five mortality rate is 282/1,000 live births; and the maternal mortality rate is 300/1,000 live births². The main causes of infant death are malaria (31%), malnutrition (17%) and pneumonia (15%). Under-five deaths are due to malaria (47%), malnutrition (20%) and pneumonia (10%); and maternal deaths result from eclampsia, hemorrhage, cerebral malaria and infections³.

The current health structure in the district of Mabalane is one health center in Mabalane itself, staffed with five nurses. There are four health posts in Macaral, Combomune Sede, Muinge and Tsocate, all of which should be staffed with a nurse/midwife. However, only Combomune Sede is currently staffed with a nurse. The rest of the posts in the Mabalane district are staffed with a volunteer, known as a "socarista," with minimal training in first aid. Guijá has one MOH health center in Guijá itself and eight health posts in more distant aldeias (villages). Four of these health posts are staffed with qualified nurse/midwives and the rest are staffed by socaristas. These socaristas are trained in first aid by the MOH which gives them a kit with some basic medications to use. The socarista then charges each person (about 20 US cents) for his advice and basic treatment. The consultation charge does not cover the cost of the medications however which continue to be supplied by the MOH. See Appendix A for a map of the project area and locations of health centers and health posts.

The MOH provides the following CS interventions in the project area: EPI, nutrition and growth monitoring, diarrhea control, malaria control, maternal care, ARI control, and family planning. Unfortunately, due to lack of general public awareness of these services, long distances and lack of trained staff, many of these services are not easily accessible or utilized where they are accessible.

² *State of the World's Children*, UNICEF. Oxford University Press, 1995.

³ Gaza Province MOH statistics

Section D. PROJECT DESIGN

D.1. Summary of Overall Project Design

The Vurhonga CS project is designed to reduce mortality and morbidity for children under 5 years of age and for women 12-49 years of age by training mothers in protective health behaviors, strengthening the capacity of the Mozambique MOH in CS interventions and empowering leaders and families to launch CS activities in their community. CS initiatives will be carried out with the help of approximately 1,080 block volunteers, organized into 108 care groups which are trained by 18 project animators and 3 supervisors. A total of 30 Traditional birth attendants (TBAs) in the project area will be trained by MOH personnel with the assistance of the Vurhonga CS staff in order to provide at least one trained TBA in those aldeias where there are no health posts or centers. During 1995, 8 TBAs were trained by the MOH in Guijá. At least 22 more will be trained.

Interventions in the impact area were selected to address the main local causes of under 5 morbidity and mortality and the causes of maternal morbidity. These interventions with corresponding high risk populations were chosen: diarrhea control (0-59 months), malaria control (0-59 months), growth monitoring/nutrition (0-35 months), immunizations (0-23 months), maternal health and family planning (women 12-49 years).

In the interests of sustainability, Vurhonga has been built upon a "block" structure already functioning within the villages or "aldeias" as they are called in Mozambique. Ten families are grouped into a block. Blocks are organized into groups of four or "quarters" and quarters are organized into "bairros." An aldeia can contain several bairros if the population is large enough. The block structure was originally created by the Organizaçao da Mulher Moçambicana (OMM), the Women's Organization of Mozambique, to organize women for community action which included health activities and the maintenance of harmony within each block. Each block has appointed a volunteer OMM woman representative. Most of the present volunteers participating in the Vurhonga CS project are OMM volunteers.

These project OMM volunteers are being trained in the CS interventions by the Vurhonga animators. In order to facilitate training for so many volunteers, the Vurhonga staff have organized the volunteers into care groups of 10 each. Currently there are 66 care groups, 671 volunteers representing 6,333 families. Due to the floods, several project communities have yet to be organized into care groups. The final project goal will be to have at least 1,080 volunteers organized into at least 108 care groups.

Using the block structure as the basic unit for the project makes it possible for every woman 12-49 years old and every child under 5 to be reached by a volunteer with CS interventions and health messages. The low ratio between animators and volunteers will mean that most of the training will have to occur in the group setting rather than one-on-one. One-on-one supervision by the Vurhonga animators on home visits will be reserved for those volunteers that appear to be

having difficulty relating to mothers in their block. The advantage of this high ratio is that many more mothers will receive full training in the interventions and the care group will provide peer support for those volunteers having difficulty sharing the messages.

In addition to training volunteers, Vurhonga CS staff will assist the MOH to identify existing TBAs and train them in safe deliveries and postnatal care. Finally, the Vurhonga CS director and CS health educator will train provide training to MOH staff in Guijá and Mabalane on CS topics as the needs are identified and the MOH begins to recognize Vurhonga staff as a strategic resource for training.

The Vurhonga CS project builds on several years of past involvement in Gaza province in both food and seeds and tools distribution and a very successful water/sanitation program. The Vurhonga health educator, several animators and two drivers from the water program were recruited for the Vurhonga CS project. World Relief, as represented by these people recruited from the water team, is well known and trusted throughout the project area and have built strong relationships with community leaders. They also know the geography of the area very well. This has greatly facilitated the acceptance of the child survival project in the two districts and has allowed World Relief to build on the knowledge and skills these staff have already developed in disseminating health messages and in persuading community members to change their health behaviors.

D.2. Collaboration and Formal Agreements

Vurhonga staff are presently collaborating with the Mabalane and Guijá MOH and the Gaza provincial MOH in Xai Xai. Other PVOs which are active in health in the Vurhonga project area and are coordinating activities with World Relief (WR) are Medecins Sans Frontieres (MSF), the Association of Medical Doctors of Asia (AMDA), and the Lutheran World Federation (LWF).

Several planning sessions have been held with the Mabalane, Guijá and Gaza MOH directors. Currently, Dr. Pieter Ernst, CS director, is working with the Mabalane MOH director, TBA trainer and AMDA to set up a training program for 12 TBAs from Mabalane. A meeting was held in March in Mabalane with AMDA, MSF Spain, the MOH and Vurhonga CS staff to discuss future coordination of health activities in Mabalane. MSF Spain has been building and refurbishing clinics in Mabalane and MSF Switzerland has been refurbishing clinics in Guijá. They also have plans to create dramas to disseminate health messages in Guijá. MSF has asked Vurhonga staff to encourage people to attend these dramas. Since WR staff plan to train the CS volunteers to do dramas with health messages as well, a coordination meeting will be set up with MSF Switzerland in order to cooperate in this effort. AMDA, has renovated some health posts in Mabalane and has built and furnished a maternity ward in the Mabalane Health Center.

During 1995, prior to project startup, the CS project director, health educator and WR country director spent one week with the World Vision staff in the CS project in Quelimane for orientation purposes.

The CS project staff will be coordinating efforts with the ongoing WR community bank program. This community bank program is being implemented in Guijá using funds external to the child survival grant. Currently WR has seven community bank groups in the main center of Guijá, Caniçado. CS health messages are included in each of the weekly group meetings.

No direct exchange of finances between the project and the MOH is planned. However, the Vurhonga project staff plan to facilitate the MOH TBA training efforts both in Mabalane and Guijá by providing transportation and board for the TBAs during their training. Following their training the TBAs will be linked to a Vurhonga CS care group in their bairro and in that way ensure a strong link with the broader community health initiatives. However, the TBAs will continue to be supervised by the MOH.

The Vurhonga CS director also plans to work with the district MOH staff in Mabalane and Guijá to offer training opportunities for MOH staff once areas of need have been identified. Possible inservice topics include prenatal care, case management of the child with pneumonia, protecting the cold chain, managing supplies at the health post and health center level, working with volunteers.

No formal agreements are necessary since the project is not subcontracting with any other organization to implement the project.

The following were consulted in the development of this DIP: Mabalane and Guijá MOH Directors and Mr. Moiane, director of EPI program in Guijá. Also consulted were AMDA, MSF, LWF, the Vurhonga animators and the Vurhonga volunteers, Lydia Chiboleka, midwife at Guijá health center and mothers of malnourished children in Chokwé hospital. Coordination between the churches and the project was discussed with Pastor Machava from Chinhacanine and in Guijá a representative from the fraternity of churches in Mabalane.

During an overnight stay in Acord du Lusaka, the DIP development team also discussed plans for the project with Julio Machava, the president of Sifo aldeia, Jose Phakali Yilawando, secretary of Acord du Lusaka aldeia, Maria Elena, secretary of OMM for the district of Guijá, and Milicina Hlahla, OMM secretary for Acord du Lusaka. All of the project communities have also been consulted in the process of project start-up.

D.3. Technical Assistance

During October and November technical assistance was provided by Dr. Muriel Elmer from WR headquarters to implement the Knowledge Practice and Coverage (KPC) baseline survey. Training for curriculum development for CS interventions was also provided at that time to the Vurhonga management team. Dr. Nancy Cano from WR's CS project in Nicaragua worked with the Vurhonga staff for 3 months, October, November and December, assisted with the KPC baseline survey and trained the entire Vurhonga staff in the following areas: a basic introduction to each of the project interventions, focus group techniques and participative techniques for

training mothers at the aldeia level, lessons learned in CS in Nicaragua and health information systems (HIS).

Dr. Maria De Luz Vas, Mozambique MOH TBA Coordinator, in Maputo is providing ongoing technical assistance to the Vurhonga CS director for the development of the project HIS. Dr. De Luz is skilled in working with preliterate TBAs. Many of the principles learned in the national Mozambique TBA training curriculum and HIS for TBAs can be transferred to the Vurhonga CS curriculum development and HIS development process. Personnel from the World Relief headquarters CS team will continue to provide technical assistance to Linda Nghatsane, the health educator, as she develops curriculum for each intervention and for any other technical needs that arise.

There is also a need to develop management and supervisory skills of the CS management team. Assistance from WR line management personnel at HQ is presently being discussed to provide some training to the team in this area.

D.4. Detailed Plans by Intervention

D.4.a. Immunizations

D.4.a.1 Incidence and Outbreaks

There are no surveillance data for vaccine preventable diseases presently being gathered in the project area at the community level. Each health center and health post has a list of "notifiable" diseases which they must report to the provincial MOH once they are diagnosed. These diseases include, diarrhea, measles, tetanus, whooping cough, polio, trypanosomiasis, cholera, rabies and typhus. No outbreaks of vaccine preventable diseases (VPDs) have been recorded in Mabalane or Guijá during the last 2 years.

D.4.a.2. Baseline Coverage Estimates

Immunization coverage for children in the project area based upon the KPC baseline survey as compared to the MOH immunization coverage rates for 1995 in Mabalane and Guijá is as follows:

Immunization	Vurhonga CS area KPC Baseline	Mabalane District	Guijá District
DPT1	67.8%	88%	36%
DPT3	47%	73%	22%
OPV3	46.1%	73%	22%

Immunization	Vurhonga CS area KPC Baseline	Mabalane District	Guijá District
Drop-out rate	30.8%	17%	38%
Completely Immunized	37.4%	--	--
Births fully covered by TT2	37.3%	9%	44%

The 1995 project baseline DPT3 coverage in the project area, 47%, is about the same as the overall DPT3 coverage rates for Gaza in 1993 which were 48%. BCG coverage however is better now in the project area, 68.7%, than the Gaza BCG coverage in 1993 when it was 55%⁴.

D.4.a.3. MOH Policies

The MOH immunization schedule for Mozambique is as follows:

MOH Policies EPI Program, Ministry of Health, Mozambique

1. National Schedule for Immunizing Children

Antigen	Ideal age to Initiate	Dose	Route
BGC	At birth or as soon as possible after birth	< 1 year 0.5 ml > 1 year 0.1 ml	Intradermally
Initial Polio	At birth or as soon after birth as possible, with BGC	1 or 2 drops according to the manufacturer	Orally
DPT 1 DPT 2 DPT 3	2 months 3 months 4 months	0.5 ml 0.5 ml 0.5 ml	Intra musc Intra musc Intra musc
Polio 1 Polio 2 Polio 3	2 months 3 months 4 months	1-2 drops 1-2 drops 1-2 drops	orally orally orally
Measles	9 months	0.5 ml	Subcutaneously

⁴1993 Gaza immunization coverage rates from Mozambique USAID Mission Health Strategies

2. National Schedule for Tetanus Toxoid Immunizations for Fertile Age Women (12-49 years)

Dose	Minimal Interval	Level of Protection	Duration of Protection
TT1		0	0
TT2	4 weeks later	80%	3 years
TT3	6 months later	95%	5 years
TT4	1 year	99%	10 years
TT5	1 year	99%	entire life

Immunization should be done during the first trimester of pregnancy.
 There is no maximum interval between doses.
 There are no contraindications.

Target groups: pregnant women, fertile age women, some students

Note: The Mozambique immunization schedule differs from the WHO/UNICEF schedule in that the Mozambique schedule also includes an initial polio at birth and WHO/UNICEF does not.

D.4.a.4. Knowledge and Practice

On the project KPC baseline survey, the majority of mothers, 80.7%, reported her child had received at least one immunization and 80.3% had an immunization card for her child. Although 53.9% of the children had received measles vaccine, only 8.7% of the mothers knew that it should be given to a child at nine months. Also, 10.7% of the mothers knew that tetanus toxoid was needed to protect both mother and newborn against tetanus and 51.3% knew that a pregnant woman needs two or more doses of tetanus toxoid to protect a newborn infant from tetanus. Finally, 37.3% of the mothers surveyed had received two or more doses of tetanus toxoid.

D.4.a.5. Immunization Objectives

Objective # 1 To increase the number of children completely immunized by 12 months from 37.4% to 80%

Objective # 9 To increase the number of women who have received at least two doses of tetanus toxoid from 37.3% to 60%

D.4.a.6. Approach

Existing immunization services are fairly good in Guijá considering the constraints facing the MOH mobile immunization/growth monitoring team which administers the vaccines. The Guijá

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mobile team visits all areas of the district hopefully bimonthly, but at least three times a year. In Chibabel where there is a large concentration of people the team makes a monthly visit. The EPI team comes to the same aldeia on the same numbered day every month unless that number falls on a Saturday (in which case it comes the Friday before) or on a Sunday (it arrives the next day). Generally there are sufficient vaccines and the cold chain is not a problem if the vaccines are kept at the health center in Guijá. For a time vaccines were kept in a kerosine refrigerator at the health post in Chibabel where it was a problem to maintain the cold chain. The MOH now keeps all vaccines in the main health center in Guijá.

The Mabalane EPI team has had less success covering that district. Two vaccinators are supposed to visit each aldeia bimonthly. However, they have had transportation problems over the last year. LWF has offered to help with transport. Vurhonga volunteers will be asked to monitor whether or not this solves the problem. Besides the EPI sessions held by the mobile teams at least three times a year, immunizations are only available at the two health centers in Guijá and Mabalane at any other time. There have been sufficient vaccines in both districts during recent months and the cold chain refrigerators are functioning in both districts.

The MOH mobile teams do give tetanus toxoid (TT) to fertile-age woman who are not pregnant at the EPI sites. However, most TT doses are given to pregnant women at the EPI sessions and at the health center during prenatal visits.

Barriers to achieving full immunization coverage include the long distances mothers must walk to some mobile EPI sites. For instance, from Maimane, one of the most distant aldeias in the Guijá cachement area, it is almost a full day's walk to the nearest EPI site at Nalaze. This means that a mother must stay overnight. In these instances where the distances to walk are great, the MOH team is experimenting with staying two or three days in order to be available to those who come far. For most of the project mothers it is much closer but still not easy, especially when a child is older and heavier, closer to nine months, and must be carried on her back.

Recently the rains with the floods have made it impossible for the Guijá team to get out into the aldeias. In fact, during the last month, the entire town of Guijá (where the mobile team is situated) has been isolated by floods making it impossible to get out into the district without first taking a boat. Fortunately, this flooding is not a common occurrence and hopefully will not continue to be a problem in the district.

During the rainy season it is high priority for a woman to be in the fields all morning in order to have any hope of producing a crop that will feed her family through the year. Mothers place such high priority on food production that the Vurhonga CS animators say that they will commonly go to the fields in the morning regardless whether they have a sick child at home. Treatment must wait until the afternoon. During the rainy season months, it is much more difficult for a mother to make immunizing a child her priority when the fields need to be worked.

Finally, the MOH personnel say that many mothers still lack knowledge about how important immunizations are in protecting a child from the vaccine preventable diseases.

The Vurhonga CS volunteer will be trained in the importance of immunizations to the well being of the children in her block. The volunteer will identify every child that needs immunizations (both children under 12 months and those children who are defaulters), encourage the mother to attend the EPI sessions and make sure that she is aware what day the team will be coming. In their own bimonthly meetings, the volunteer care group will discuss possible approaches for those children who remain unimmunized in spite of the usual encouragement and reminders to the mothers. The volunteers will also be expected to attend the EPI sessions for an hour or so during the one day every two months to help MOH personnel organize the EPI and growth monitoring (GM) stations and provide interactive health talks and sing health songs, accompanied with dance, at various junctures during the day for the waiting mothers. A volunteer will also be asked to alert her animator if EPI sessions are canceled or there is a lack of vaccines so that the problem can be discussed with the MOH and some solution negotiated.

Immunization activities will be planned to cover the entire project area at one time. The immunization intervention will be introduced into the curriculum during the 3rd quarter of Year 2. Since all children under 5 in the project area will be registered in the program, the volunteers will be able to follow up on those in the high risk group for immunization. Every woman will also be registered. The volunteer will be able to follow up on each woman's TT status. The volunteers will target as high risk those children under two who have yet to complete their immunization schedule, malnourished children not yet immunized, children 12-23 months not yet completely immunized and pregnant women still needing TT.

D.4.a.7. Individual Documentation

The child's immunization card and the maternal immunization card used by the MOH are attached in Appendix B. When a card is lost, the MOH personnel tend to ask which sites were used for immunizations and ascertain from the mother's report where the child is on the schema. Both of the above mentioned cards, held by the mother, are the only record by name and date of immunizations received. Because these cards are issued by MOH at the EPI site, there will be no extra cost for cards to the project.

The Vurhonga CS volunteers will be checking these cards to track immunizations and will make a mark on the HIS when an immunization has been received. If a card is lost, the volunteer will be able to check the HIS for how far along a child or mother is on the immunization schedule. However, they will not be able to recover the dates since most of the volunteers are preliterate and make only a mark for an immunization. Antenatal cards are separate from TT cards for the mother. The mother retains the TT card but holds the antenatal card only until her delivery and then the MOH collect it for their records. Both have a space to record TT. Project volunteers will stress the importance of keeping the TT cards and child card as records for themselves and

their children. They will also demonstrate the importance of those cards when they check status of immunizations and affirm the mother for keeping the cards in a safe place.

D.4.a.8. Drop-outs--Children

The major causes of drop-outs tend to be the long distances that must be walked to the EPI sites, the weight of a child that must be carried these distances when s/he reaches 9 months and the constant struggle for food security that must be a priority for these mothers, especially during planting and harvest periods. One mother with a two year old with only BCG told a Vurhonga CS animator that she was sick the month she was supposed to come for DPT and thereafter postponed going because she feared being upbraided by MOH personnel. This fear of being shamed may or may not be widespread in the project. The animators will check periodically with the volunteers to see how the mothers are being received at the EPI sites.

The volunteers will mark the family HIS card when a child has received an immunization. Using that HIS form, she will be able to follow up on defaulters.

D.4.a.9. Drop-outs--Women

The major causes of drop-outs or missed opportunities for TT for women tend to be the distances that a woman must walk (especially if pregnant) for her TT vaccine, her heavy workload and a lack of knowledge about the importance of TT. The volunteers will be tracking pregnancies, informing pregnant women why tetanus toxoid is important and tracking the number of TT doses each pregnant woman receives. Defaulters will be given special attention and encouragement to attend EPI sessions and/or go in to the health post for antenatal visits.

D.4.a.10. Population

The beneficiary population for immunizations each year includes all women 12-49 years, children under two plus estimated number of newborns. The number of children under two are expected to be 10,724, or 10% of the total population of 107,242. The newborns expected to be born during the project are 8,245. All fertile age women (12-49 years) in the project are estimated to be 24,451, 22.8% of the total population of 107,242,. The MOH expects a child under 12 months of age to be completely immunized within 5 visits to the EPI sessions.

D.4.a.11. Cold Chain Support

Discussions with both Guijá and Mabalane MOH personnel and a check of the temperature chart at the health centers indicate that the cold chain is reasonably well protected by the MOH at this level. As previously mentioned, the Guijá MOH experimented with keeping vaccines in a kerosine refrigerator at Chibabel last year but had to abandon the attempt because of breakdowns in the cold chain there. Attached in Appendix C is the MOH protocol for monitoring vaccine temperatures. The project has not had to purchase any cold chain equipment as other PVOs and

multilateral organizations involved in refurbishing the health centers have supplied the equipment.

D.4.a.12. Surveillance

The MOH does not presently have a surveillance system for VPDs at the community level. Vurhonga animators will be alerted to report any disease outbreaks they encounter to the local MOH personnel as they work with the volunteer care groups. However, they will not be gathering regular surveillance data unless asked to do so by the MOH during an emergency outbreak or once an MOH surveillance system has been put in place.

Immunization References:

EPI Essentials: A Guide for Program Officers. John Snow, Inc. Second Edition, August 1989.

Manual do PAV. Programa Alargado de Vacinação, Republica de Moçambique Ministério da Saúde, 1993.

Unpublished Document. *USAID Mozambique Mission Strategies for Health*, Annex 3. Nd.

D.4.b. Nutritional Improvement

D.4.b.1.a. Baseline

The *Boletim da Segurança Alimentar* (Food Security Bulletin) published by Medecins Sans Frontieres reports monthly on food security status in 60-80 districts in Mozambique. The main indicators used are harvest, food reserves, diet, nutritional status, sources of income and market activity. The malnutrition rates used in the MSF Bulletin are based upon weight for age gathered at the district health centers and gender is not recorded. The denominator for the rates is the total number of children under 5 that visit the health center during the reporting period. The project will be promoting the MOH growth monitoring services to the mothers. Growth monitoring is offered at the mobile EPI/GM sessions held bimonthly.

The following are published malnutrition rates in the project area from the *Food Security Bulletin*, December 1995: August, September and October, '95 malnutrition rates in Mabalane Sede (Mabalane town) were reported to be (6) 3%, (8) 6% and (14) 4%⁵ respectively. In Mabomo (north Mabalane district) for May and November '95 were (4) 22% and (5) 16%⁶. In

⁵Note: Only the percent malnourished was reported along with the total number of children who visited the health center. The numbers of malnourished children were extrapolated from the denominator.

⁶The only months reported for Mabomo

Guijá, August through October rates were as follows: (17) 4%, (35) 7% and (37) 7%. Rates of 16-30% are considered alarming and >30%, catastrophic. Chokwé (adjacent to the project area), for those same months reported the following much higher rates, (212) 33%, (149) 25% and (140) 28%. Then the January '96 Bulletin states that during December '95,

Nutritional indicators remained stable in all districts (including the project area) with the exception of Chokwé district where Macarretane reported a growth faltering rate of 26%(134/516). The faltering rates have remained high for the past six months.(p.16)

The reasons for the much higher rates of malnutrition in Chokwé compared to the project area are not readily apparent especially since the other food security indicators in the project area are just as worrisome as they are in Chokwé. However, the bulletin does mention three factors that may account for some of the difference: the greater numbers of children served in the Chokwé health center and the fact that some of these children are from Mabalane and Guijá (Oct./Nov. '95 *Food Security Bulletin*, p 43) and that the attendance at health centers in Mabalane and Guijá are much lower than Chokwé.(Jan. '96, *Food Security Bulletin*, p.16) In any case, the Bulletin indicates that the lower malnutrition rates recorded in Mabalane and Guijá are probably "not representative of the true situation." (Oct/Nov '95, *Food Security Bulletin*, p.43)

It is also to be noted that malnutrition rates may not reflect the real situation due to way these measurements are gathered. The weights for the *Food Security Bulletin* are only reported from the health centers (not the EPI/GM mobile sessions). Therefore, the results would be biased towards sick children. Also, any malnourished child that gains weight is considered to be normal. (Oct/Nov. '95 *Food Security Bulletin*, p.14)

Due to a particularly bad 1994 harvest, food security in Gaza, especially in Guijá, in January and February 1995, was of great concern. Besides the problems with the harvest there were many food distribution problems during critical times in both Mabalane and Guijá throughout 1995. Fortunately, a good sweet potato and cassava harvest relieved some of the food stress in Mabalane during Oct/Nov. 1995. Overall the food security situation in Mozambique was better in 1995 than 1994 but markets in Gaza still function weakly with high prices and rare staples. In Guijá the average number of meals a day are equal to or less than 1.4 meals per day and in Mabalane, 1.6 placing a heavy burden on little children who need to eat more frequently. Cases of diarrhea are up significantly. In Gaza, food reserves are reported to be very low with 95% of the population having reserves for less than a month (Jan. '96 Bulletin, p. 43).

Since the above Bulletins were published, heavy rains and severe flooding have destroyed many of the crops that were growing well in the Limpopo flood plane in the project area. The animators report that now the women in much of the project area are working long days following the water line replanting the ground where the water had receded the day before.

Since people living in the project area are so dependent on subsistence farming, and have few small animals, the availability of food fluctuates during the year. The "hungry" months tend to

be January through March when food reserves are depleted and the new harvest has yet to be gathered.

There appear to be two major causes of malnutrition in the project area that contribute most to infant/child illness and death in the project area. These two causes are a lack of food security, as described above, and mothers' lack of knowledge of appropriate feeding practices for infants and young children.

The team writing this plan visited the malnutrition ward at the Chokwé hospital which serves patients from the project area. It was very clear from a discussion we held with the mothers of about 17 children in that ward that most, if not all, did not understand that the condition of their children, some with marasmus, some with kwashiorkor, was nutrition related. They said that they did not know what was causing the illness of their children. Although the mothers did not mention this belief, it is commonly known that mothers tend to connect malnutrition to a spell put on the child by some other person. They say that, "He has been sat on." They tend to take these children to the traditional healer and try different sorts of traditional medicines or contacting the spirits in order to try to "get the child out from under".

When asked the question whether or not it would be possible to raise a healthy child on breastmilk alone for the first 6 months, several mothers responded that it depended. It depended on whether or not the mother's milk was "hot" or "cold." If it was "hot" it would be possible to keep the child on breastmilk alone. However, if it was "cold" the child would tend to be sickly and would need food other than breastmilk. When these women were asked how one can tell whether their milk is "hot or cold" they replied that you could tell by the way your child was growing. It appears that if the mother is not satisfied with the child's growth she will assume that her breastmilk is "cold" and introduce foods other than breastmilk quite early.

An older mother told us that during the first week of an infant's life if that child drools and cries it demonstrates that the baby is in need of some traditional medicine to correct the situation. The traditional medicine, known as *muri wa nyokana* or "the medicine for little snakes," consists of herbs steeped in a tea to be given once a day for 7 days. A baby then, with this (condition) would need to get the medicine and the implication was that exclusive breastfeeding was not wise. The results of the baseline survey demonstrate that this dependence on traditional medicine could be rather widespread because 80.3% of the 0-3 month children in the survey were receiving water or traditional medicines steeped in a tea.

These mothers with malnourished children were also asked what they would give as weaning foods. They said that they give mealie pap (maize meal made with water into a stiff consistency) to children as soon as they can sit up and hold something in their hand. Since these were mothers of malnourished children, their beliefs and practices cannot be generalized as representative of all mothers in the community. However, their beliefs and practices provide clues to causes that may have contributed to the present condition of their children. The results

of the baseline in the next section of this report will give a broader view of the feeding practices of mothers throughout the project area.

4.b.1.b. Current Knowledge and Practice

Cultural practices appear to dictate early initiation of breastfeeding. During the first hour postpartum 56% of the mothers interviewed for the Vurhonga CS baseline survey had started breastfeeding and 34.7% recalled that they had put the baby to breast between 1 and 8 hours after birth. A total of 90.7% of the mothers had initiated breastfeeding within the first 8 hours after delivery. However, only 15.8% of the 76 children, 0 to 4 months, were being exclusively breastfed at the time of the survey. The majority, 91.5%, of mothers of children between 6 and 10 months were giving their infants complementary foods in addition to breastmilk. Finally, the persistence of breastfeeding was quite high with 73.3% of mothers with children between 20 and 24 months who were still breastfeeding. The Shangaan consider colostrum to be good for the baby. It is generally given and is not discarded.

The Vurhonga CS animators, who are now spending their days in the field, told the DIP development team that as soon as a child can put food in his/her mouth, the child is placed on the floor with the food in a dish in front of him/her and are expected to eat with their fingers. Usually during mealtimes they are only supervised by older siblings. Often the children share dishes of food with other siblings. Usually, the main complementary food is mealie pap (ground maize cooked with water into a thicker consistency so that it can be rolled into a ball with the fingers). The animators also spoke of instances where they found these young children at home with the older siblings most of the day when the mother goes to the field only to return at 2 or 3 PM. Some animators questioned whether the littlest child often doesn't get shortchanged on food while the mother is absent from the home. The Jan '96 *MSF Bulletin* reports that in 1995 the average number of meals a day for people in Mabalane was 1.4 and in Guijá it is 1.6. Given these practices and statistics, we can probably assume that small children are eating less food, much less frequently, than they should in the project area. The CS animators also reported that when a child is removed from the breast they are often sent to the grandmother's home in order to separate from the mother completely for a time.

The animators interviewed each of their care groups at the aldeia level during the third week of March in order to gather information for the DIP development team. They asked their volunteers what the usual weaning foods were, what differences exist between nutrition for boys and nutrition for girls, whether children all eat out of the same dish, where they eat and whether the men are fed differently than the rest of the family. The volunteers found that the children are fed mealie pap (stiff porridge) as a weaning food. Usually small children are not given the vegetable relish with nuts that adults tend to eat with mealie pap. No differences exist between how little boys and girls are fed, and they generally eat out of the same dish. They also reported that the men do receive the best food and the rest is left for the family to eat.

The following table shows the baseline survey findings on mothers' feeding practices between 4 and 9 months. The information from the volunteers support these data showing that probably around half of the children under 9 months are eating very little more than maize meal in addition to breastmilk.

Age Groups		
Foods	4-6 months	7-9 months
Cow's or goat's milk	6.7%	10.8%
Gruels (maize, sorghum, millet)	76.7%	91.9%
Fruits	13.3%	47.2%
Vitamin A-rich foods (pumpkin, sweet cucumber, papaya, mango, cashew fruit)	16.7%	37.8%
Dark green leafy vegetables - pumpkin leaves, nkakana, sweet potato leaves, mandioca leaves, okra leaves, cowpeas leaves	6.7%	51.4%
Meat or fish	0.0%	43.2%
Peanuts, cashew nuts, beans, marula nuts, jugo beans, pigeon peas or hyacinth beans	3.3%	32.4%
Eggs or sour milk	3.3%	32.4%

When a child is ill, mothers tend to feed that child soft porridge with sugar if they have it--there is almost no oil in the rural areas. However, the animators have observed that the pressure to go to the fields is so great that often a sick child is left in the house with the older siblings until the field work is done. Only then does the mother feel she can take steps to get help for the sick child. So these children are often poorly fed and treatment is often delayed.

The common cultural practice is to breastfeed for a full two years unless the woman becomes pregnant again in which case it is considered unhealthy to the unborn child to breastfeed and breastfeeding is stopped immediately. This practice is strictly followed. However, the traditional practice of a husband abstaining from sexual intercourse with his wife until the end of the second year after delivery is not strictly followed any longer even though many of the men still have more than one wife. Combined with the cultural aversion to contraceptive use, it is very difficult for a couple to space their children at least 2 or more years apart. Consequently, births are closely spaced, women have many children and more children are being weaned from the breast too early. The animators have observed that it is not at all uncommon for an older woman to have had 10-12 pregnancies, although her living children are fewer than that.

Another cultural belief that relates to breastmilk is that diarrhea can be caused by "dirt" in breastmilk. It is not presently known how widespread this belief is. The Vurhonga staff are planning to conduct focus groups before the nutrition intervention is introduced in order to clarify more of the beliefs and practices that relate to nutrition. This information will be needed in order to design more appropriate and effective health messages.

D.4.b.1.c. The Vurhonga Nutrition Objectives:

Objective # 5 To increase the number of mothers who receive rehabilitative nutritional counseling for children 0-35 months who have not gained weight since last being weighed from 20% to 80%

Objective # 6 To increase the number of children 0-4 months exclusively breastfed from 15.8% to 30%

4.b.1.d. Approach

Current nutrition-related services in the Vurhonga area are provided at the health posts and health centers (see location of health facilities on a map in Appendix A). The only centers for malnourished children are in Chokwé district (adjacent to the project area). One privately run center for malnourished children is located in Macarretane, in Chokwé district, at the health center there and the second is the ward for malnourished children in Chokwé hospital. However, the pediatric ward at the health center in Guijá also admit malnourished children for rehabilitation. Children who come to other health posts and health centers throughout Mabalane and Guijá are weighed and the mother is counseled or referred depending on whether the child is malnourished and/or is continuing to show growth faltering. However, the health personnel have little time for any nutrition counseling for mothers of children who show growth faltering.

Ongoing food distribution programs are managed by various NGOs and government programs depending on the current need in Gaza. World Relief continues to implement food distribution and distribution of seeds and tools as the needs arise in the project area.

The Vurhonga CS strategy for improving the nutritional status of infants and young children in the project area will include several different approaches primarily focused on nutrition education, rehabilitation counseling for growth faltering children and an agricultural program, funded by other monies to address the food security problem.

Prior to introducing the nutrition intervention the Vurhonga staff plan to use observation, interviews and focus groups to confirm the causes of the nutrition problems in the project area described above and ascertain whether or not other beliefs, practices or realities exist that have a bearing on the nutritional status of children. Using this information nutrition messages that focus on the major contributors to growth faltering will be crafted. Pictures that carry these location specific and MOH nutrition messages will be copied for each volunteer and kept in a

plastic pockets in her folder for use with mothers. Given the fact that most volunteers and mothers are preliterate, mostly pictures with only a few words will be used in the materials.

When the nutrition intervention is introduced in the second quarter of Year 2, the animators will be trained to use these health messages and in turn train their care group members to share these messages with the mothers on their monthly home visits. The nutrition intervention will be introduced at the same time throughout the entire project area. The volunteers will also be taught to promote the growth monitoring sessions held by the MOH mobile team along with the bimonthly EPI/GM sessions and will also be taught to recognize any child that shows growth faltering or falls below the normal range on the growth card. The mothers of those children will be identified as being in need of rehabilitative counseling. As much as possible the volunteers will be taught to identify the cause of the growth faltering and focus on the health messages designed to address that cause. Dramas, puppet shows, stories and songs will be designed and presented to the waiting mothers at the EPI/GM sessions by the volunteers to raise public awareness on the causes and solutions to the nutrition problems in the community. Meanwhile, until the full intervention is introduced, during the second quarter of Year 2, volunteers are presently being taught to advertise the dates of the bimonthly EPI/GM sessions and encourage mothers to attend with their children, especially the 0-36 month children.

The nutrition messages will include, exclusive breastfeeding, early initiation of breastfeeding, persistence of breastfeeding, timely appropriate complimentary foods, continued feeding during illness and catch up feeding after illness (especially diarrhea) and the importance of a variety of foods. Helping mothers of small children plan ahead for the hungry season will be a special focus of this intervention. An important source of protein usually available throughout the year, if stored, are marula nuts, cow peas and cashew nuts and a certain type of pumpkin seed. Some green leafy wild foods are often available most of the year such as cow peas. Project staff are also considering the possibility of teaching mothers to dry and store various green leaves, such as pumpkin leaves and cow peas leaves and combine them with marula nuts, cashew nuts or peanuts to provide a more balanced diet during the dry season months. This approach has worked well across the border in one area of South Africa.

Constraints to improving children's nutritional status that Vurhonga CS staff expect to encounter include the lack of food security, traditional feeding beliefs and practices and lack of knowledge. The lack of food security in the project area has also been longstanding although it is clear that food security indicators were better in 1995 than the previous year. World Relief has been active in the area now for nearly 9 years. In order to address the food security constraint, we have responded with ongoing rehabilitation programs in agriculture (distribution of seeds and tools and poverty lending) and water/sanitation. During the last two years World Relief has drilled 19 boreholes in Mabalane and 61 in Guijá and have assisted with the construction of many latrines. These boreholes make it possible for people to grow a limited supply of vegetables and to keep some small animals, another food source when crops fail in this drought prone area.

World Relief has also implemented an agricultural program in the project area to address the food security problems. The program includes vaccinating chickens to rehabilitate the existing chicken population primarily as a source for meat and eggs, the distribution and breeding of guinea pigs, some breeding of goats, distribution of fruit tree seedling (mango, papaya, amendoa and cashew), the distribution of vegetable seeds, and diversification of crops. Millet and sorghum are eaten and tend to be more drought resistant than maize. Maize is the preferred staple but is the crop most affected by drought. An erect type of cowpeas will also be introduced (the vine type is already widely grown) to supplement protein sources and provide an edible green leafy food as well. The agricultural program is set up to form groups of 5 or more destitute women in a community and help them diversify their food sources as described above. The CS staff intend to work closely with the agricultural team reinforcing their messages and collaborating with them in the distribution of animals, seeds and seedlings.

A second constraint to improved nutrition that the project staff must address is the combination of traditional practices and lack of knowledge that contribute to poor nutrition. Some of these traditional practices include abrupt cessation of breastfeeding when a woman becomes pregnant, giving traditional medicines to infants during the first week of life thus introducing other pathogens, introducing semisolid and solid foods too early, providing only staple food as complimentary food and not introducing a variety of foods.

Trained volunteers will be key to helping families become aware of the nutrition messages and build awareness of the connection between poor feeding practices and kwashiorkor and marasmus. Since the volunteers will be following every child in the community for growth faltering, most if not all of these children will be identified. The volunteers will be trained to look for the cause of the growth faltering and counsel the mother to overcome that cause whether it be lack of sufficient breastfeeding, illnesses such as diarrhea or pneumonia, lack of variety in the diet (especially protein in the case of kwashiorkor) or lack of food for various reasons. It is expected that as some mothers begin to follow the volunteers advice and children begin to grow well again these successes will encourage other mothers to replace their traditional practices with more helpful practices. The volunteers will also be trained to recognize positive feeding practices such as early initiation of breastfeeding or persistence of breastfeeding and affirm a mother for what she is doing well. It is expected that introducing exclusive breastfeeding for the first six months may be the practice most resistant to change. If the volunteers themselves can become sufficiently convinced to try exclusively breastfeeding, their babies will become living demonstrations of the effectiveness of exclusive breastfeeding to the block families.

Nutrition activities will be monitored by the animators and supervisors using growth monitoring cards, the HIS, observation of home visits by the volunteers, checklists for volunteer performance on home visits and at growth monitoring sessions, observation of how growth monitoring is implemented by MOH personnel and through discussions with volunteers. Quality of performance will be improved through further training of volunteers once gaps in their knowledge are identified. Also, discussions will be held with community leaders and MOH personnel about problems that have been identified in growth monitoring services or attendance

at growth monitoring sessions. The Guijá MOH personnel are already working with the project by supplying project staff with their schedule of EPI/GM sites and dates so that volunteers can encourage mothers to attend. The same arrangement will be worked out with the Mabalane MOH personnel once the volunteers and care groups have been formed in Mabalane. The Vurhonga CS director will meet quarterly with the MOH director in each district to discuss coordination issues between the project and the MOH to find ways to work together more effectively and provide training to MOH personnel where needed.

D.4.b.1.e. Low Birth Weight Babies

The project does not specifically address the problem of low birth weight babies except to track these babies in the HIS when they are identified and counsel the mother about catchup feeding. Newborns are only weighed when the mother delivers at a health center or health post which was about 57% of the mothers in the baseline survey. Volunteers will be trained to refer infants that look unusually small to the nearest health center or health post. The TBAs, trained by the MOH are also taught to refer small babies to a health facility although no specific referral forms are used. If a TBA happens to be literate, she will write a letter of referral. In Mabalane, the MOH personnel report that 15% of all newborns delivered at the health center are LBW babies. In Guijá the percentage is 8.5%.

Nutrition References:

Da Luz Vaz, Maria. *Programa Nacional de Capacitação e Treino de Parteiras Tradicionais. Guião—Manual*. Republica de Moçambique Ministério da Saúde, Nd.

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Medecins Sans Frontieres, *Boletim da Segurança Alimentar*, Outubro 95, No 36 Moçambique.

Medecins Sans Frontieres, *Boletim da Segurança Alimentar*, Janeiro 96, No 38 Moçambique.

Medecins Sans Frontieres, *Boletim da Segurança Alimentar*, Janeiro 96, No 39 Moçambique.

D.4.b.2. Growth Monitoring

D.4.b.2.a. Baseline

Of the 300 mothers interviewed in the baseline survey, 79.7% had a growth card for their children. Of those with cards, 58.6% had been weighed within the last 3 months which means that at least 47.7% of the entire sample of children under 24 months had been weighed in the last 3 months.

D.4.b.2.b. Knowledge and Practice

The MOH mobile EPI/GM team comes to each area bimonthly, or at least three times a year. It is evident from the baseline results that access to growth monitoring is good, mother's interest in attending is high and these services are reaching the children 0-23 months. In most developing countries where the birth rate is high and breastfeeding is traditional until the end of the second year, the 24-30 month child is especially at risk for malnutrition because the mother's attention is often focused on a new baby and older siblings are left to supervise the feeding of the younger child. For this reason, children targeted for growth monitoring in the child survival project are all children 0-36 months. It remains to be seen what the drop-off rate in growth monitoring is for children 24-36 months who no longer need immunizations. Will the mothers still be motivated to walk to the sessions just for growth monitoring?

As was mentioned previously in the nutrition improvement section, mothers generally do not make the connection between feeding practices and severe malnutrition or between variety of foods and kwashiorkor. It is considered to be a disease that results from a spell that has been put upon the child. Mothers do believe that breastmilk can be "hot" or "cold" and that "cold" breastmilk will cause the child to be sickly and not grow well. Another belief is that "dirt" in the breastmilk causes diarrhea. Generally, children are given primarily mealie pap as a weaning food without much relish (vegetables and/or nuts) and fruits.

D.4.b.2.c. The Growth Monitoring Objective

Objective # 4 To increase the number of children 0-35 months weighed in the last 3 months from 58.6% to 70%

D.4.b.2.d. MOH Protocol and Practice

The MOH recommends that children 0-4 years should be weighed bimonthly and not less than every 3 months. Thus, a child should be weighed at least 6 times annually, although this would be unlikely given the fact that the mobile team sometimes is unable to come to a locale bimonthly. Salter hanging scales are used throughout the project area for the mobile EPI/GM sessions. Although access to growth monitoring is quite good, there is little time for counseling

and referral. Only the most malnourished children are referred to the centers for malnourished children in Chokwé district. Children who show growth faltering are counseled briefly if the time is available. However, the EPI/GM team is usually too short of time and personnel to do counseling.

D.b.2.e. Individual Documentation

A copy of a child's MOH growth card is attached in Appendix B. When a child's card is lost the MOH staff will issue a new one at the health facilities or the mobile EPI/GM session. Since the MOH and not the CS project will be issuing the cards, there will be no cost for cards to the project. The project will give the volunteer HIS family forms however and there will be some minimal cost for that and the protective transparent folder to hold the forms. The project volunteer records in the HIS whether or not a child falls into the malnourished category or is growth faltering between the last two weights. Since most of the volunteers are preliterate, they will not be expected to record dates or weights but can assess the direction of growth and whether or not a child has "fallen off the road to health" (is in the malnourished category). See Appendix D for the project HIS forms. However, if a child's card is lost, the volunteer will at least have a record of the last status of that child. Mothers will be encouraged to keep the GM cards in a safe place. The volunteer practice of regularly checking the growth monitoring cards and explaining to the mothers what they can show her about the growth of her child should also increase the importance of the cards in the eyes of the mother. Vitamin A capsules are not recorded on the growth monitoring cards in Mozambique. Currently the MOH does not believe there is a Vitamin A deficiency problem in the country. Given the levels of malnutrition however, the problem could be greater than expected.

D.4.b.2.f. Approach

The project plan for the growth monitoring promotion component can be broken down into two components. First, the volunteers will remind the mothers of when the MOH EPI/GM mobile sessions are to be held in their areas and encourage them to attend, especially if they have a child under 4. MOH staff will weigh the children, mark the growth card and interpret it to the mother if there is time. Often MOH staff do not have the time to discuss the card with the mother. Volunteers will also be expected to spend some time (an hour or two) at each session to assist the MOH personnel in organizing the mothers and providing educational entertainment for the waiting mothers in the form of puppet shows, dramas, songs, dance and stories that contain health messages.

During their home visits, the volunteers will be expected to explain the meaning of the marks made on the growth card to the mother and record the child's nutritional status from the growth card onto the project HIS family sheet. If a child falls into the malnourished category or shows growth faltering, the volunteer will proceed to counsel the mother or refer the child to a health facility if the condition is severe. Once the volunteers have been trained in the nutrition/GM intervention they will implement it throughout the project at the same time. The GM component

will be introduced at the same time as the nutrition component during the second quarter of Year 2.

The animators and supervisors will be trained in the nutrition/GM training of trainers (TOT) camp to promote growth monitoring, inquire into a nutrition problem and provide nutrition counseling. Only the animators and supervisors will be taught how to actually do GM so that they will be able to observe the quality of GM implemented by the MOH. The volunteers will be taught by the animators in their care groups to inquire into why a child is showing growth faltering, whether it is a recent illness or perhaps a feeding problem. They will then talk with mothers about the specific health message that seems to be the priority whether it is the importance of small more frequent feeds for all children over 6 months including ill or recovering children, the need for exclusive breastfeeding or persistent breastfeeding (especially if the mother has become pregnant again and has stopped breastfeeding) or other problem.

The supervisors and animators during home visits with volunteers will use observation, checklists and discussion with the volunteers to monitor the quality of the interaction of the monthly home visits between the volunteer and the mother.

Constraints to increasing the number of children weighed in the project area will be the distances that have to be covered by the mother to get to the EPI/GM session or the distance to a clinic facility for malnourished children if her child is referred to a health facility for malnutrition. Hopefully, due to the training received from the volunteer, the mothers' awareness of the importance of GM will have been raised to the point where she is willing to walk the distance to the mobile sessions. Also, if the educational presentations during the sessions are highly entertaining, that will function as an added incentive for the mother to walk there. Finally, project staff plan regularly to feedback information to the communities as a whole on progress on the objectives. Hopefully this feedback will serve as an added incentive for community leaders to promote attendance at the sessions. Another constraint may be canceled sessions due to vehicle breakdown. The animators will record any canceled sessions on their monthly report sheets which will allow the project CS director to discuss the problem with MOH to see if the project can assist the MOH solve the problem. Occasionally, project vehicles may be going in the same direction and can transport the MOH team until their vehicle is fixed.

D.4.b.2.g. Follow-up on Children

On the HIS, the project will track children who did not gain weight during the last two-three months. The volunteers will follow-up on children who show growth faltering as described above. All children who do not gain weight despite counseling and improved feeding practices will be referred to the nearest health facility for assessment of underlying disease causes.

D.4.b.2.h. Population

All children under 4 years are eligible for growth monitoring by the MOH. These children,

ideally, are expected to attend 6 growth monitoring sessions per year. All children under four will be encouraged to attend GM sessions, however, the project will especially target children 0-35 months for growth monitoring, and project volunteers will only track the growth monitoring results for children under 3. The number of children under 3 years (16,086) including newborns that will be added to the project during the 4 years of the grant is 24,331. Children under 3 are estimated to be 15% of the total population of 107,242. For any child older than 3, who has growth faltering and comes to the attention of the volunteer, the mother will be counseled by the volunteer. The beneficiaries are currently being enrolled in the project as the care groups are being formed. Each volunteer will have an HIS family form on each of her 9 families including her own family.

D.4.b.3. Nutrition Improvement for Pregnant and Lactating Women

D.4.b.3.a. Baseline

The major problem in the area that contribute most to maternal and infant illness and death is the poor food security situation and the fact that most women find it virtually impossible to decrease their heavy work load during the last 3 months of pregnancy. See the detailed discussion on food security in 4.b.1.a.

D.4.b.3.b. Knowledge and Practice

In the baseline survey, only 37.3% of the women ate the same amount or more food during pregnancy. Discussions with the animators indicate that the low percentage is probably not related to any fears or traditional beliefs about how much weight a woman should gain during pregnancy but it is due to a sheer lack of food over the past two years. An interview by the DIP development team with Irene Fenias Machaieie, a midwife at Chokwé hospital confirmed the animators assertion that there is no strong bias against eating plenty of food during pregnancy.

Traditional beliefs dictate that a pregnant woman should not eat eggs during her pregnancy or hot vegetables. If she eats eggs she will have trouble in childbirth. Irene also said that the Shangaan believe that a baby's head might collapse like an egg collapses if the mother eats eggs. If a pregnant woman eats hot vegetables it is believed that the plants in the garden wither and die. A variation on this belief was also described by Irene, "If she eats hot food the mealies in the field will be burnt by the sun." She may eat the vegetables once they have cooled. Irene described three other beliefs. She said that it is also a belief that if a pregnant woman eats hot spices the baby will be born with pus in its eyes and if a woman eats peanuts by themselves and not combined with a green vegetable, the baby will be born with vernix caseosa all over its body. Sex during pregnancy is also believed to bring on this phenomena. Another traditional belief discovered through the baseline survey is that a woman should eat "nkakana" (a dark green leafy plant that grows freely in the aldeias) in order to stimulate the production of breastmilk. On the baseline survey 53.7% of the mothers interviewed said that nkakana will help ensure plenty of

breastmilk. Women tend to go to their mothers and mothers-in-law for advice during pregnancy and lactation.

The woman's heavy workload requires a higher calorie outlay. This combined with less food intake could contribute to low birth weight babies. Finally, the high incidence of malaria also contributes to anemia in pregnancy. The three factors of malaria, heavy workloads and decreased food intake probably contribute to nutritional deficiencies during pregnancy and the levels of low birth weight babies. The health facilities only give iron supplements to pregnant women with low hemoglobin levels. Some mothers fear that iron supplements cause the baby to grow too large so that a C-section will be required. This belief will be explored in order to discover whether or not it is widespread throughout the project.

The only time that a woman can adjust her workload with the culture's blessing is the first week postpartum. She is to stay in the house and not touch any of the household utensils, probably because she is not considered "clean." Once the umbilical cord falls off she immediately resumes her full workload with her baby on her back.

D.4.b.3.c. Nutritional Objectives

The project will disseminate health messages that relate to nutrition in pregnancy and breastfeeding but has not identified a formal maternal nutritional objective.

D.4.b.3.d. Approach

The volunteers will track pregnant women in the HIS once they learn of her pregnancy. Over the course of several home visits she will discuss the health messages that relate to pregnancy and lactation prioritizing these according to the needs of the mother. The nutritional health messages for pregnant women will include eating at least 3 meals a day, eating a variety of foods every day especially iron rich foods and continuing this practice while she is breastfeeding.

Constraints to improving mothers practices and nutritional status include the lack of food security. For a discussion of the project approach to the lack of food security in the project area see Section 4.b.1.a. The traditional beliefs about nutrition during pregnancy and breastfeeding will not provide any major constraints to maternal nutrition except for the taboo on eggs. Eggs are not presently a major food and there are few chickens in the area. However, this may be reversed by the agricultural program and then the question of promoting eggs for maternal nutrition should be revisited. Other available protein sources should be promoted however. Maternal nutrition will be phased into the entire project area with the maternal care intervention. All women in the project area will be registered in the HIS so all pregnant women will be tracked.

D.4.b.4. Supplementary Foods

The project does not have any plans to provide supplementary foods at this time. Depending on the harvests from time to time World Relief has implemented a food distribution program in the area when a crisis has emerged. World Relief will respond again if the food security situation calls for it.

D.4.b.5. Health Messages

Health messages used in the project will be the same as those being used by the MOH. A pregnant woman should eat 3 times a day, she should eat a variety of foods including oil, fruits, meat and vegetables. The project will also add a message about her need to eat iron rich foods given the fact that malaria is so prevalent in the project area.

Growth Monitoring References:

Balança Tipo Relógio, Facilitador. Republica de Moçambique Ministério da Saúde, Maputo, 1991.

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Brownlee, Ann. *Growth Monitoring and Promotion: Behavioral Issues in Child Survival Programs.* Prepared for the Office of Health, USAID, 1990.

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Como Pesar a Criança, Participante. Republica de Moçambique Ministério da Saúde, Maputo, 1991.

A História da Pequena Adelina, Facilitador. Republica de Moçambique Ministério da Saúde, Maputo, 1991.

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Medecins Sans Frontieres, *Boletim da Segurança Alimentar,* Janeiro 96, Nos 38 & 39 and Outubro 95, No 36. Moçambique.

A Nossa Alimentação, Republica de Moçambique Ministério da Saúde, 1992.

USAID Mozambique Mission Strategies for Health, Annex 3. Unpublished 1995.

Vigilância Nutricional Através de Controle de Crescimento, Republica de Moçambique, Ministério da Saúde, Direcção Nacional de Saúde, 1991.

D.4.d. Diarrhea Case Management

D.4.d.1. Baseline

In Mozambique a child suffers on average 5 episodes of diarrhea a year⁵. The highest incidence of diarrhea occurs in Mozambique from November through March during the rainy season. During the baseline survey in late October early November 51.3% of the children surveyed were reported to have had diarrhea during the previous 2 weeks. Currently in March the MOH is expecting a possible outbreak of cholera in the wake of the heavy rains and floods. The MOH has asked the project to have the animators count cases and deaths from diarrhea during this emergency period. No data exists about the proportion of persistent types of diarrhea. However, in Guijá during the 1994 outbreak, 41% was shigella and during the outbreak in 1995, 15.6% was shigella. Dysentery seen in the area is often resistant to Ampicillin.

D.4.d.2. Knowledge and Practice

Of the 154, 51.3%, children 0-24 months on the baseline who had had diarrhea during the previous two 2 weeks, 46.8% received ORT. Of the children with diarrhea who were being breast-fed, 51.3% received more or the same amount of breastmilk as usual, 44.3% were given the same amount or more fluids than usual and 31.1% were given the same amount or more solid/semisolid foods than usual. Giving antibiotics and anti-diarrheal medications is not a common practice for uncomplicated diarrhea in the project area. In fact, only 16.2% of the mothers reported on the baseline that the child was treated with any kind of medications. Very few mothers, 0.7%, knew at least 2 signs of dehydration and 63.3% did not know what actions to take when a child was recovering from diarrhea.

D.4.d.3. Case Management of Diarrheal Diseases Objectives

Objective # 2 To increase the number of children with diarrhea in the last two weeks who have received ORT from 46.8% to 60%

Objective # 3 To increase the number of mothers who give more food than usual to a child during recovery (at least one week) from diarrhea from 8.4% to 35%

⁵*Manual de Prevenção e Controle de Diarreia*, Republica de Moçambique Ministério da Saúde, 1991, p.1

D.4.d.4. MOH Protocols and Practices

For MOH protocol for case management of diarrheal diseases see Appendix E.

D.4.d.5. Approach

The project staff will share the MOH health messages with the mothers. Project protocol for home management of diarrhea in infants and children is attached in Appendix F.

Project supervisors and animators will be trained together to implement the CDD component. The training and implementation will take place during the third quarter of Year 1.

Those children considered to be high risk for the diarrhea disease control component will be children who are not being breastfed, children between 2 and 3 whose mother recently weaned them from the breast, children who are growth faltering, children with measles and children who are vomiting and/or have a fever. These children will be followed up by the volunteer on their block as soon as their high risk status determined through the monthly home visit.

Project staff do not currently plan to train or supervise MOH personnel in diarrheal disease case management at the health post and clinic levels. Instead the volunteers will complement the clinic services with a focus on effective home management of uncomplicated diarrhea and the identification of prolonged dysenteric diarrhea or severe dehydration for prompt referral. The quality of case management of dysentery at the referral level seems to be of acceptable quality. Between September 93 and May 94 a dysentery epidemic swept the project area. Nalidixic acid, the recommended drug was not available until the very end of the epidemic. The supply seems to have been sufficient since then. If, in the course of the project it is brought to the attention of the Vurhonga CS staff that there are problems with diarrhea case management at the referral level, the project director will take it up with the MOH to determine the problem and together with the MOH work towards a solution.

D.4.d.6. ORS

ORS packets are free and available at the health posts. However, ORS is not presently available in all aldeias because of the limited number of health posts and clinics in the impact area. Currently, due to the floods, an emergency situation has been declared by the regional MOH. The incidence of both diarrhea and malaria is much higher and the possibility of cholera is feared. The MOH has asked the Vurhonga CS animators through their volunteers to count the cases of diarrhea and to distribute ORS as needed in the aldeias. The MOH has provided the animators with ORS packets for distribution to mothers of children with diarrhea. The animators have been trained in the preparation and administration of ORS for the emergency.

After the emergency period, Vurhonga project staff intend to negotiate with the MOH the ongoing distribution of ORS packets. Hopefully, each volunteer will have at least 2 packets at

all times to assist mothers whose children experience diarrhea. A system to regularly supply ORS to the volunteers will be negotiated with MOH perhaps through the mobile EPI/GM team when they come to the locale. Volunteers will be required to report to their animator any lack of ORS supplies.

The Vurhonga CS health educator will fully train the animators in all the health messages for diarrhea control. The animators will in turn train their volunteers in the care group meetings. Initially, the project will supply each volunteer with 10 ORS packets to use with the mothers for training purposes. The volunteers will train the mothers during their home visits or when the mother comes to the volunteer for the first time with a child with diarrhea. She will also watch the mother do a return demonstration to give her more confidence in preparing and administering ORS herself. All mothers in the project will be given the opportunity to demonstrate the use of ORS to the volunteer within Year 1. This will be possible given the low ratio of volunteers to mothers in each block.

D.4.d.7. Home Available Fluids

In such cases that ORS is not immediately available, or at the very onset of diarrhea, the mothers will be taught to increase MOH recommended home available fluids such as tea, rice water (less available) or plain water. Often the tea will have sugar in it.

D.4.d.8. Health Education

The project volunteers will teach mothers to increase all fluids (including breastmilk) for a child who has diarrhea. If the child shows any signs of dehydration, especially thirst, weakness, decreased urine or sunken eyes, mothers will be instructed to prepare ORS packets using the designated containers commonly available in the homes, 1 liter of borehole or boiled water and to give this mixture to the child using a cup and spoon in frequent small amounts. If an ORS packet is not immediately available, she will be taught to use any available home fluids including tea, rice water or plain water as recommended by the MOH. Unfortunately, there are not a wide variety of fluids available at the aldeia level in the project area.

Volunteers will refer mothers of children with bloody diarrhea, prolonged diarrhea (15 days or more) or children with 10 or more stools per day (suspected cholera) to the health post or health center for treatment. Children who will also be referred to the health facilities are children with diarrhea who are severely dehydrated, those who are vomiting and those who cannot drink.

Project volunteers will use the following MOH diarrhea control messages with mothers:

- Diarrhea kills because of loss of fluids.
- Diarrhea increases malnutrition which also causes death.
- Give liquids immediately when diarrhea starts.
- The signs of dehydration are thirst, decreased urine and no tears. Give this child plenty of fluids and/or ORS immediately.

- Prepare and give ORS solution at home to replace fluids lost.
- Give plenty fluid little by little.
- Continue breastfeeding and normal food small amounts many times a day.
- The child needs more food than usual during recovery (1 meal extra for 15 days).
- The danger signs of dehydration that need referral are weakness (doesn't play), vomiting that doesn't stop, inability to drink.

Animators will train the volunteers in the biweekly care group meetings to share these health messages with mothers on their home visits. Volunteers will also be trained to use dramas, songs (with dancing) and stories based on these health messages with mothers at the EPI/GM sessions. Monitoring the quality of health education sessions at the mobile sessions and during home visit will be done using two different checklists. Supervisors and animators will be expected to make random home visits with the volunteers to assess the quality of education the mothers are receiving. The MOH flip charts with pictures and descriptions are being issued to the animators. Since the flipcharts are expensive most volunteers are preliterate, copies of some of the pictures will be made for each volunteer to color and keep in transparent plastic folders for use during her home visits. The dramas, songs and stories used at the mobile EPI/GM sessions will not require any literacy skills.

D.4.d.9. Prevention

The first training module introduced in the project curriculum in January 1996, covered water and sanitation. The module was designed to build upon WR's previous water program and teach mothers the basic personal, water and food hygiene messages as well as sanitation messages (diarrhea prevention messages). The timing was ideal because diarrhea incidence is up due to the rainy season and heavy flooding. The following diarrhea prevention messages are being taught presently to the mothers in the blocks:

- Use clean water
- Keep a clean latrine
- Always keep food clean
- Burn and bury household refuse
- Keep kitchen utensils off the ground

These messages are taught to the volunteers in their care group meetings using group discussions, pictures (MOH flip charts) and songs (with dancing). The volunteers will in turn teach these messages to the mothers on their home visits (using pictures adapted from the flip charts), and during EPI/GM sessions in the form of dramas, stories and songs (with dancing).

Mondays through Thursday evenings, project supervisors and animators are living in the center of their assigned communities in houses on property assigned by the aldeia leaders. These houses are equipped with pit latrines, refuse pits, outdoor tables for dishes and enclosed washing areas with pole floors to keep feet off the dirt. Volunteers contributed time and effort to

building these living areas. Project staff expect to use these living areas as a demonstration of proper hygiene and sanitation. Already, villagers are stopping by to visit in the animators' and supervisors' homes. The aldeia leaders in Guijá have joined the animators in urging people to practice the behaviors presently being taught with regard to sanitation and hygiene.

The effectiveness of transmission of the messages to the mothers will be evaluated by the animators and supervisors on random home visits to mothers (mostly using discussion and observation) and checklists at the EPI/GM sessions.

In the water project, completed December 1995, 80 successful boreholes were dug, each topped with a pump (61 boreholes in Guijá and 19 in Mabalane) and over 100 pit latrines were completed. In the interests of sustainability of the water program, and the prevention of water born diseases in the project area, the entire Vurhonga CS project staff including the drivers have been trained to insert and repair the borehole pumps. One of the sustainability objectives for this project relates to the ongoing functioning of the pumps in the project area. Each aldeia has a pump maintenance committee. The animators will be working with these groups as they continue to gather money from the community to assure the ongoing maintenance and repair of the pumps, especially during Year 3 and Year 4 when the present WR USAID Mission funded project for pump maintenance and repair has ended.

D.4.d.10. Population

The beneficiary population identified for the diarrhea control intervention are children 0-59 months, or 25% of the total population of 107,242. Including newborns, the total is 35,055.

Project staff expect that 6 contacts with each mother will be required to reach the desired level of coverage of ORT knowledge and use.

Diarrhea Control References:

The Management and Prevention of Diarrhoea, Practical Guidelines, Third ed. Geneva: WHO, 1993.

Manual de Prevenção e Controle da Diarreia, Republica de Moçambique Ministério da Saúde, 1991.

Report of the Meeting of the Technical Advisory Group, Geneva, 3-7 April 1995. Division of Diarrhoeal and Acute Respiratory Disease Control. WHO.

D.4.f. Malaria Control

D.4.f.1. Baseline

The average number of malaria episodes, per child, per year, in the project area is estimated at 3. Dr. Pieter Ernst, a physician, made this estimate based upon his experience and observation of cases of malaria in children admitted to Chokwé hospital over the last 3 years. Chokwé hospital is the main referral hospital for the Vurhonga CS project area. The proportion of deaths in children under 5 at Chokwé hospital that are assumed to be due to malaria is 47%. Infant deaths due to malaria during 1994 were 31%. Presently, malaria is epidemic in the project area. During the second week of March, in response to the MOH request to track deaths from malaria and diarrhea during this emergency period, project animators recorded 22 deaths in children under 10 in the project area due to malaria and although not recorded, the animators said that almost all of these children were under 5 years.

The project baseline survey showed the following:

- Children 0-24 months with fever during the previous 2 weeks, 59.7%
- Percent of children with fever, suspicious of having malaria (fevers not accompanied by cough or diarrhea), 19.7% (35 children, or 11.7% of entire sample of 300 children)
- Of those suspicious of having had malaria, only 42.9% were treated with chloroquine
- Of those suspicious of having had malaria, only 11.4% (4) sought treatment within 24 hours

Note that the baseline survey was not completed during the malaria season or the subsample would probably have been much larger. The subsample is small but does give project staff some indication of the need to encourage mothers to seek treatment for malaria much sooner.

The proportion of small children estimated to have chronic or persistent malaria with anemia is approximately 9% at Chokwé hospital. The highest incidence of malaria tends to extend from December to the end of April or mid-May. The contribution of perinatal malaria to low birth weights in the impact area and increased infant mortality is not possible to estimate accurately. The Mabalane district records show that 15% of all newborns are <2.5kg and in Guijá the percentage is 8.5%. Also, the monograph, *Addressing the Challenges of Malaria Control in Africa*, states that in sub-Saharan Africa,

Twenty-two million African women become pregnant each year in malaria-endemic areas and are at risk for malaria infection during their pregnancy. Malaria infection during pregnancy increases the chance of delivering a LBW baby (<2500 grams). Infant mortality for babies born weighing less than 2500 grams is more than 4 times that for normal birth weight babies (Kramer 1987). Malaria, which contributes to 5%-10% of

LBW-associated infant deaths in sub-Saharan Africa, is one of the few factors associated with LBW and infant mortality that can be managed or prevented during pregnancy. (p.4) It is estimated that 90% of the population living in the project area has at least one episode of malaria a year. The project will not be promoting insecticide treated bednets simply because the cost is prohibitive (\$10/bednet) for most of the project beneficiaries, the present project budget cannot bear the cost of subsidizing bednets and it would be difficult to sustain after the project ends. However, the animators, supervisors and drivers were supplied with one bednet each at a subsidized price by WR in order to reduce the incidence of malaria among staff, to help increase job satisfaction as well as to serve as a model to the community.

MSF-France has arranged with the MOH to do some selected environmental spraying of mosquito breeding areas in Guijá during this emergency period.

D.4.f.2. Drug Availability

Chloroquine is generally available at the health posts, health centers and Chokwé hospital. Socaristas also have a supply of chloroquine. Occasionally the supplies run low. Presently, during the malaria epidemic the MOH has given the project CS animators stocks of chloroquine to keep at the aldeia level and treat malaria patients. This will be only for the immediate emergency period. Chloroquine is not available in the small stores and markets. There is only one private pharmacy in Chokwé where chloroquine may be bought at about \$10 US./1,000.

Chloroquine resistant malaria is present in the area. If hospitalized cases do not respond to chloroquine, quinine is used in the hospital. Fansidar is used only for exceptional cases of chloroquine resistant malaria. Approximately, 10-15% of the children seen at Chokwé hospital with malaria have a chloroquine resistant strain. Most respond to Fansidar. Occasionally these children are resistant to Fansidar, in which case the health personnel resort to quinine.

D.4.f.3. Knowledge and Practice

Mothers in the Vurhonga CS project area are very aware of the dangers malaria poses to their children. As mentioned above, recently, within the span of one week 22 children died from malaria, most of these were under five years old. The traditional practice for treating malaria at home is to wait and see if the illness resolves itself. If not, especially if convulsions occur, the wife's mother or mother-in-law must be consulted and she will take that child to the traditional healer because the condition is believed to be caused by an evil spirit. There is also the belief on the part of some that if this child with malaria happens to get an "injection" it will die. Convulsions often accompany febrile or cerebral malaria. As a last resort these children are sometimes brought to the hospital and are given quinine by I.V. If the child dies, it confirms their belief that that child should not have been subjected to an injection.

Insisting on the wife's mother's or the mother-in-law's approval before going for any treatment and taking the child with convulsions to a traditional healer often results in unacceptable delay

before treatment is started. Another harmful practice is the frequency with which people do not take the full 3-day treatment with chloroquine. Often they only take the medication until they feel better thus increasing the incidence of chloroquine resistant strains.

The barriers to effective malaria management and prevention are mostly cultural given the belief that it is due to spirits and the consequent delay that occurs while the child is taken to a traditional healer. Secondly, the economic level of most of the population mitigates against the use of insecticide impregnated mosquito nets, spraying programs or use of commercial repellents or screens for the houses. Many of the homes have only a capalana (a woman's skirt length) as a door. Some people believe that malaria is caused by watermelons. The local terms for malaria are *dzedzedze* and *muzototo*. The latter generally means "fever."

D.4.f.4. Malaria Management and Prevention Objective:

Objective #7 To increase the number of children 0-59 months treated within 24 hours for malaria from 11.4% to 35%

D.4.f.5. MOH Policies and Protocols

Chloroquine remains the standard MOH treatment for malaria except in the cases of resistant strains. The MOH protocol for treatment of malaria in the home, or in the health facilities is as follows:

The diagnosis is made from the signs and symptoms of fever, weakness, headache and body pains. The general treatment practice is to err on the side of caution and give chloroquine whenever malaria is suspected. Injections are prescribed only when the patient cannot take tablets. To cure malaria, it is necessary to treat correctly. The treatment always takes 3 days. The tablets are 150 mg of active chloroquine (base). The proportions to apply according to age are:

Age	First day	Second day	Third day
Less than 3 months	¼ tablet	¼ tablet	¼ tablet
From 3 to 5 months	½ tablet	½ tablet	½ tablet
From 6 to 11 months	¾ tablet	¾ tablet	¾ tablet
From 1 to 3 years	1 tablet	1 tablet	1 tablet
From 4 to 6 years	1½ tablet	1½ tablet	1½ tablet
From 7 to 10 years	2 tablet	2 tablet	2 tablet

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Age	First day	Second day	Third day
From 11 to 15 years	3 tablet	3 tablet	3 tablet
Over 15 years	4 tablet	4 tablet	4 tablet

Attention: If the patient is worse 48 hours after beginning the treatment or continues with fever 4 days after beginning the treatment send to the nearest health post/centre.

Currently, project CS animators are cooperating with the MOH during this malaria emergency period by gathering statistics on morbidity and mortality at the aldeia level. The animators have also been given chloroquine by the MOH to treat malaria cases. Generally however, chloroquine is only available in those communities with a health post or health center or where there is a socarista.

Project staff plan to raise a high index of suspicion for malaria at the aldeia level whenever the symptoms present themselves. Mothers will be instructed not to delay but to go for treatment within the first 24 hours. Chloroquine is an oral medication, not an injection. This should relieve the fears of those who believe an "injection" could kill a child with convulsions. The second major barrier to be overcome will be to assure a supply of chloroquine at the aldeia level. This would allow a mother the option to get her child to get her child treated promptly, perhaps even before going to the healer. In those aldeias where there is no health post or socarista to administer chloroquine supplied by the MOH, project staff will negotiate with the MOH to allow the project to train one volunteer per aldeia in the treatment of malaria with chloroquine that would be supplied by the MOH. These volunteers will also be trained to refer any chloroquine resistant cases, those with convulsions or obvious anemia to the nearest health post. Chloroquine at the aldeia level combined with the health message to get a child with malarial symptoms treated immediately should begin to reduce the deaths from malaria. The CS director will also suggest that the MOH personnel meet with the traditional healers and attempt to recruit them to help getting malaria cases early treatment with chloroquine. Currently, the traditional healers in some aldeias have been identifying villagers "responsible for bringing the mosquitos" and as a consequence some of these individuals have had to be hospitalized because of being burned by fellow villagers.

All volunteers will be taught to monitor the supply of chloroquine at the aldeia level and report any lack of supply to their animators. Upon receiving these reports from the animators, the CS director will discuss the problem with the district MOH director and together look for a way to resolve the problem.

D.4.f.6. Approach to Case Management

The project will train the volunteers to:

- recognize malaria by the signs and symptoms of fever, weakness, body pains and headache.
- show the mother how to reduce the fever with cool compresses and secure prompt treatment (within 24 hours) from the nearest health post, socarista or trained volunteer with chloroquine.
- instruct the mother the importance of giving her child the entire treatment in order to avoid resistance to chloroquine in the future.
- identify complicated malaria such as chloroquine resistance, convulsions (probable cerebral malaria) and anemia and refer those cases to the health post.
- recognize the signs of pneumonia in order to refer those children promptly for antibiotic treatment.
- instruct pregnant mothers showing signs of malaria to get prompt treatment.
- follow-up on all pregnant women and children treated or referred for malaria, note their progress and discuss any problems in the treatment protocol with their assigned animator.
- teach mothers to discourage mosquito breeding through avoiding containers of standing water around the aldeia

The project staff will use pictures, dramas, stories and songs with dance to disseminate the malaria health messages to preliterate volunteers in their care group meetings. The volunteers will in turn train the mothers during their monthly home visits. At the present time there are very few shopkeepers in the rural communities so no efforts will be made to train them. The socaristas are the group that the project staff expects will become the main suppliers of chloroquine in these communities. See section D.4.f.2. for the hospital management procedures being promoted by MOH.

The project protocol for case management for malaria will follow the MOH protocol, see section D.4.f.5, with the following addition:

Treat all children with a fever for malaria. Any small child with a fever who also has rapid breathing, fast breathing, nasal flaring, intercostal retractions or grunts with each breath probably has pneumonia and may die. Immediately refer that child to a health center. The project CS director will negotiate with the MOH health center personnel to treat these children for pneumonia. If further training of MOH staff is required, the CS director will offer it.

D4.f.7 Approach to Prevention

The primary focus of the project is to reduce mortality from malaria through prompt treatment and referral of complicated cases. As stated in section D.4.f.3., the promotion and distribution of impregnated bednets will not be included in this project due to the poverty of the beneficiary population. Unless bednets can be sold at heavily subsidized levels, the villagers will not be able

to purchase them. MOH officials at the provincial level do not consider bednets to be practical for the rural areas.

The PVO Technical Report identifies many of the same challenges in malaria control being faced by this project:

Lack of awareness concerning malaria among community members will continue to present a major challenge; low levels of literacy make education difficult, and low income levels put many preventive measures beyond the means of ordinary households. Certain cultural factors must be better understood before options such as use of bednets can be put to best use⁶.

Mothers will also be taught to look for possible mosquito breeding sites in and around their homes and eliminate them if possible (old clay pots, abandoned holes etc.)

D.4.f.8. Sustainability

A bednet program is not considered feasible or sustainable in the project area at this time. World Vision had a bednet program in the northern province of Quelimane in high-risk communities. The bednets were heavily subsidized, consequently it was not sustainable unless the government were to introduce a country wide bednet program and subsidize the cost for those who cannot afford the commercial rates. If such a program were to be introduced, Vurhonga CS project staff would cooperate fully to distribute bednets in the project area.

D.4.f.9. Population

The eligible population for the malaria intervention will be all children 0-5 years, or 25% of the total population, 107,242 and women 12-49 years, which are 22.8% of the total population. The total beneficiary population for the malaria case management intervention is 59,506. Those considered by the program to be high risk will be children 6 months to 3 years, and pregnant women who are more likely to get malaria especially during their first pregnancy⁷.

Malaria Control References:

Addressing the Challenges of Malaria Control in Africa, Africa Child Survival Initiative Combating Childhood Communicable Diseases (ACSI-CCCD), USAID, USDHHS, CDC, n.d.

Burnham, Gilbert M. *PVO Child Survival Technical Report*, July, 1992.

⁶*PVO Technical Report*, January 1994, p.10

⁷*PVO Technical Report*, July 1992, p.9

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Health Education for Malaria Control in the Context of a Primary Health Care Approach: A Training Program Guide, Africa Child Survival Initiative Combating Childhood Communicable Diseases (ACSI-CCCD), USAID, USDHHS, CDC, 1990.

Kramer, M.S. 1987. "Determinants of Low Birth Weight: Methodological Assessment and Meta-analysis." *Bull World Health Organ.* 65:663-737.

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Schultz, Linda J. Steketee, Richard W. Wirima, Jack J. "Malaria during Pregnancy" *Africa: Addressing the Challenge Malaria.* Division of Parasitic Diseases, National Center for Infectious Diseases, Public Health Service, U.S. Department of Health and Human Services, CDC Atlanta, GA.

Ventimiglia, Tom and Amayun, Milton B. *PVO Child Survival Technical Report*, January 1994.

D.4.g. Maternal and Newborn Care

D.4.g.1. Baseline Information

The maternal mortality ratio in Mozambique is 300/100,000 live births⁸.

The maternal mortality ratio for Gaza province is unavailable because many women deliver and die at home and their deaths are never recorded by the MOH. The major causes of maternal mortality at Chokwé hospital based upon the hospital records are, in order of frequency, eclampsia, hemorrhage, cerebral malaria and infection.

The baseline survey for the project yielded the following results:

- Mothers with a maternal card, 54.3%
- Mothers with two or more tetanus toxoid injections, 37.3% of all the mothers interviewed
- Deliveries in health posts or health centers, 57%
- Mothers who had at least one antenatal visit during the last pregnancy by self report, 71.3% (Note: the MOH takes back the mother's antenatal record upon delivery)
- Mothers who ate the same amount or more food than usual during their pregnancy, 37.3%

If a woman in the project area were to have an obstetric emergency and had to be taken to a

⁸ *State of the World's Children*, UNICEF. Oxford University Press, 1995.

facility that could provide the essentials of obstetric care (Caesarean section, blood transfusion, anaesthesia, medical treatment, manual procedures and monitoring of labor services) that woman would need to be taken to Chokwé hospital. There is no ambulance service or telephones in the aldeias to facilitate her journey. In the best case scenario where complication are recognized early, and a vehicle in the aldeia is hired (rarely available) it may take 1 to 3 hours for her to arrive at Chokwé. In the worst of cases, perhaps from a place such as Jasse she would have to take a donkey cart or wait for the train (comes through the length of the project area on Wednesdays and Saturdays) it could take up to 3 days. The two variables are access to a vehicle and money to pay for the vehicle if it is available.

D.4.g.2. Maternal Care Objectives

Objective # 8 (below) is designed to reduce maternal morbidity and neonatal mortality and morbidity

Objective # 8 To increase the number of mothers who received at least one prenatal care check during the last pregnancy from 30%⁹ to 55%.

Objective # 9 (below) is designed primarily to reduce neonatal morbidity and mortality

Objective # 9 To increase the number of women who have received at least 2 doses of TT from 37.3% to 60%

D.4.g.3. Prenatal Care

Prenatal care is available in those health posts and health clinics that have a midwife on staff. In Mabalane district, prenatal care is available at the health posts at only Combomine and Mabalane health center. In Guijá district, prenatal care is available from the midwife at Acord du Lusaka, Nalazi, Chinhacanine and at Guijá health center.

The following prenatal care services are available in the project area: tetanus toxoid immunizations, iron supplementation for pregnant women with anemia, weight monitoring, blood pressure monitoring, detection and treatment of STDs and urinary tract infections, identification of problem pregnancies and detection of danger signs in pregnancy all available from the midwife at certain health posts and both health centers. Malaria prophylaxis is not provided. Tetanus toxoid immunizations are also given at the bimonthly EPI/GM sessions. These services are utilized by the community. The MOH does not train TBAs to do prenatal care because it is not a commonly accepted cultural role for them.

⁹Note: project staff do not have confidence in the 71.3% level for prenatal care, found on the baseline survey because it was purely self-report and there is some doubt that the women fully understood the question. All mothers who received at least one TT were 54%. In reality, mothers who had prenatal care should be somewhat less than 54% because many have received their TT at the EPI sessions without having had an antenatal check. Therefore, the project staff considers it safer to assume that baseline prenatal check levels more closely approximate 30%.

D.4.g.4. Delivery/Emergency Care

Where there are midwives in the health posts, and health centers, the quality of delivery services are generally good. Obstetric emergency cases are referred on to the Chokwé hospital. The baseline survey revealed that 39% of the deliveries were supervised by untrained personnel. The project staff hope to lower this number by facilitating the MOH training of 30 TBAs in order to ensure at least one trained TBA or midwife in each locale. These trained TBAs then will be available to serve those mothers that chose not to go to the health posts or centers for their delivery.

The essential elements of obstetric care as defined by WHO are only available at the hospital in Chokwé. They are provided by the midwives, a doctor and a surgical technician. A good referral system is in place from the health posts and health center but no ambulance service is available. The average length of time it will take a mother in the project area who experiences an obstetric emergency to get to Chokwé hospital is approximately 24 hours.

The road running the entire length of the district of Guijá does have a variety of vehicles that come through to Barrage (near Chokwé) on an irregular basis. These trucks generally will pick up passengers for a small fee. Mabalane also has a truck that makes the run between Mabomo and Mabalane and picks up passengers. Also, in Mabalane, the train comes through the length of the district on Wednesdays and Saturdays and people can get a ride into Chokwé for about \$2 US. These transportation possibilities are not ideal for emergency transport but do exist. It provides a place to start in thinking with the community in discussing possible emergency transportation for mothers. Dr. Ernst had one patient at Chokwé hospital who came from the next district north of Mabalane. She was pregnant with twins. The second twin was an arm presentation and she was able to take the train to Chokwé where she received help. This was of course, an unusual situation, but it demonstrates that on certain days of the week the train can be an emergency transport option.

D.4.g.5. Postpartum Care

Currently, the only postpartum care a woman receives is a check for bleeding before she goes home the day after delivery. She is also told to return in 6 weeks for another check. At the health centers children can be immunized every day except Sunday, so most infants that deliver there receive their BCG and neonatal polio vaccines. Those who deliver at the health posts are told to go immediately to the health center for the neonatal immunizations.

D.4.g.6. Constraints

There are three constraints to prenatal, delivery and postpartum care in the project area: the distances from health services and irregular transportation, a lack of trained professional staff (some health posts only have a volunteer socarista) and lack of knowledge on the part of the mothers.

D.4.g.7. Population

The potential beneficiaries are the newborns each year of the project, total 10,926 and pregnant women each year, a total of 5,362, estimated to be 5% of the total population of 107,242.

D.4.g.8.a. Approach--Maternal Care

On the baseline survey, 57% of the deliveries were attended by a health professional, 12.7% were attended by an untrained TBA and 24.3% were attended by family members or the woman delivered alone (2%). A total of 30 TBAs have been targeted for training in order to provide at least one trained TBA in each aldeia. Project volunteers will encourage mothers to go to a midwife for her delivery or to seek out a newly trained TBA in her community.

The curriculum used for the TBA training by the MOH TBA trainer, Lydia Chiboleka, has been designed for preliterate women by Maria de Luz Vaz on the national level. A Facilitator Manual and a Participant Manual (only pictures) were published in 1994. UNICEF provides the training kits, and the Vurhonga CS project will provide financial support for food and the transportation. The MOH resupplies the TBA kit quarterly at which time the TBA submits a record of her activities.

The volunteers will also be trained to discuss the maternal care health messages with the mothers. The Gold Standards for Educating Mothers from the *Gold Standards for Maternal Care* published by the PVO CSSP and the MOH maternal care messages will provide the basis for the development of the volunteer maternal care curriculum.

Supervision for the TBAs will be provided by a midwife from the health center who accompanies the EPI/GM mobile team once a quarter. The TBAs will be linked to a care group within the community for support. The volunteers will know who she is and will refer pregnant women to her for delivery if the woman chooses to deliver at home. The project CS supervisor and CS animator in the locale will also look her up from time to time to talk about how she is doing. If there are any problems in the way she is functioning or in the support she is receiving from the MOH, the project supervisor will serve as an advocate with the MOH personnel to resolve the problems. The MOH also provides some supervision for the district midwives. A few times a year the supervisor of the midwives from the provincial MOH (Gaza) comes to the districts for a supervisory visit with the midwives in the health posts and health centers.

D.4.g.8.b. Prenatal Care

The project will be promoting prenatal care and educating volunteers and mothers using maternal care messages to motivate mothers to seek antenatal care early during pregnancy (preferably before their pregnancy begins to show), to increase their nutritional intake and eat a variety of iron rich foods, to recognize the danger signs of pregnancy, to receive TT and persist in taking her iron supplement if she is anemic.

1. The media for the messages will be the care group meetings for the volunteers, the home visits for the mothers and the dramas, songs and puppet shows at the EPI/GM sessions.

2. The messages women will be given to promote prenatal care will include the following:

- The risks of childbirth can be reduced by going for at least 2 prenatal checkups.
Have the first checkup early in your pregnancy, preferably before your pregnancy begins to show
- Pregnant women should receive two doses of tetanus toxoid
- Eat a variety of foods at least 3 times a day when you are pregnant
- Get more rest during the last four months of your pregnancy
- Plan to exclusively breastfeed your baby
- Plan to space your next child

3. The danger conditions for pregnancy included in the maternal care messages, along with the actions to be taken, are as follows:

- A pregnant woman who has swelling of legs, arms or face, paleness of inside eyelids, failure to gain weight should see a trained midwife at a health post or health center.
- A pregnant woman who is bleeding, has severe headaches or vomiting or high fever or an unexpected water break should go to the health center immediately.
- Labor pains longer than 12 hours without progress are a danger sign. Take the mother immediately to the health center.

4. During their monthly home visits, volunteers will be tracking pregnant women. The volunteer will discuss her pregnancy and determine whether she is experiencing any of the danger signs listed in the messages above. If the mother is experiencing any of the signs she will be immediately referred to a midwife at the health center. Volunteers who have women in their block who are under 18 or over 35 who are likely to become pregnant will discuss the risks with that woman and encourage her to start using a modern contraceptive method.

5. A pregnant woman with any of the danger signs mentioned above will be immediately referred to a midwife for screening for pre-eclampsia, anemia, untoward bleeding and lack of weight gain.

6. Other activities that will be included in prenatal care will be an emphasis during the prenatal period on receiving at least two tetanus toxoid doses at the EPI/GM mobile sessions.

D.4.g.8.c. Delivery/Emergency/Newborn Care

The project will facilitate the MOH training for TBAs by assisting the MOH with food and transportation to the training site. The MOH will be responsible for ongoing supervision of the TBAs who will report to the midwife or member of the EPI/GM team once a quarter and receive additional supplies for her TBA kit. The project will also incorporate the TBA into a care group in her aldeia for ongoing peer support from the other volunteers. The main focus of the project is to educate mothers about delivery and emergency care.

1. The delivery messages for routine delivery care will be as follows:

- A trained person, such as a trained TBA or midwife should assist at all births.
- A woman who does not deliver with 24 hours of starting labor should be taken to a trained health professional.
- All births should be conducted in a clean place, with clean hands and clean utensils.

2. The danger signs during labor and delivery that will be taught to the mothers are severe continuous abdominal pains (rupture), the appearance of the umbilical cord, arm or leg before the head, heavy bleeding and labor of more than 24 hours for the first birth and more than 12 hours for the second.

3. If these danger signs occur, the mother should be taken immediately to Chokwé hospital by the fastest transportation possible.

The animators and supervisors, during one of their initial quarterly meetings with the aldeia leaders will discuss the need for that aldeia to set up an emergency transport plan for women who have obstetric emergencies. In each aldeia, the plan will probably be different depending on the proximity of that aldeia to the main road that runs through the district, any vehicle or ox cart owners in the aldeia and their willingness to transport a woman on an emergency basis. The aldeia leaders will be asked to assess all the transport possibilities in the vicinity, identify the most likely possibility for transport, discuss it with the community, look at the issue of payment for the vehicle (who pays, how much, and when) and then make the plan known to the people in the aldeia. Vehicles in some of the most distant aldeias are rare. A woman may need to be taken by oxcart for some distance to the designated vehicle. Along the main road through each district there are also trucks that come through irregularly and will carry passengers into Chokwé for a fee. These trucks could possibly transport a mother but cannot be depended upon when you need them because there are no telephones to alert them.

D.4.g.8.d. Postpartum Care

The CS project staff do not intend to provide postpartum care, this is the role of the MOH

midwife and the TBA. The project will however, provide education for postpartum women during a home visit by the volunteer within a day or two after birth. The volunteer will ask the mother if she is experiencing any bleeding, or is having a smelly discharge or is having any problems with wound healing. If any of these problems are present the volunteer will send the mother to the health post. The volunteer will also check to see that the mother is breastfeeding and will encourage her to exclusively breastfeed, to breastfeed frequently and to avoid the introduction of water or traditional medicines. The volunteer will also encourage her to eat a variety of foods, three times a day and to drink plenty of fluids. Finally, the volunteer will also inquire as to whether the mother wishes to have another child within the next two years. If not the volunteer will ask the mother if she is interested in family planning. If so, the volunteer will be instructed to follow up with the mother during next home visit on possible birth spacing methods.

Since there is a local practice of dressing the umbilical cord with chicken or rat dung to hasten drying of the cord, the volunteers will be taught to urge mothers to avoid this practice and also to keep the baby warm and dry.

D.4.g.9. Documentation

See Appendix B for a copy of the MOH mother's antenatal card and the mothers TT card. For a copy of the project HIS family form to be completed by the volunteer see Appendix D. If a mother's card is lost, the project HIS family form can recover the following information by mother's name for the new card issued by MOH: whether or not she is pregnant, how many months she is pregnant how many antenatal checks she has received and how many tetanus toxoid doses she has received. It remains to be seen in such cases whether or not it will be feasible for the MOH to recover that information from the volunteer.

References for Maternal Care:

A Gravidez da Ana. Ministério da Saúde, Republica de Moçambique, Direccao Nacional de Saúde 1991 financed by Save the Children. (Maternal care health messages in a flipchart telling the story of Ana's pregnancy).

Manual da Parterio Tradicional. Ministério da Saúde, Republica de Moçambique, Direccao Nacional de Saúde, n.d. financed by Save the Children. (*TBA Trainer Manual*).

Modules: Para o curso de Formação de Formadoras de Parteiras Tradicionais. Ministério da Saúde, Republica de Moçambique, Direccao Nacional de Saúde, n.d. financed by Save the Children. (*TBA Trainer Manual*).

Morrow, H. and Anderson, F. *Gold Standards in Maternal Care Curricula for Use by PVO Child Survival Projects.* Johns Hopkins University School of Hygiene and Public Health, PVO Child Survival Support Program, 1995.

D.4.h. Family Planning

D.4.h.1. Baseline Information

The MOH statistics gathered at the Gaza provincial MOH office shows a contraceptive use of 0.8% in Guijá and 1.8% in Mabalane for 1994. The project baseline survey in October 1995 showed that 41.7% of the women who were not presently pregnant did not want another child within the next two years and 12.7% were not sure. Using a denominator that excludes pregnant women and women who want to have a child within the next two years, the modern contraceptive use rate in the project area was 6%. The MOH percentage for contraceptive use does not take into account the pregnant women and women in the district who want to have another child. If the project percentage was calculated without taking into account the pregnant women and women who want another child, the baseline rate would be even more comparable at 3% to the MOH rate (1.3%, average of Mabalane and Guijá). Drop-out rates are not tracked in the two district MOHs. The unmet need for contraceptives on the baseline survey is the difference between those who don't want another child and those who are using contraceptives which was 35.7%.

D.4.h.2. Family Planning Objectives

Objective # 10 To increase the number of women using family planning from 6% to 15%

D.4.h.3. Current Family Planning Services and Constraints

Currently, oral contraceptives, condoms and Depo Provera are available at the health posts and health centers with a midwife but these places are not that accessible to many mothers in the project area. Tubal ligations are done at Chokwé hospital. At present, the supply of contraceptives seems to be sufficient but any increase in contraceptive use in the project area will be dependent upon increasing the access. The MOH is the only supplier of contraceptives in the area.

There are two major constraints to family planning in the project area which include the lack of ready access to contraceptives and the heavy cultural pressure for women to continue having as many children as possible as long as possible. The walking distance to health facilities with a midwife and a supply of contraceptives is a constraint for a large number of women in the area. From all reports, the supply is not presently a problem at any of these facilities.

The cultural pressure to keep having children is enormous. Women are expected to continue giving birth as long as the cows given by their husband to her family as dowry continue to calve. The CS animators say that it is common to hear that women are in their tenth or eleventh pregnancy. Almost all have a history of some miscarriages or have children who have died. Children are weaned abruptly once a mother discovers that she is pregnant again. These weaned children are very vulnerable and often succumb to malnutrition, increased bouts of diarrhea and

often die. They are often sent away to a grandmother or other relative until they get over their desire to breastfeed.

In one of the aldeias, Monte Alto, while this DIP was being written, a child less than a year was buried. This was the sixth child that couple had buried. The woman was already 6 months pregnant. The secretary of the aldeia said that this was a very common problem in his aldeia. The women tell the CS animators that the men also want the women to have as many children as possible in order to have caretakers in their old age. The older women tell the animators that the younger families are not following the tradition wisdom which dictates that a man not sleep with his wife for two years after a child is born. They would prefer that the new mother move in with the older women for a prolonged time to avoid sleeping with her husband. Many of the men in the aldeias are away working in the mines in South Africa. There is also a common fear on the part of the men that the wife will be more likely to be unfaithful to her husband if she starts using a contraceptive.

These cultural norms present an enormous challenge a family planning intervention. It has already become clear however, from the introductions made about child survival in the aldeias so far, that the people are much more willing to discuss spacing children than limiting births to 3 or 4. Fortunately, there the traditional belief that children should be spaced two years apart and the need for child spacing is a strong felt need that both men and women are expressing to the animators and can be used to open the door to greater contraceptive use.

D.4.h.4. Population

The population targeted for family planning will be all women of fertile age, 12-49 years in the project area, approximately 24,451 women, 22.8% of the total population of 107,242.

D.4.h.5. Approach

The project volunteers will be promoting family planning to all their families. The methods available from the MOH are condoms, oral contraceptives, and injectables (Depo Provera). IUDs and tubal ligations are available at Chokwé hospital. The approach that will make the most difference in the shortest amount of time will be explored with the volunteers. For instance, it may be that the first priority will be to raise awareness of contraceptive use at the aldeia level among both men and women about the advantages of birth spacing to the small child still breastfeeding and to the couple who prefer not to become pregnant for at least two years.

To this end, the project has decided to train the three male drivers in the family planning component so that they can hold meetings with the men in the aldeias. These drivers are all mature married men who are very supportive of the child survival objectives. They would be trained to work with the men of the aldeia in family planning. The men will be invited to introductory meetings. In these meetings, the drivers will focus on the need for child spacing at least for two years and the advantages this will have for the small children and the removal of the

fear of pregnancy too early. The drivers will also be prepared to discuss the various contraceptive methods at a basic level. Condoms will be primarily presented as a birth spacing method although the role of condoms in providing some protection from STDs will also be explained. Where the need arises or where the men in the aldeia are particularly resistant to family planning, the project CS director will discuss the situation with the aldeia leaders and hold a meeting himself with the men if that would be helpful to the aldeia leaders.

The next step will be to ask all the volunteers to begin talking with women who have children under one year old about the possibility of avoiding another pregnancy until her present child is at least 2 years old. Also, the volunteer will discuss what contraceptive methods are available. They will also be trained to discuss the risks to both the mother and the child of not spacing births. Any couple then who chooses to use a contraceptive method will be referred to the nearest socarista, health post or health center for the contraceptives.

Prior to introduction of the family planning intervention, the project director will enter into discussions with the MOH staff about how to create greater access to contraceptives throughout the project area. Presently, the socaristas, trained in first aid, do not carry contraceptives. Since the project is planning to negotiate with the MOH to train more socaristas from more remote aldeias, the next step would be to supply them with some contraceptives. The project will coordinate the initial promotion of contraceptives with the MOH so that they will be able to anticipate an increased demand over the next few months and have plenty contraceptives available.

The volunteers will also instruct mothers that exclusive and frequent breastfeeding is reliable as a method of child spacing during the first 6 months after delivery if they are careful to avoid introduction of all food and liquids other than breastmilk, breastfeed frequently and do not have a menses during that time. The lactational amenorrhea method (LAM) can also be encouraged as a temporary method mothers can use for birth spacing if their husbands do not agree to any other contraceptive use.

The volunteers will be instructed to inform their animator immediately upon hearing of any incident of lack of contraceptive supplies. The animator will inform the project director during the next Friday debriefing meeting so that the project director can look into the situation and take it up with the MOH district director within the next week. It will be very important to maintain a constant supply of contraceptives at the aldeia level once the intervention has been implemented. Project staff considered asking the MOH to supply the animators with contraceptives. However, since the animators are employees of the project, that plan would not be sustainable.

The volunteers will also know the side effects of the oral contraceptives and Depo Provera so that they can assist mothers to persist in their use in spite of some temporary side effects.

The quality of contraceptive services will be monitored through the volunteer contact with the mothers. The volunteers will ascertain the reasons for any woman who stops using

contraceptives, the availability of contraceptives and the general feeling mothers have about their treatment at the health facility or from the socarista. If a problem arises that seems to be rather widespread in the quality of the services, the project director will gather some focus group data if necessary and together with the MOH director look for a way to resolve the problem. Because the family planning intervention is linked to the MOH supply of contraceptives and promotion by the volunteers at the aldeia level project staff expect it to be more sustainable after the project ends.

D.4.h.6. Health Education Messages

The family planning curriculum has not yet been fully developed. The messages included in the curriculum will be as follows:

- It is much safer to have children when you are older than 18 and younger than 35.
- Spacing births more than 2 years apart contributes to stronger children and stronger mothers.
- Temporary methods of family planning are condoms, pills, injections, and surgery can be a permanent method.

D.4.h.7. Documentation

The project HIS family form used by the volunteer will provide project staff with the number of project families using family planning. See Appendix D for the HIS family form.

Family Planning References:

Birth Spacing Prevents Child Deaths, Center for Population and Family Health, Faculty of Medicine, Columbia University, Nd.

Povey, G., Jamisse, L., da Luz Vaz, M. *Manual de Planeamento Familiar*. Ministério da Saúde, Republica de Moçambique, Seccao de Saúde Materno-Infantil

D.5. Schedule of Field Project Activities--See Table C

Section E. HUMAN RESOURCES

E.1. Organizational Chart

See Appendix G for Vurhonga CS project organizational chart.

E.2. Training and Supervision Summary

See Appendix H for Table D: Training and Supervision Summary.

The health educator and the 3 supervisors will provide the major portion of supervision for the project. The supervisors are in the field all week with the 6 animators for whom they are responsible. The health educator visits the field every week for two to three days rotating between the supervisors and animators. The animators train and supervise the volunteers with the assistance and support of the OMM leaders in the community.

E.3. Training and Supervision Plan

Training for each of the project child survival interventions will be conducted during one week "training of trainers" (TOT) training camps held in the field for the animators. One training camp is scheduled per intervention during Years 1 and 2. Four review TOT camps will be held during Years 3 and 4. The training objective for each intervention is ultimately to change the mothers' knowledge and health practices primarily as they relate to the project objective/s for that intervention.

During the mornings at the TOT camp (4 hours each morning for 5 days), the animators will be taught by the project health educator how to train their care groups in the interventions. A care group is made up of 10 volunteers, each volunteer being responsible to carry the health messages to the 10 families in her block. The care groups are scheduled to meet with the animator for training twice a month for two hour meetings. During the afternoons of the TOT camp (2-3 hours for 4 days), the animators will return to their assigned aldeias and practice the training techniques learned with their care groups. The animators will teach the first training session for the current intervention each afternoon during the TOT camp and during the following week, until all her care groups (average of 8 care groups each) have been exposed to the first lesson.

The venue for care group meetings will rotate between the homes of the volunteers and the animator's house. As the animator finishes the first training session with all her care groups, she will start the next round of bimonthly meetings with her care groups using the second training session for that respective intervention. During the mornings in the TOT camp, the animators will have been trained how to teach all of the sessions for the current intervention and will continue training the volunteers until the entire intervention has been covered in subsequent weeks. This measured approach to training will give the volunteers time to assimilate the messages for that intervention and begin training the mothers during their monthly home visits. The supervisors, animators and volunteers will all be trained to watch for changes in the mothers' level of knowledge of the health messages and changes in their practice of new health behaviors. See Appendix I for Table C: Field Project Schedule of Activities for the time line for phasing each intervention into the project.

During the TOT camp, depending on the intervention, animators will also be trained to act out a

drama, to sing a song or two with appropriate dance moves and hold discussions with groups of waiting mothers at the mobile EPI\GM sessions. These dramas, songs and dances, and group discussion techniques will be taught in turn to the volunteers as well who will eventually provide the "entertainment" for the mothers at the mobile sessions.

Altogether, 3 supervisors, 18 animators and approximately 1,080 volunteers, formed into 108 care groups, will be trained in each intervention. Since the numbers of families in the entire project area have not yet been ascertained (the animators are presently still forming the care groups), it will be several weeks yet before the final numbers of beneficiaries, families, volunteers and care groups are known. Each of the 3 supervisors will oversee an average of 6 animators. Each animator will be responsible for approximately 6-8 care groups. The large number of volunteers per animator (approximately 60) will require the animator to relate to the volunteers primarily during the care group sessions and not individually except where a volunteer is having difficulty.

When problems arise, as seen in the HIS, or during the care group meeting, the animator in discussion with her supervisor will attempt to give the volunteer some additional personal attention during the mornings when their time is more flexible. The ratio of animator to volunteer is high and it remains to be seen whether the advantages of the high ratio will outweigh the disadvantages. The major advantage of the strategy will be that a great many more women (volunteers) will receive training than otherwise would be possible if the animator were to supervise the volunteers more closely, and it will be more cost effective. Also, the supervisor will be in a position to assist the animator in working with those volunteers that do not seem to be performing well. The major disadvantage will be that the animator will not be able to give one-on-one attention to each volunteer.

During the week in the mornings, while the animator and supervisor are in the field, they will do spot check home visits to assess how well the volunteers are functioning. This will be done during periods when there is less need for the women to be in the fields. Animators will also accompany volunteers who seem to be having some difficulty with their home visits and using a check list work with the volunteer to strengthen her home visit skills and her ability to teach mothers the health messages and changes in health practices.

E.4. Community Health Workers

The Vurhonga child survival project will train a total of approximately 1,104 community health workers. This includes, 3 supervisors, 18 animators, 3 drivers (in water and sanitation and family planning) and 1,080 volunteers (who will remain in the aldeias after the project ends). Although it is expected that one volunteer will be responsible for training mothers from 9 other families in the project interventions, the likelihood of each volunteer relating to more than 9 mothers is quite high. From their initial experiences in the field, the animators are now estimating that almost two thirds of the men with families have more than one wife. This means

that each volunteer could be responsible for 15 mothers and an average of 30 children under 5. However, not all second and third wives live with the first wife in the same block. Consequently, the second or third wives may be included in another volunteer's block. Not until the HIS is functioning and all the mothers with children under 5 are registered will project staff be able to estimate a more accurate picture of volunteer work load and numbers of beneficiaries. Additional numbers of volunteers may have to be assimilated into the project in order to cover all the beneficiaries in the project area. Currently, if each of the estimated 1,080 volunteers has an average of 15 mothers in her block with an average of 2 children under 5 each, the total number of beneficiaries assigned to the volunteers will be approximately 48,600. If you add to that beneficiary number the volunteers themselves and their children, the total numbers of beneficiaries for the project could be closer to 51,840. By May 1996, the project animators should be established in all of the communities, the volunteers all identified and the beneficiaries all registered and counted.

The supervisors will plan to attend a meeting of each care group on a rotating schedule. During each of her visits to a care group meeting, she will use a checklist to ascertain whether or not the animator is facilitating the meeting as she was trained to facilitate. This rotating schedule will allow the supervisors to observe an animator functioning with her care group at least 2 or 3 times a month. During the mornings in the field the animators with the assistance of the supervisors will be expected to make home visits with volunteers that seem to be having some difficulty in order to give them some additional training. Every Friday afternoon a plenary meeting is held with all animators and supervisors with the project director and health educator to debrief the previous week and the field and deal with any problems that need to be solved. If the need for additional training becomes evident, the animators can be brought home from the field early enough to make several hours available for training on Fridays.

Vurhonga CS project staff expect that around 10% of the volunteers will need to be replaced each year because they move out of the area, or find that their personal situation is such that they need more time to devote to the feeding and care of their families, or they do not get along with the families on their block or their husband disapproves of their work as volunteers. Fortunately, the OMM leaders at the aldeia level will have the responsibility to assist the block families to appoint a new volunteer to replace one who drops out. These new volunteers should be mothers who is practicing the new health behaviors. Animators will plan to spend extra time with these new volunteers during the morning hours to train them in areas already covered by the project.

Also, the tremendous pressure tending fields places on most mothers in the area, will require that the animators be flexible with the volunteers' attendance at care group meetings especially during planting and harvesting seasons. Already it has been clear that although very motivated to receive the training, volunteers in some aldeias that have had their fields flooded have had difficulty getting to the care group meetings on time because they have to replant their fields. The animators have been flexible and sometimes hold the meetings a couple hours later to accommodate the volunteers who spend so many hours in the fields.

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In order to minimize the need for replacing volunteers, project staff will work closely with the OMM leaders (quarter leaders) to identify volunteers that are most likely to succeed and do not have husbands that might disapprove of their activities. The animators will meet with the quarter OMM leaders at least once a quarter to inform them of progress on project objectives and any problems that may need their attention, especially volunteers on the verge of dropping out or who are not performing sufficiently well.

Also, animators will work hard to build the care groups into peer support groups that provide a sense of belonging and encouragement. The project will also issue Vurhonga head scarves, pencils, and transparent folders to hold all teaching materials. Finally, ceremonies will be held at the aldeia level celebrating those volunteers who complete their training and those volunteers who meet certain benchmarks on project objectives in their communities. At these events project staff will provide mahew for all to drink, a prized drink made out of mealie meal and water. The animators will also be taught to be vigilant in recognizing problems as they emerge that would destroy the volunteers sense of enthusiasm for the project objectives. They will be encouraged to work hand in hand with the OMM quarter leaders to head off any problems that would lead to defection of volunteers.

E.5. Community Committees and Groups

The basic structure for the project is the already existing OMM structure of block volunteers. These volunteers are formed into peer support and training groups called care groups. The volunteers will form approximately 108 care groups in the project area. These groups will be linked to the project through their "trainer" animators who will meet with each care group twice a month or 24 times each year.

The project staff will also be working closely with the pump maintenance and repair committees in each of the communities with a tubewell mounted with a pump. These community committees were formed by the World Relief water team when the tubewells were drilled and continue to function. World Relief currently has a pump repair and maintenance team comprising 2 trained technicians that visit all the communities where pumps have been installed to check on the effective and ongoing maintenance of those pumps. This activity is funded under a USAID local mission grant until September 1997. The Vurhonga CS project staff will use this team to strengthen the aldeia pump maintenance and repair committees where deemed necessary.

It will be the responsibility of the project supervisors and animators to interact with the community groups when they meet monthly (12 times annually) especially after the WR pump repair team grant has ended and head off any problems that arise. These community committees ask a small fee of each family to go towards maintenance and repair of the pumps. They are also charged with repairing the pump where necessary as they have been trained to do this and know how to access the necessary spare parts.

E.6. Role of Country Nationals

All supervisors, animators, drivers, the accountant, the secretary and the administrative assistant are nationals. The project director is a South African physician who speaks both Shangaan and Portuguese. The health educator is a nurse midwife, also a South African, and a Shangaan herself. Both the project director and health educator plan to learn to use the project computer. They will also receive some training in word processing and Epi Info in time for the midterm KPC survey. The child survival director at World Relief HQ has trained both the project director and the health educator in setting up action plans for the project. The World Relief country director, Trudi Schwartz is training the project director and accountant in managing the finances and budgeting for the project. Further assistance will be sought from World Relief HQ to train the management team and the supervisors in supervisory skills and personnel management during the first year of the project.

E.7. Role of Headquarters Staff

World Relief is currently recruiting for two child survival technical positions at HQ to provide technical backstopping from HQ. Dr. Muriel Elmer has visited the project twice to date (six weeks in all) to assist the staff with startup, train them to conduct the KPC and assist them in writing this DIP. Dr. Nancy Cano an experienced physician from the World Relief Nicaragua child survival project also spent 3 months in Mozambique during the first quarter assisting with startup and the KPC survey. Four more technical assistance visits from HQ personnel are budgeted during the life of the project. Each visit is expected to be for approximately 3 weeks.

Section F. PROJECT MONITORING HEALTH INFORMATION SYSTEM

F.1. HIS Plan

Progress on project objectives will be tracked once per quarter on the volunteer HIS forms (one per family). Thus, the information gathered will be census-based tracking of each beneficiary. The HIS forms have been designed to accommodate our preliterate volunteers by using pictures and requiring pencil dots rather than numbers. Individual beneficiaries and their response to the services provided will be tracked by the volunteers for each block of 10 families. See Appendix D for copies of the family HIS form and the animator's consolidation form.

F.2. Data Variables

The following indicators will be collected to monitor project objectives:

Obj. #	Indicator	Data Sources
1	Children 12-23 mo completely immunized by 12 mo.	KPC* HIS**
2	Children 0-59 mo. with diarrhea during the last 2 weeks who have received ORT	KPC, HIS
3	Mothers of children 0-59 mo. with diarrhea in the last 2 weeks who fed the child more than usual during recovery (at least one week) from diarrhea	KPC, HIS
4	Children 0-35 mo. weighed in the last 3 months	KPC, HIS
5	Mothers who receive rehabilitative nutritional counseling for children 0-35 mo. who have not gained weight since last being weighed	KPC, HIS
6	Children 0-4 mo. exclusively breastfed	KPC, HIS
7	Children 0-59 mo. treated within 24 hours for malaria	KPC, HIS
8	Mothers who have received at least 1 prenatal care check during the last pregnancy	KPC, HIS
9	Women who have received at least 2 doses of tetanus toxoid	KPC, HIS
10	Women using a modern method of birth spacing	KPC, HIS
11	Care groups which have met 4 times in the last 6 mo. of the project year	HIS
12	WR-installed borehole pumps functioning at least 11 mo./year	HIS
13	MOH EPI/GM team will meet at least 2 times with care group representatives in all visiting sites in Year 3 and at least 3 times in Year 4.	HIS

*KPC--A KPC survey was done for the baseline. Another KPC survey will be completed by the project staff to collect data on these indicators before the midterm and final evaluations.

**HIS--The volunteers will collect the data on these indicators during home visits with mothers in their block. The volunteers visit mothers monthly but only collect data once per quarter.

Use of Qualitative Data in the Project: A series of focus groups are planned to assist the health educator to learn nutrition related cultural practices to design a more effective nutrition curriculum. Focus groups will also be used to identify barriers to the use of family planning methods and build a more effective family planning curriculum. Focus groups may also be used to understand the usual delay in seeking treatment for a child with malaria. Finally, focus groups will also be used periodically to test health messages. The management team were

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trained to conduct focus groups by Dr. Cano during the start-up quarter. Group interviews (lead by the animators) were conducted during the care group meetings in order to gather data for the DIP. Several interviews and group interviews with mothers and health professionals were used to gather data for the DIP.

E.3. Data Analysis and Use

The animators will collect the family HIS forms from the volunteers at the end of each quarter and consolidate the information. See Appendix D for the consolidation forms to be completed by the animators. These consolidation forms will be collected and checked by the supervisors who will send them on to the project director, Dr. Pieter Ernst who is responsible for the HIS. He will consolidate the information and with the help of the Administrative Assistant enter the data into the computer. Dr. Ernst will analyze the information and report on progress made to World Relief HQ, the Gaza, Mabalane and Guijá MOH Directors.

Once each quarter feedback on progress made on project objectives will be given at the care group meeting to which the OMM quarter leaders have been invited. Also quarterly, the animators and supervisors will meet with the bairro leaders in the aldeia and present feedback on progress made on the health objectives. These two types of meetings may be held jointly.

In order to make the feedback understandable and useful, Dr. Ernst intends to explore an idea using two different sketches. The first sketch will be one of many children under five. Marks will be made at the bottom of the sketch measuring off the children in 10% increments across the bottom of page. The person providing the feedback will cover the sketch of children with a colored transparency showing the audience visually approximately what percentage of their children are covered as she discusses each objective. A sketch of many huts will be used to give the same type of feedback on births covered with tetanus toxoid immunizations, and family planning methods. Each quarter the community will be able to visualize progress made by the increasing number of children or huts covered with the colored transparency for each objective. Consistent visual feedback on progress made on health objectives is designed to motivate the entire community to continue making health behavior changes that enhance the health of their mothers and children.

E.4. Other HIS Issues

The HIS forms will be collected quarterly and left in the animator's locked house for safekeeping and to protect confidentiality. Animators and volunteers will be trained to consider information gathered on a family as confidential, only to be discussed with the family itself or the project supervisor.

The HIS will require a copy of the family form for each family once per quarter, a pencil for the volunteer and a transparent folder to protect the HIS forms. Dr. Ernst sought the assistance of Maria De La Luz Vaz in developing the HIS. The HIS is currently being tested by the

volunteers who are filling out the family forms on their own families. By June, 1996, the HIS is expected to be operating throughout the project area.

Section G. BUDGET

G.1. Budget Information

The total detailed budget for the costs to be covered by USAID and World Relief is shown on the enclosed budget breakdown for each year for the life-of-project.

A. Salaries: The annual salaries are indicated after total person months (PM). Staff are full-time unless otherwise noted. Salary increases are estimated at 5%.

Field Technical Staff includes 1 project director (48 PMs--25,950), 1 health educator (48 PMs--25,057), 3 supervisors (126 PMs--3,588), 18 animators (882 PMs--3,120)¹⁰, **Field Other Personnel** includes 33% secretary (24 PMs--4,680), 33% bookkeeper (24 PMs--3,900), 3 drivers (144 PMs--1,560), 1 guard (48 PMs--780).

B. Fringes: The fringe benefits include social security payments, pension contributions of all staff and include concomitant increase over the life-of-project. Project director (48 PMs--3,633), health educator (48 PMs--3,507), supervisors (126 PMs--260), animators (882 PMs--218), secretary (24 PMs--327), bookkeeper (273), drivers (110) and guard (48 PMs--55).

C. Travel: Travel and per diem costs include 6 annual Chokwé/Maputo trips and 6 annual Chokwé/Xai-Xai trips to facilitate liaison with the provincial MOH.

D. Equipment: This project will obtain 2 vehicles, 6 motorcycles and 3 bicycles. Besides the mobility items, a computer, a copy machine and some office furniture will be purchased for the office. At least 5 tents and camping equipment such as chairs, tables and other general needs for camping have been procured. The training of the volunteers is done in various areas by holding "training camps" as close as possible to the areas in which these volunteers work.

The vehicles that have been purchased are 2 Toyota Landcruiser station wagons (13 seaters). The budget includes mobility costs for fuel, repair and maintenance of the vehicles and the motorcycles. These vehicles will be used to transport the teams of animators to their general areas of work as well as to assist the MOH to transport the EPI teams to the villages (where MOH does not have suitable transport at this time).

The motorcycles will be Yamaha or Suzuki 50 cc motorcycles for use by those animators who are servicing a larger geographic area and where the villages are some distance apart.

¹⁰The 3 supervisors were chosen from the 21 animators appointed at the start-up of the project, after the initial training and orientation (initial six months).

The bicycles are used by those animators who are servicing one particular village which is spread over some distance and where there is a large population in this area.

Field Other: is divided into three categories: Year 1 USAID funds: Training Costs: \$13,280; Mobility: \$18,050; Miscellaneous: \$16,500. PVO match: Training Costs: \$320; Miscellaneous: \$930. Year 2 USAID funds: Training Costs: \$13,944; Mobility: \$18,953; Miscellaneous: \$847. PVO match: Training Costs: \$8,293. Year 3 USAID funds: Training Costs: \$14,641; Mobility: \$19,900; Miscellaneous: \$2,432. PVO match: Miscellaneous: \$2,200. Year 4 USAID funds: Training Costs: \$15,373; Mobility: \$20,895; Miscellaneous: \$2,520. PVO match: Miscellaneous: \$158.

E. Supplies: The budget includes funds to purchase ORS sachets where the MOH is unable to supply sufficient quantities.

F. Contractual: Includes \$500 for an in-country consultant to assist with writing the nutrition curriculum and advise on local complementary foods. It also includes the travel/per diem costs for the midterm evaluator, final evaluator and the entire evaluation team for both evaluations.

No subcontracts are planned.

See Appendix J for the full budget.

Section H. DIP SUSTAINABILITY STRATEGY

H.1. Sustainability Goals, Objectives and Activities

See the following Table E: Sustainability Goals, Objectives and Activities

H.2. Sustainability Plan

At the end of the child survival grant Vurhonga CS project staff expect to leave the following in place:

1. The care group structure of approximately 108 functioning care groups trained in child survival interventions, supported by OMM and linked to the MOH.
2. Functioning pumps on each of the boreholes with a trained maintenance group to keep it functioning.
3. Greatly increased numbers of mothers who know and practice health behaviors relating to immunizations, nutrition, diarrhea and malaria control, maternal care and family planning.
4. Community leaders with an increased awareness of how to protect the health of mothers and children in their communities.

DIP TABLE E: Sustainability Goals, Objectives, and Activities

Sustainability Goals	Objectives	Activities Required
<p>11. To build on the existing OMM volunteer structure by forming groups of trained volunteers into "care groups" to assist mothers to learn and practice child survival health messages.</p>	<p>To hold the number of care groups which have met 4 times during the last 6 months of the project year at 90 or more in Year 1 under project staff supervision, and at 75 or more in the last 6 months of Year 4 when the care groups will be meeting independently of project staff.</p>	<p>Animators meet bimonthly with care groups through year 2. During Year 3 the animators will meet once a month with each care group and expect them to meet on their own during the alternative meetings. During Year 4 the animator will gradually withdraw from meeting with the care groups encouraging them to meet independently.</p>
<p>12. Aldeias will maintain and repair borehole pumps independently.</p>	<p>To increase the number of WR-installed borehole pumps which are operational at least 11 months per year from 50 in Year 3 to 70 in Year 4.</p>	<p>Animators will meet monthly, if necessary, with the aldeia pump maintenance and repair committees for Year 3 and 4 and gradually encourage them, at their own pace, to become completely independent of WR advice and assistance.</p>
<p>13. To build a linkage between the OMM volunteer structure, the care groups, and the MOH personnel and services.</p>	<p>To increase the number of meetings between the MOH personnel and care group representatives from 0 in Year 1 to approximately three times annually at each mobile EPI/GM location in Year 4.</p>	<p>Project director will meet with the MOH district directors quarterly. In the course of those meetings, the project director will discuss the possibility of the MOH mobile EPI/GM team becoming the major linkage between the OMM volunteer care group structure and the MOH. Together, the MOH and the project will work out a plan. A possible plan would be to have one representative from each care group meet with the MOH staff person during the mobile EPI/GM session and occasionally receive health talks at these meetings which the representatives could report on when they meet again with their care group.</p>

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5. Care group members who happen also to be church members will be in a position to share the health messages in their churches.

The OMM would continue to encourage the volunteers in their role as health workers for their block. The OMM leaders have been invited to participate in the animator and volunteer training and could continue to encourage after the project ends and the animators are withdrawn. The MOH linkage established during the project would continue with the volunteers functioning as the arm of the MOH in the community facilitated by the OMM.

After project end, the MOH would need to continue to supply ORS, contraceptives, chloroquine and EPI/GM and prenatal services in the project area in order to meet the increased demand in the communities. In order to work towards these goals, the project staff intend to meet quarterly with the MOH director in each district and the provincial MOH director for Gaza to discuss how World Relief can collaborate and assist the MOH to meet these sustainability objectives.

There are no other indigenous health agencies functioning in the project area that could be incorporated into the sustainability plan besides the MOH and the OMM. It remains to be seen what roles the MSF, AMDA and LWF will play beyond the four years of the project. Project staff will continue to coordinate efforts with these agencies as long as they continue to work in the project area.

H.3. Community Involvement

In order to further involve the community in the implementation of the project and in planning for sustainability, the animators and occasionally the supervisors will meet quarterly with the bairro leaders along with the aldeia leaders (cheq de posto) where applicable. The OMM leaders will also be invited to these meetings.

During these meetings the animators will give feedback on progress made in project objectives, elicit the bairro leaders feedback on how they think the project is functioning, ask bairro leaders what their priorities are for their communities, request assistance in solving any problems that have emerged and discuss what elements of the project they would like to see continue after the project ends and how that could be done. The project director will discuss the approach to be taken at each quarterly bairro leaders' meeting with the animators prior to the meeting itself. Obviously, all of the above agenda cannot be discussed at every meeting. Project staff will make a point of regularly citing the date of the end of the project with members of the community to make it clear that the assistance provided by project staff is only for a certain length of time. With each intervention, bairro leaders will be asked to assist project staff in planning for ways to consolidate the gains made and plan for similar gains in the future after project staff are withdrawn.

To date, the bairro leaders and OMM leaders have been most enthusiastic about the child survival project. They have been helpful in organizing and mobilizing the volunteers to be

trained by project staff and have provided a place in the aldeias for the project to build the animators and supervisors houses. The aldeia leaders are actively promoting the sanitation and hygiene messages that have been taught to date. The volunteers themselves are coming to the training meetings and working towards incorporating the messages learned so far on hygiene into their own lifestyles. Project staff have put the focus in the training on changed behaviors emphasizing that knowing the messages is a start but not the goal.

H.4. Phase-over Plan

By project end, all pump maintenance committees should be entirely independent of any World Relief input. They should be experienced gathering maintenance fees from the villagers, keeping spare parts on hand, repairing the pumps and dealing with any problems or disputes that arise over the use of the pumps. Presently, several of these groups are functioning very well doing all of the above with little input from World Relief staff. The goal will be to have almost all of these committees entirely independent by Year 3 of the project.

By project end, project staff expect to have phased over the on-going functioning of the volunteers to the OMM and the MOH. Because the number of volunteers would be too great for the MOH to supervise directly, the OMM leaders (who will have been trained by the project in all of the interventions along with the animators), will provide ongoing supervision over the volunteers and assign new volunteers when dropouts occur.

During the quarterly meetings with the MOH district directors, the project director will discuss the MOH priorities with regard to the volunteers after project end. Because of the heavy workload of the MOH staff and the lack of trained MOH personnel, it is unrealistic to expect the MOH to take over the supervision of the volunteers. However, it may be possible to set up a meeting with the MOH mobile EPI/GM team member with a representative from each care group during the mobile team visit into the localities. This would give the MOH personnel time to gather information from the volunteer representatives, and provide the volunteers with a short health talk to keep them aware and motivated in their work. These meetings could be coordinated by the OMM leaders.

If the project staff are successful in training the volunteers to be helpful to the MOH mobile team during their visits to the localities in advertizing the dates, organizing the women at the immunization and GM stations and providing health messages in an entertaining fashion, hopefully the MOH staff will learn to value the volunteers' work during the project and begin to think creatively about ways to preserve the volunteer assistance after project end.

H.5. Cost Recovery

No cost recovery strategies are planned.

Attachments

Annex I. Response to the USAID Technical Review of the Proposal

See Appendix K for the response to the technical review of the proposal.

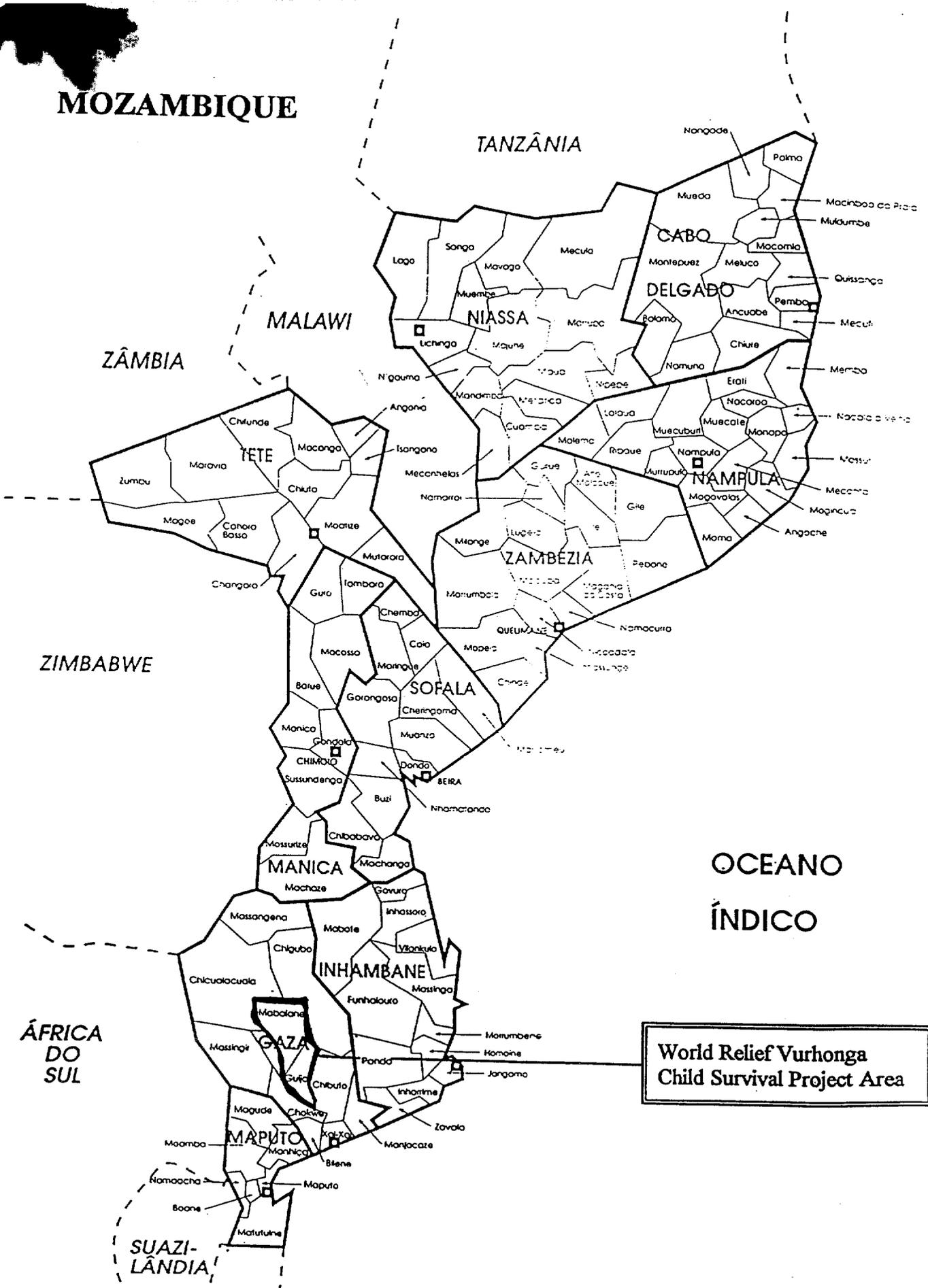
Annex II. Baseline Survey Report

See separate document for the Baseline Survey Report.

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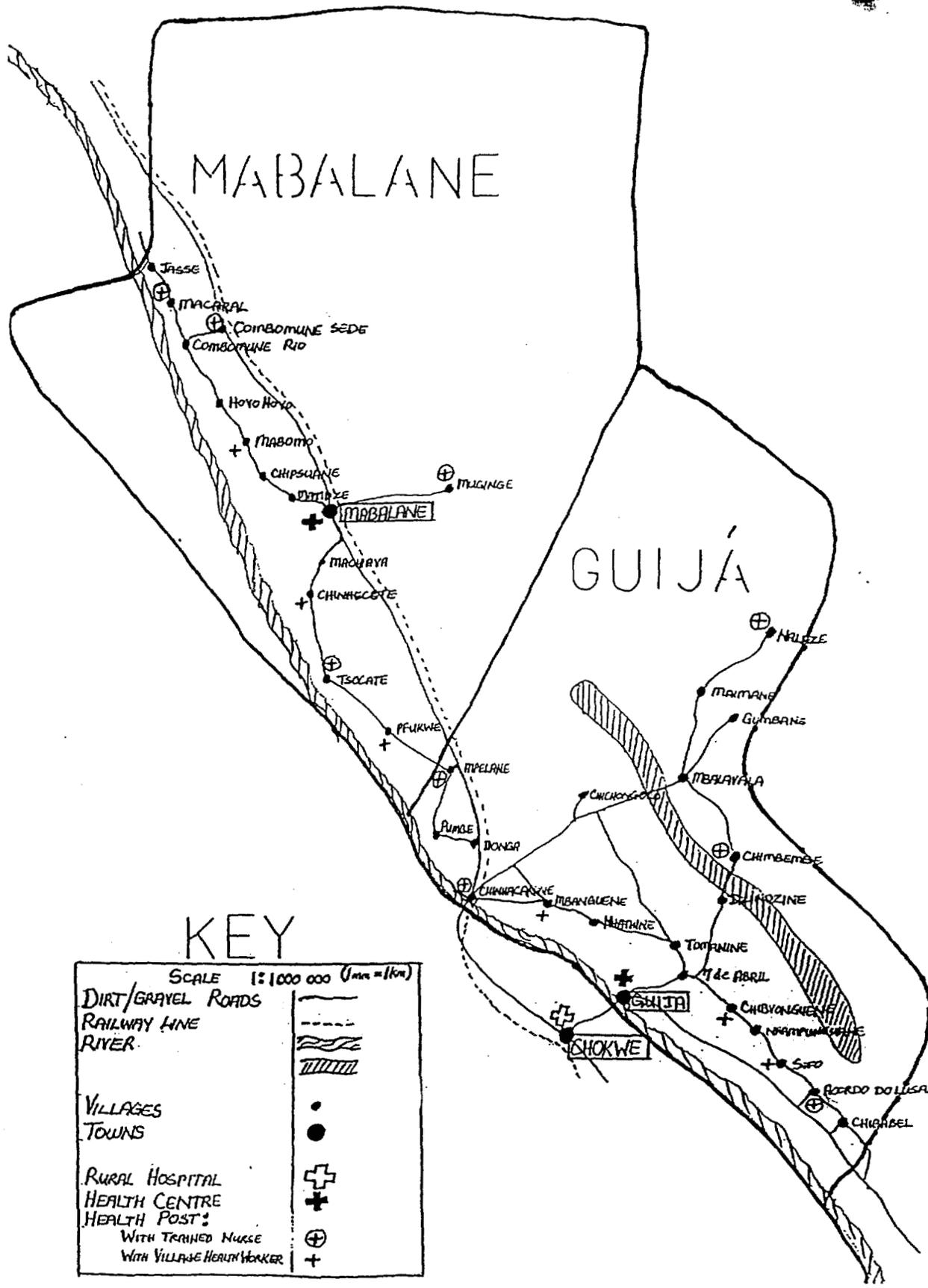
APPENDICES

MOZAMBIQUE



World Relief Vurhonga
Child Survival Project Area

WORLD RELIEF VURHONGA CS PROJECT



15

RAZÕES PARA ATENÇÃO ESPECIAL

ESCREVER NA COLUNA DO MÊS APROPRIADO

PREENCHER NOS QUADRADINHOS

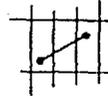
- Mãe e/ou pai ausente
- Gêmeos
- peso ao nascer inferior a 2,5 kg
- Irmãos com malnutrição
- Migração recente da família
- _____
- _____
- _____

- Desmame
- Diarreia
- Sarampo
- Pneumonia
- Kwashiorkor

- Nova gravidez da mãe
- Tosse convulsa
- Anemia
- Outras doenças

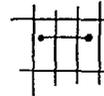
OBSERVE A INCLINAÇÃO DA CURVA DO PESO

BOM SINAL



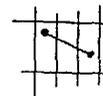
Bom, quer dizer que a criança está a crescer bem.

SINAL DE ALARME

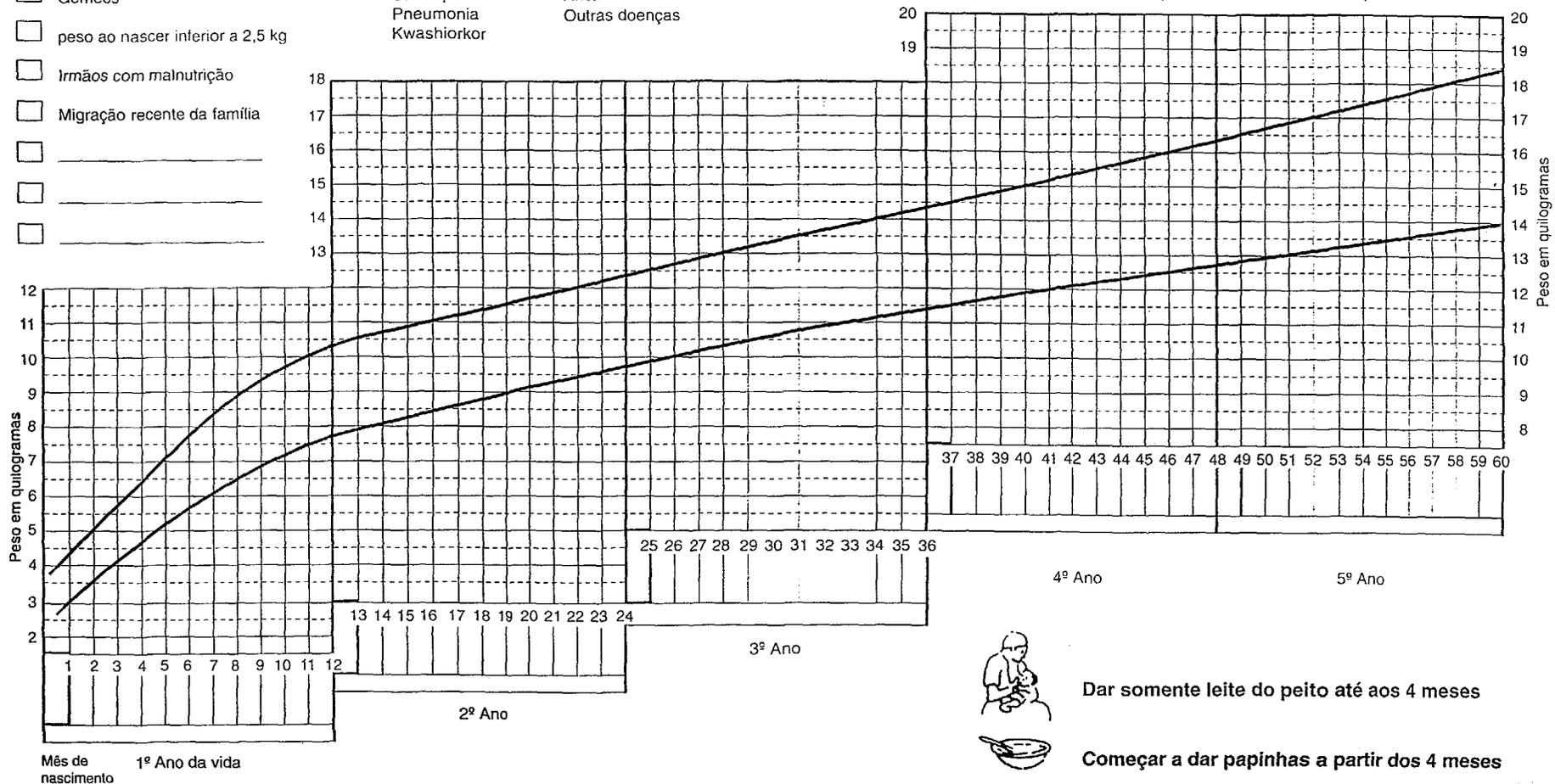


Perigo, procure saber porque não cresce

MUITO PERIGOSO



Muito perigoso precisa de atenção especial.



Dar somente leite do peito até aos 4 meses



Começar a dar papinhas a partir dos 4 meses



Continuar a dar de mamar até aos 2 anos

Card showing return date for immunizations

**CRIANÇA/ E MULHERES
GRAVIDAS/**



**VACINAS EVITAM
DOENÇAS SE
CUMPRE O CALENDÁRIO**

BAIRRO _____

UC _____ Q _____

Nº CASA _____ ANDAR _____

FLAT _____

VAI AO CENTRO DE SAUDE
VACINAR E PESAR O TEU FILHO

DATA ____/____/____

LUGAR _____

OBRIGADO

VACINAR É LUTAR CONTRA
TUBERCULOSE, TETANO,
DIFTERIA, TOSSE CONVULSA,
POLIOMIELITE E SARAMPO

MOH Antenatal card showing tetanus toxoid, prenatal care visits and delivery date. (This card is retained at the health center following delivery)

CARTÃO DE SAÚDE DA MULHER
 Nº 2127 DATA 28-5-93
 NOME Luísa Uliak
 RESIDENCIA ACTUAL C. Ingene

VACINA ANTI-TETÂNICA

DOSE	DATA	LUGAR
1ª	<u>28/5/93</u>	<u>Ingene</u>
2ª		
3ª		
REFORÇO 1		
REFORÇO 2		

**• PROTEJA O SEU BEBÊ
CONTRA O TETANO
• GUARDE SEMPRE ESTE CARTÃO
• CUMPRE O CALENDÁRIO**

Planeamento Familiar _____ APLICAR MÉTODOS E DATAS DE UTILIZAÇÃO

GRAVIDEZ	CONSULTA	ARO ? - RAZÃO	DATA PARTO. CASA/MAT. EUT./DIST.
I	1 2 3 4 5 6 7 8 9		
	1 2 3 4 5 6 7 8 9		
	1 2 3 4 5 6 7 8 9		
	1 2 3 4 5 6 7 8 9		
	1 2 3 4 5 6 7 8 9		
	1 2 3 4 5 6 7 8 9		
	1 2 3 4 5 6 7 8 9		
	1 2 3 4 5 6 7 8 9		
	1 2 3 4 5 6 7 8 9		

TEMPERATURE CHART FOR PROTECTING VACCINES

Level	Central	Provincial	District	Health Center
Maximum storage time	11 months	3 months	1 month	1 month
Measles BGC - Polio	-15° C to -25° C			
DPT Tetanus Antitoxoid	0° C to 8° C			

(page 39)

Source : Programa Alargado de Vacinação
República de Moçambique
Ministério da Saúde, 1993.

Family HIS Form to be Completed by the Volunteer

ALDEIA: VOLUNTARIA: GRUPO:
 DATA:

NOMES DAS CRIANÇAS	DATA DE NASCIMENTO	VACINAÇÕES										ULTIMO MES		ULTIMO 2 SEMANAS		ULTIMO 2 SEMANAS			
		BCG	POLIO			DPT			SARAMPO	COMPL.	SO.	S	N	S	N	S	N	S	N
			1	2	3	1	2	3											
1																			
2																			
3																			
4																			
5																			

NOME DA MAI	DATA DE NASCIMENTO	GRAVIDEZ		PLANEAMENTO FAMILIAR		CONSULTAS PRE-NATAIS				TETANO				MALARIA	
		S	N	S	N	0	1	2	>2	0	1	2	>2	S	N

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AUXÍLIO MUNDIAL

PROJECTO "VURHONGA"

S.I.S./H.I.S

AREA:

ANIMADORA:

DATA:

1. CRIANÇAS: 0-5 ANOS 0-2 ANOS 0-4 MESES

2. VACINAÇÕES: ABANDONADO COMPLETO

3. CRESCIMENTO: PESADO MALNUTRIDO CONSELHO SO-PEITO $\leq 4M$

4. DIARRHEA: CASOS TRATADO-MIXTURA ↑ COMIDA

5. MALARIA: CASOS TRATADO «24h » 24 h NÃO TRATADO

« 5 ANOS

MÃES

6. GRÁVIDA: TOTAL

7. PLANEAMENTO FAMILIAR: TOTAL

8. CONSULTAS PRENATAIS: 0 1 2 » 2

9. TETANO VACINAÇÕES: 0 1 2 » 2

10. BOMBAS: TOTAL FUNCIONA

MOH Protocol for Case Management of Diarrheal Diseases

Acute diarrhea is defined as passing liquid stools of three or more a day. Ask the mother when it started, how many stools a day, whether a fever is present, whether there is blood in the stools, if the child is vomiting, does the child continue to drink, what has the child been drinking?

Observe for signs of dehydration and signs of other illnesses.

For dehydration - observe for thirst, less urine, agitation, weakness, sleepiness, crying, no tears, sunken fontanelle, sunken eyes, decreased skin turgor, dry tongue and mouth.

For severe dehydration - observe for irritability, extreme weakness, loss of consciousness, cold hands and feet, lack of urine for over 6 hours, rapid pulse, weakness.

Signs of other diseases - look for measles, otitis, malaria, pneumonia, malnutrition

Decide whether or not the child is dehydrated, yes or no. If yes, is it severe or not?

Treatment:

Dehydrated - to prevent dehydration, give increased liquids, such as ORS, rice water, tea or water. If the child doesn't drink enough the dehydration will become severe.

Recommended quantities for a child with dehydration to prevent dehydration and avoid malnutrition.

AGE	QUANTITY	FREQUENCY
Less than 1 year	½ cup	after each defecation
1-7 years	1 cup	after each defecation
More than 7 years	1-2 cups	after each defecation
Adults	2 cups	after each defecation

Assume a person should have between 1 and 2.5 liters per day and should receive 2-4 packets of ORS to use at home

For simple dehydration, the person should be rehydrated. Replace the amount of liquids lost.

A child less than 10 kg with dehydration should receive 100 ml of ORS for each kg of weight in 4-6 hours. A child more than 10 kg and adults receive a quantity a little less per kg of weight in 4-6 hours. See table below.

AGE and WT**QUANTITY****No of Cups (250 ml)**

0-5 mo (3-5kg)	400ml	approx. 2 cups
6-12 months (6-9kg)	800ml	approx. 3 cups
1-4 years (10-14kg)	1,000ml	approx. 4 cups
5-8 years (15-19kg)	1,500ml	approx. 6 cups
9-15 yrs. (20-40kg)	2,000ml	approx. 8 cups

Medications for Diarrhea

The majority of diarrhea cases do not need medication, only rehydration. Do not use antibiotics for routine diarrheas. The type of diarrhea that requires antibiotics are diarrhea with blood in the stool and cholera.

Various types of diarrhea have blood. In order to distinguish between them and give the correct treatment, it is important to ask about the duration(how many days) and if the child has fever

Amebiasis: diarrhea with blood a high fever and prolonged diarrhea

Treat Amebiasis with Metronidazole for 10 days

1-3 years ½ pill 3x/day

4-6 years 1 pill 3x/day

Severe dysentery - a child with bloody diarrhea more than 15 days with high fever and colic.

Treatment Cotrimoxazol for 7 days

Less than 10 kg ¼ pill q. 12 hrs

10-20 kg ½ pill q. 12 hrs.

21-30 kg 1 pill q. 12 hrs.

31-40 kg 1 and ½ pills q. 12 hrs.

Adults 2 pills q. 12 hrs.

Prolonged Diarrhea - more than 15 days has various causes - most frequently it is amebiasis or giardia.

Giardiasis: A patient with diarrhea and explosive and gassy stools. There can be days without diarrhea or even constipation. No blood and no fever.

Treatment for Giardia - Metronidazole.

1-3 mo ½ pill 3x/day

4-6 years 1 pill 3x/day

7-10 yrs. 1 pill 3x/day

11-15 yrs 1 pill 3x/day

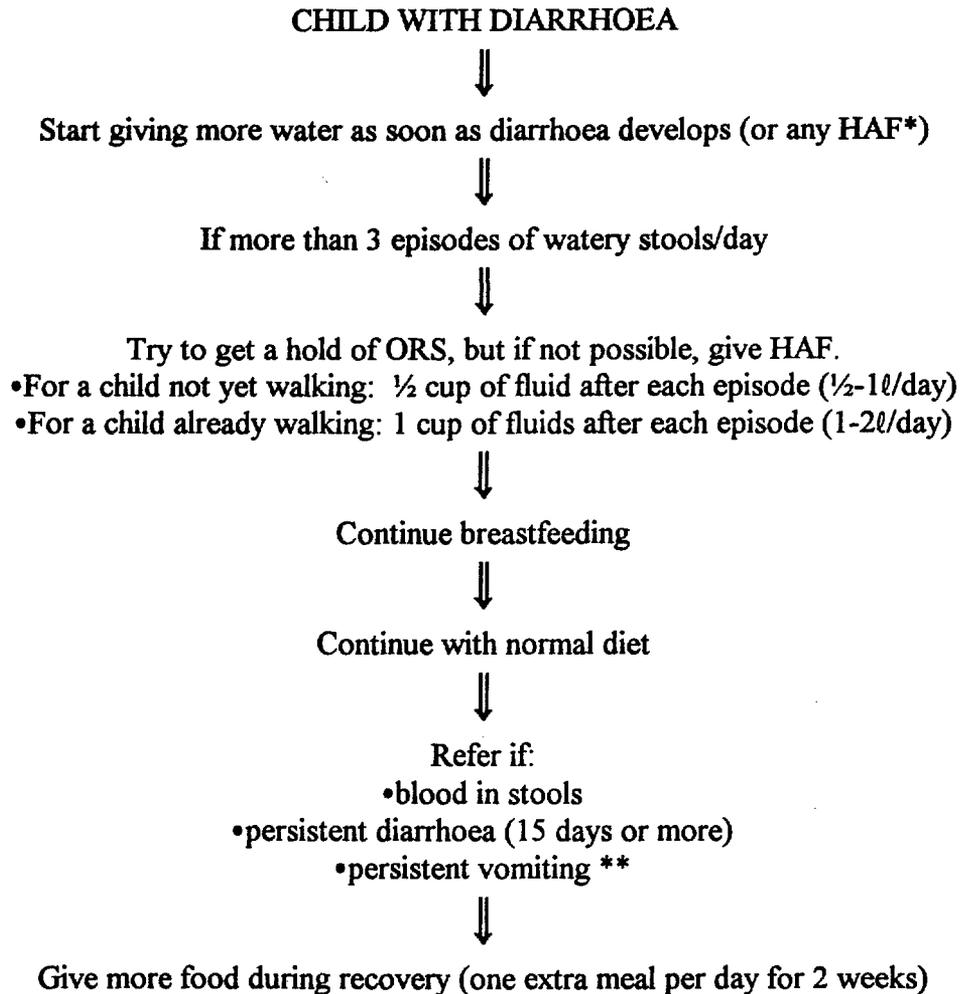
adults 1 pill 3x/day

Note: During treatment with metronidazole, the patient should not drink alcoholic beverages.

After diarrhea add one extra meal a day for 15 days.

Source: Manual de Prevenção e Controle da Diarreia, Republica de Moçambique Ministério da Saúde, 1991, p.1

VURHONGA CS PROJECT FOR VOLUNTEERS FOR DIARRHOEA CASE MANAGEMENT

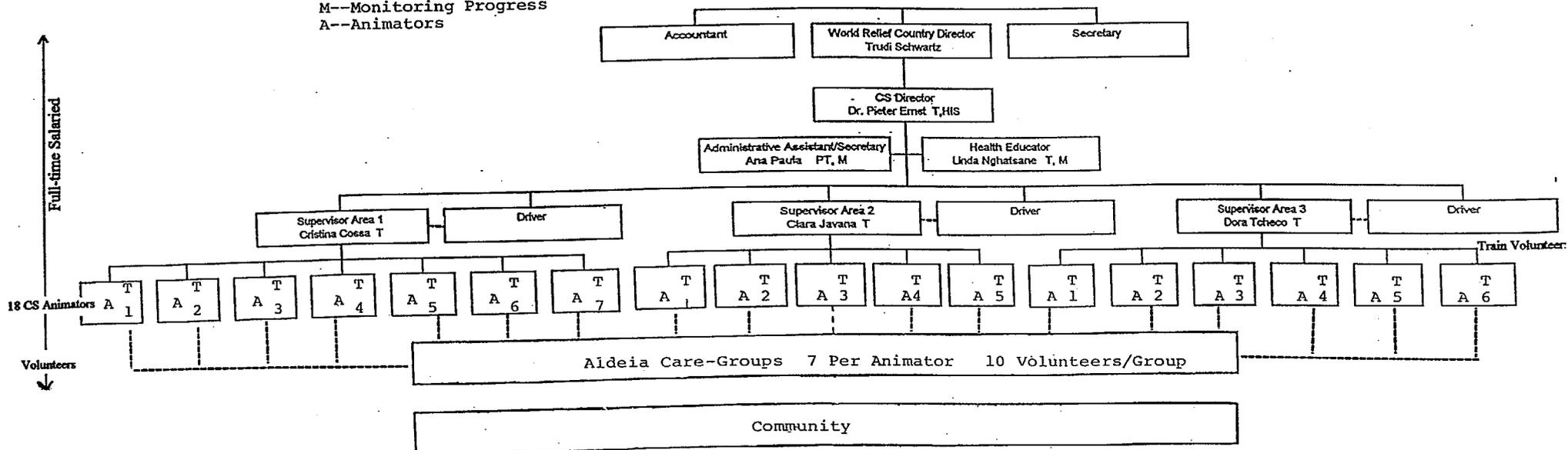


*HAF--water, rice water, tea

**Vomiting--if vomiting occurs, be calm and patient and give the liquids in small amounts (with a teaspoon if necessary)

World Relief Mozambique Vurhonga Child Survival Project Organizational Chart

H--Host country national
 PT--½ time
 T--Technical health activities
 M--Monitoring Progress
 A--Animators



APPENDIX G

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DIP TABLE D: TRAINING AND SUPERVISION SUMMARY

PVO/Country: World Relief Mozambique

Project Duration: Start Date OCTOBER 1, 1995 Estimated Completion Date September 31

TRAINEE JOB TITLE	COURSE TITLE	NO. OF HOURS		SUPERVISOR	CONTACTS PER MONTH	INTERVENTION(S)
		INITIAL	INSERVICE			
Area Supervisors and animators	Animator's basic training course	PER 160	MONTH 8	Health Educator	12	Diarrheal Disease Control Malaria Control Family Planning
						Maternal Care
						Nutrition Growth monitoring
						Immunization
Area Supervisors	Supervisory Management Training course	32	8	Health Educator	3	Management Skills
Volunteer's Care Groups	Volunteer's Basic Training Course	26	7	Area Supervisor	15	Diarrhoeal Disease Control Malaria Control
						Family Planning Maternal Care
						Nutrition Growth Monitoring
						Immunizations
TOTAL		218	23		30	

2/96

Check one: ORIGINAL BUDGET _____ REVISED BUDGET _____

		YEAR 1	YEAR 2	YEAR 3	YEAR 4				
I. DIRECT COSTS									
A. PERSONNEL (salaries, wages, fringes)									
1. Headquarters - salaries/wages		40,333	4,802	33,487	8,215	18,879	2,141	24,188	7,754
2. Field, Technical Personnel - salaries/wages		87,670	28,000	92,054	27,300	96,858	28,865	101,489	30,098
3. Field, Other Personnel - salaries/wages		8,500		8,925		9,371		9,840	
4. Fringes-Headquarters + Field		20,282	1,105	19,359	1,915	16,362	480	17,143	1,412
SUBTOTAL- PERSONNEL		156,785	31,907	153,825	37,430	141,268	31,286	152,660	39,264
B. TRAVEL/PER DIEM									
1. Headquarters-Domestic (USA)		2,295			3,652		3,473		3,622
2. Headquarters-International			10,794		3,496		3,860		
3. Field- in country			4,800		5,040		5,395		5,557
4. Field- International									
SUBTOTAL- TRAVEL / PER DIEM		2,295	15,594	0	12,178	0	12,528	0	9,179
C. CONSULTANCIES									
1. Evaluation Consultants- Fees				5,000				5,000	
2. Other Consultants- Fees				1,000					
3. Consultant travel / per diem				8,000				10,000	
SUBTOTAL- CONSULTANCIES		0	0	14,000	0	0	0	15,000	0
D. PROCUREMENT (provide justification/ explanation in narrative)									
1. Supplies									
a. Headquarters			500		1,250		500		500
b. Field - Pharmaceuticals (ORS, Vit. A, drugs, etc.)			1,000		1,000		1,000		1,000
c. Field - Other		2,200			500		1,500	500	
2. Equipment									
a. Headquarters			5,600						
b. Field			134,000					500	
3. Training									
a. Headquarters									
b. Field		7,312		2,500	5,700	8,846		9,542	
SUBTOTAL- PROCUREMENT		9,512	141,100	2,500	8,450	8,846	3,000	10,542	1,500
E. OTHER DIRECT COSTS (provide justification/ explanation in narrative)									
1. Communications									
a. Headquarters									
b. Field		1,400	50	1,500	3,800			3,800	
2. Facilities									
a. Headquarters									
b. Field			500		2,000		4,000	2,400	
3. Other									
a. Headquarters		1,120	250		250		250		250
b. Field		47,830	1,250	33,744	8,293	36,973	2,200	38,788	158
SUBTOTAL- OTHER DIRECT		50,350	2,050	35,244	14,343	36,973	6,450	44,988	408
TOTAL - DIRECT COSTS		218,942	190,651	205,569	72,401	187,087	53,264	223,190	50,351
II. INDIRECT COSTS									
A. INDIRECT COSTS									
1. Headquarters		17,619		15,015		8,403		10,532	
2. Field (if applicable)		49,878		54,353		51,685		57,728	
TOTAL - INDIRECT COSTS		67,497	0	69,368	0	60,088	0	68,260	0
GRAND TOTAL (DIRECT AND INDIRECT COSTS)		286,439	190,651	274,937	72,401	247,175	53,264	291,450	50,351

SUBTOTAL - YEARS 1-4		TOTAL YEARS 1-4	
116,887	22,912	139,799	
377,869	112,063	489,932	
36,636	0	36,636	
73,146	4,912	78,058	
604,538	139,887	744,425	
2,295	10,747	13,042	
0	17,940	17,940	
0	20,792	20,792	
0	0	0	
2,295	49,479	51,774	
10,000	0	10,000	
1,000	0	1,000	
18,000	0	18,000	
29,000	0	29,000	
0	2,750	2,750	
0	4,000	4,000	
2,700	2,000	4,700	
0	5,600	5,600	
500	134,000	134,500	
0	0	0	
28,200	5,700	33,900	
31,400	154,650	185,450	
0	0	0	
6,700	3,850	10,550	
0	0	0	
2,400	6,500	8,900	
1,120	1,000	2,120	
157,335	11,901	169,236	
167,555	23,251	190,806	
834,788	366,667	1,201,455	
51,569	0	51,569	
213,644	0	213,644	
265,213	0	265,213	
1,100,001	366,667	1,466,668	

TOTAL PROJECT

APPENDIX J

BEST AVAILABLE COPY

Check one: ORIGINAL BUDGET _____ REVISED BUDGET _____

		YEAR 1	YEAR 2	YEAR 3	YEAR 4	SUBTOTAL - YEARS 1-4		TOTAL YEARS 1-4				
I. DIRECT COSTS												
A. PERSONNEL (salaries, wages, fringes)												
1. Headquarters - salaries/wages												
2. Field, Technical Personnel-salaries/wages		87,670	26,000	92,054	27,300	96,656	28,665	101,489	30,098	377,869	112,063	489,932
3. Field, Other Personnel-salaries/wages		8,500	0	8,925	0	9,371	0	9,840	0	36,636	0	36,636
4. Fringes- Headquarters + Field		11,005	0	11,555	0	12,133	0	12,740	0	47,433	0	47,433
SUBTOTAL- PERSONNEL		107,175	26,000	112,534	27,300	118,160	28,665	124,069	30,098	461,938	112,063	574,001
B. TRAVEL/PER DIEM												
1. Headquarters-Domestic (USA)												
2. Headquarters-International												
3. Field- In country			4,800		5,040		5,395		0		5,557	
4. Field-International												
SUBTOTAL- TRAVEL / PER DIEM		0	4,800	0	5,040	0	5,395	0	5,557	0	20,792	20,792
C. CONSULTANCIES												
1. Evaluation Consultants- Fees				5,000				5,000		10,000	0	10,000
2. Other Consultants- Fees				1,000				1,000		1,000	0	1,000
3. Consultant travel / per diem				8,000				10,000		18,000	0	18,000
SUBTOTAL- CONSULTANCIES		0	0	14,000	0	0	0	15,000	0	29,000	0	29,000
D. PROCUREMENT (provide justification/ explanation in narrative)												
1. Supplies												
a. Headquarters												
b. Field - Pharmaceuticals (ORS, Vit. A, drugs, etc.)		0	1,000	0	1,000	0	1,000	0	1,000	0	4,000	4,000
c. Field - Other		2,200			500		1,500		500		2,000	4,700
2. Equipment												
a. Headquarters												
b. Field		0	134,000				0	500		500	134,000	134,500
3. Training												
a. Headquarters												
b. Field		7,312	0	2,500	5,700	8,846	0	9,542	0	28,200	5,700	33,900
SUBTOTAL- PROCUREMENT		9,512	135,000	2,500	7,200	8,846	2,500	10,542	1,000	31,400	145,700	177,100
E. OTHER DIRECT COSTS (provide justification/ explanation in narrative)												
1. Communications												
a. Headquarters												
b. Field		1,400	50	1,500	3,800			3,800		6,700	3,850	10,550
2. Facilities												
a. Headquarters												
b. Field			500	0	2,000	0	4,000	2,400		2,400	6,500	8,900
3. Other												
a. Headquarters												
b. Field		47,830	1,250	33,744	8,293	36,973	2,200	38,788	158	157,335	11,901	169,236
SUBTOTAL- OTHER DIRECT		49,230	1,800	35,244	14,093	36,973	6,200	44,988	158	166,435	22,251	188,686
TOTAL - DIRECT COSTS		165,917	167,600	164,278	53,633	163,979	42,760	194,599	36,613	668,773	300,806	969,579
II. INDIRECT COSTS												
A. INDIRECT COSTS												
1. Headquarters												
2. Field (if applicable)		49,878	0	54,353	0	51,685	0	57,728	0	213,644	0	213,644
TOTAL - INDIRECT COSTS		49,878	0	54,353	0	51,685	0	57,728	0	213,644	0	213,644
GRAND TOTAL (DIRECT AND INDIRECT COSTS)		215,795	167,600	218,631	53,633	215,664	42,760	252,327	36,613	882,417	300,806	1,283,223

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APPENDIX J

TOTAL PROJECT

TABLE COMBINED HEADQUARTERS/FIELD BUDGET

Check one: ORIGINAL BUDGET _____ REVISED BUDGET _____

		YEAR 1		YEAR 2		YEAR 3		YEAR 4	
I. DIRECT COSTS									
A. PERSONNEL (salaries, wages, fringes)									
1. Headquarters - salaries/wages		40,333	4,802	33,487	8,215	18,878	2,141	24,188	7,754
2. Field, Technical Personnel - salaries/wages		87,870	26,000	92,054	27,300	96,856	28,665	101,489	30,088
3. Field, Other Personnel - salaries/wages		8,500		8,925		9,371		9,840	
4. Fringes- Headquarters + Field		20,282	1,105	19,359	1,915	16,362	480	17,143	1,412
SUBTOTAL- PERSONNEL		156,785	31,907	153,825	37,430	141,268	31,286	152,660	39,264
B. TRAVEL/PER DIEM									
1. Headquarters-Domestic (USA)		2,295			3,652		3,473		3,622
2. Headquarters-International			10,794		3,488		3,660		
3. Field- In country			4,800		5,040		5,395		5,557
4. Field- International									
SUBTOTAL- TRAVEL / PER DIEM		2,295	15,594	0	12,178	0	12,528	0	8,179
C. CONSULTANCIES									
1. Evaluation Consultants- Fees				5,000				5,000	
2. Other Consultants- Fees				1,000					
3. Consultant travel / per diem				8,000				10,000	
SUBTOTAL- CONSULTANCIES		0	0	14,000	0	0	0	15,000	0
D. PROCUREMENT (provide justification/ explanation in narrative)									
1. Supplies									
a. Headquarters			500		1,250		500		500
b. Field - Pharmaceuticals (ORS, Vit. A, drugs, etc.)			1,000		1,000		1,000		1,000
c. Field - Other		2,200			500		1,500	500	
2. Equipment									
a. Headquarters			5,600						
b. Field			134,000						
3. Training								500	
a. Headquarters									
b. Field		7,312		2,500	5,700	8,846		9,542	
SUBTOTAL- PROCUREMENT		9,512	141,100	2,500	8,450	8,846	3,000	10,542	1,500
E. OTHER DIRECT COSTS (provide justification/ explanation in narrative)									
1. Communications									
a. Headquarters									
b. Field		1,400	50	1,500	3,800			3,800	
2. Facilities									
a. Headquarters									
b. Field			500		2,000		4,000	2,400	
3. Other									
a. Headquarters		1,120	250		250		250		250
b. Field		47,830	1,250	33,744	8,293	36,973	2,200	38,788	158
SUBTOTAL- OTHER DIRECT		50,350	2,050	35,244	14,343	36,973	6,450	44,988	408
TOTAL - DIRECT COSTS		218,942	190,651	205,569	72,401	187,087	53,264	223,190	50,351
II. INDIRECT COSTS									
A. INDIRECT COSTS									
1. Headquarters		17,619		15,015		8,403		10,532	
2. Field (if applicable)		49,878		54,353		51,685		57,728	
TOTAL - INDIRECT COSTS		67,497	0	69,368	0	60,088	0	68,260	0
GRAND TOTAL (DIRECT AND INDIRECT COSTS)		286,439	190,651	274,937	72,401	247,175	53,264	291,450	50,351

SUBTOTAL - YEARS 1-4	
YEAR 1	YEAR 2
116,887	22,912
377,869	112,063
36,636	0
73,146	4,912
804,538	139,887
2,295	10,747
0	17,940
0	20,782
0	0
2,295	49,479
10,000	0
1,000	0
18,000	0
29,000	0
0	2,750
0	4,000
2,700	2,000
0	5,800
500	134,000
0	0
28,200	5,700
31,400	154,950
0	0
6,700	3,850
0	0
2,400	6,500
1,120	1,000
157,335	11,901
167,555	23,251
834,788	366,867
51,569	0
213,644	0
265,213	0
1,100,001	366,867

TOTAL YEARS 1-4
139,799
489,932
36,636
78,058
744,425
13,042
17,940
20,782
0
51,774
10,000
1,000
18,000
29,000
2,750
4,000
4,700
5,800
134,500
0
33,900
185,450
0
10,550
0
8,900
2,120
169,236
190,806
1,201,455
51,569
213,644
265,213
1,466,667

APPENDIX J

TOTAL PROJECT

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**World Relief Mozambique
Vurhonga Child Survival XI Project**

Response to the USAID Technical Review of the Proposal

1. The review states that the project's expectation of having 100% of its care groups functioning for longer than one year would be difficult to achieve. Reviewers recommend a downward revision of numbers of care groups that will be functioning after 12 months. The sustainability goal related to the care groups has been adjusted to a 65% level with 70 care groups expected to be functioning in the last 6 months of Year 4. See Section H.1. Table E.
2. Reviewers ask WR to clarify the numerator and denominator used to calculate project targets. This was done in the population section for each intervention. Targets are based upon the population at risk.
3. Reviewers ask that WR define all terms unfamiliar to the reader and supply an organogram. See the list of acronyms and local terms immediately after the Table of Contents and the organogram in Appendix G.
4. WR is asked to supply a country map that shows location of the selected district and relationship to MOH facilities. See Appendix A.
5. In this DIP WR has cited almost all of the literature sources available that discuss the health situation in the districts of Mabalane and Guijá in the Gaza province. Often, the only source for a realistic appraisal of the health situation in remote rural areas is the health workers themselves. Little has been published.
6. Reviewers suggest increasing the frequency of formal feedback to the community. WR recognizes that this is a powerful tool for social mobilization and plans to feedback progress on project objectives to each community and the MOH at least quarterly. See section F.3. and many other places throughout the document.

Diarrhea Case Management

7. Reviewers considered a goal of 60% for ORT use to be too high. The baseline survey showed that 46.8% of the mothers had given ORT to their children with diarrhea (n 154) in the prior 2 weeks. Consequently, project staff have elected to keep the end of project goal of 60%. See Table B. Reviewers also suggested that the project include "indicators of effect, such as the understanding of women." Project staff have elected to include ORT use in the quarterly data gathering on the HIS and to train each volunteer to expect every mother in her block to do a return demonstration on the preparation and administration of ORS. The focus in this project will be on behavior change and somewhat less on change in knowledge levels although that is often a good first step. Unfortunately, the transition from knowledge to practice is often not made.
8. Reviewers are concerned about the barriers that the traditional healers and self medication

with tea made from a certain bark will present to appropriate diarrhea case management. The tea made from the bark of the nkola tree does not present any major barrier since it is a harmless liquid. Mothers will be taught to use MOH recommended HAF (see section D.4.d.7.) and the bark tea practice will not be encouraged, just ignored. The MOH will be encouraged by project staff to call a meeting of the traditional healers in both districts and discuss various issues with them. Project staff wish to see the link made primarily between the traditional healers and the MOH personnel for sustainability purposes. One critical point of discussion that will be suggested to the district MOH personnel will be the traditional healer's role in dealing with malaria since it is thought to be caused by a spirit. However, the need for abundant fluids for a child with diarrhea will also be an important item to discuss.

9. Reviewers requested in the DIP a clear description of how the volunteers will be linked to the health centers. See section E.4. for a description of the role of the volunteers and section H.4. for a description of the linkages the project staff intend to forge between the OMM and the MOH.

10. Reviewers expressed a concern about how the supply of ORT (ORS?) would be monitored within the project. Response to this concern is discussed in section D.4.d.6. Project staff intend to negotiate with the MOH that each block volunteer have at least 2 packets of ORS on hand at all times. It will be simpler for each volunteer to keep 2 on hand at all times rather than counting packets throughout the project. Volunteers will be asked to report any lack of supply to their animator who will in turn request the project director to take it up with the district MOH personnel. When supplies run out, as invariably happens in such rural areas, volunteers will be trained to rely on HAF.

11. Reviewers recommend that the project "consider the value of promoting home-based solutions as opposed to packets, since the supply system of ORT packets are untrustworthy even for health facilities that are not peripheral. . . the choice of method to be promoted needs to be consistent with national MOH guidelines." Project staff plan to distribute ORS packets as long as a supply is available from the MOH. Both ORS and HAF are recommended by the MOH protocol. See Appendix E cited in section D.4.d.4. for MOH protocol.

During the present emergency situation in the project area while the diarrhea incidence is so high, the MOH has been supplying project staff with ORS. As discussed in section D.4.d.6., after this emergency period, the project staff expect to negotiate and ongoing supply of ORS by the MOH to the volunteers through a system that will be more sustainable (than project staff) such as the mobile EPI/GM teams.

Malnutrition

12. Reviewers state that the "major barrier to nutrition is lack (of) resources, not lack of nutritional education." Project staff agree that a lack of resources is a major problem. Section D.4.b.1.a. in the DIP presents the nutrition problems in considerable detail. In the project approach, section 4.b.1.d., discusses several approaches to the problem. When the need becomes critical World Relief has done food distribution and seeds and tools distribution and will

APPENDIX K

continue to do this as the need arises. World Relief also has an agricultural program that addresses the lack of resources. This program provides several different services, from small animal husbandry, to diversification of crops and the provision of fruit tree seedlings. See section 4.b.1.d. for this information.

Although, lack of resources is a major problem, it is also very clear that the people also lack awareness of good nutrition principles. Green leafy, freely available sources such as cow peas leaves, pumpkin leaves and many other leaves, commonly eaten by the adults, are not given often enough as complementary foods to breastmilk. Also, protein sources such as cow peas, beans, marula nuts and cashew nuts are available but not often given to small children. A strong nutrition education component is needed to complement the agricultural program efforts in order to more fully address the nutrition problem. Project staff are considering training mothers to dry certain green leaves like cowpeas leaves, pumpkin leaves and mandioca leaves to be combined during the hungry season with stored "home available nuts" like marula nuts, cashew nuts and peanuts to supply more vitamins and protein in the diets of small children.

Case Management of ARI

13. Reviewers recommend "adding ARI training" for health facility staff and community volunteer staff. It has been difficult for the DIP development team to focus the interventions and not try to "spread ourselves too thin" given the overwhelming health needs in the two districts. ARI most certainly is a problem. However, it remains to be seen whether or not the antibiotic supply will be sufficient at the health facilities that do have a trained nurse. The MOH so far has chosen not to supply the socaristas with antibiotics which means that antibiotics are still not available at the aldeia level. Consequently, project staff have decided to tackle the six of the problems that can be addressed more readily and not also try to tackle an ARI intervention at this time.

However, the project staff do think that the reviewers suggestion to teach volunteers to recognize the importance of treating children with a cough and fast breathing is manageable at this time. Recognition of the signs of pneumonia for the purposes of immediate referral have been added to the project protocol for malaria case management, see section D.4.f.6.

Maternal Care

14. Reviewers recommend that WR establish an antenatal care objective that does more than work for antenatal care visit sometime during the pregnancy but specifies an earlier time frame for the visit, such as during the first 12 weeks. Project staff are very aware that earlier antenatal care visits are preferable, especially during the first trimester. The volunteers will be trained to tell mothers to get antenatal checks monthly if possible and to go as soon as she knows she is pregnant. Also, volunteers will also be keeping track of antenatal visits in the HIS. However, there is a strong cultural belief that one should not discuss a pregnancy until you begin to show which mitigates against getting many mothers in for prenatal care prior to the second trimester. Project staff do however, intend to train volunteers to try at least to get mothers in for their first antenatal check prior to the end of the second trimester. Another difficulty faced by the project is the fact that most of the volunteers are preliterate and are not expected to calculate expected

delivery dates and will not know for sure whether a woman had her antenatal check before or after the end of the sixth month. Thus, how far along a mother is in her pregnancy when she has her first antenatal check will be most difficult to track or ascertain on the KPC. Consequently, project staff have left the wording of objective #8 stand as it was written in the proposal.

15. Reviewers were concerned that the TBAs were not included in the provision for family planning in the proposal. The TBA training curriculum as used by the MOH does train TBAs to talk with a mother about spacing her next child during postpartum care.

16. Reviewers asked that the project take a more proactive approach to emergency transportation of women with emergency obstetrical problems to health facilities that can address those problems and to consider the quality of care at referral sites. The DIP has addressed these concerns in sections D.4.g.4. and D.4.g.8.c. Reviewers also recommended that the project staff consider giving additional training to midwives in the health system. The project director will make intentional contact with the midwives in the district at regular intervals, spend some time assessing their training needs and offer the training at the MOH district levels.

HIV/AIDS Prevention

17. Reviewers were concerned that the proposal did “not actively target men as a means to reduce sexually transmitted diseases and recommended that WR include men as targets in health education on pelvic inflammatory disease and using condoms.” Project staff have recognized a need to target the men for the family planning component. Consequently, the project staff intend to train the drivers to work with the men to discuss birth spacing with the men in the aldeias. They will also be trained to discuss the advantages of condoms for birth spacing as well as for limiting sexually transmitted diseases although the primary focus will be birth spacing. See section D.4.h.5.

Human Resources

18. Reviewers were concerned that WR needed to use positive reinforcement more extensively. Project staff plan to incorporate congratulations into quarterly feedback community meetings and in the care group meetings. It will also be part of the training of the volunteers to look for ways to congratulate a mother for something she is doing well with regards to her health or the health of her family on every home visit. Reviewers were wondering about the role of women in decision making in the project. All the volunteers are women, the OMM is the driving force behind the health initiatives in the community and the main cooperating body with the project. Also, all of the animators, who will provide the role models for the community, are women.

Health Information System

19. Reviewers pointed out that the sheer number of volunteers mitigates against each volunteer having a reporting relationship with MOH personnel. See section H.2 for the OMM role with the volunteers after project end and a linkage for MOH and volunteers at project end in section H.4.

20. Reviewers asked for measures of process indicators in the HIS. Several have been included. Supervisors will be expected to report their supervision encounters with animators and supervision home visits with volunteers, also the number of meetings with community leaders. Volunteers will be reporting lack of supplies of ORS, contraceptives and vaccines to their animators, as well as EPI/GM sessions missed by the MOH. Most of the process indicators will be collected orally due to the fact that the volunteers are mostly preliterate.

21. Reviewers were interested in the nature of the HIS. This is discussed in section F. in the DIP. The project HIS is very simple, designed around pictures for the preliterate volunteer and designed to gather data for the project interventions and objectives. It is unlikely that the project HIS will exist in the same form after the project ends. However, the volunteers will be able to respond to any MOH requests for data after the training they have received in the project. Discussion with the MOH during the last two years of the project will include questions about what data they would like to continue to receive from the volunteers after project end. It is a hopeful sign that the MOH in Guijá district has already asked project volunteers to help collect data during the current malaria and diarrhea epidemics.

Budget

22. Reviewers were concerned that budget for supplies such as ORS, chloroquine etc. is low in the project. Project staff have allotted some money is supplies to buy supplies such as ORS packets. The amount was kept low because it is not sustainable for the project to begin supplying these things that should be provided by MOH and which are supplied by several of the bilateral and multilateral donors to the government. The project also has a very limited budget. The project strategy will be negotiate with the MOH when supplies run low and keep going to higher levels of the MOH until the bottleneck for the supplies is discovered. HAF will be substituted for ORS if necessary. The main problem will be a lack of chloroquine in the district that would hamper the project initiatives. When these problems arise, discussions will be held with the MOH and other donors if necessary in an attempt to find resolution.

Sustainability

23. Reviewers were questioning how the project will be maintained upon withdrawal of WR staff. See section H for the sustainability strategy. WR no longer expects to supervise TBAs, and only expects to assist the MOH transport vaccines to villages in cases of MOH vehicle breakdown. These occasions will be an opportunity to discuss proper vehicle maintenance and management with appropriate MOH personnel and perhaps some training opportunities.