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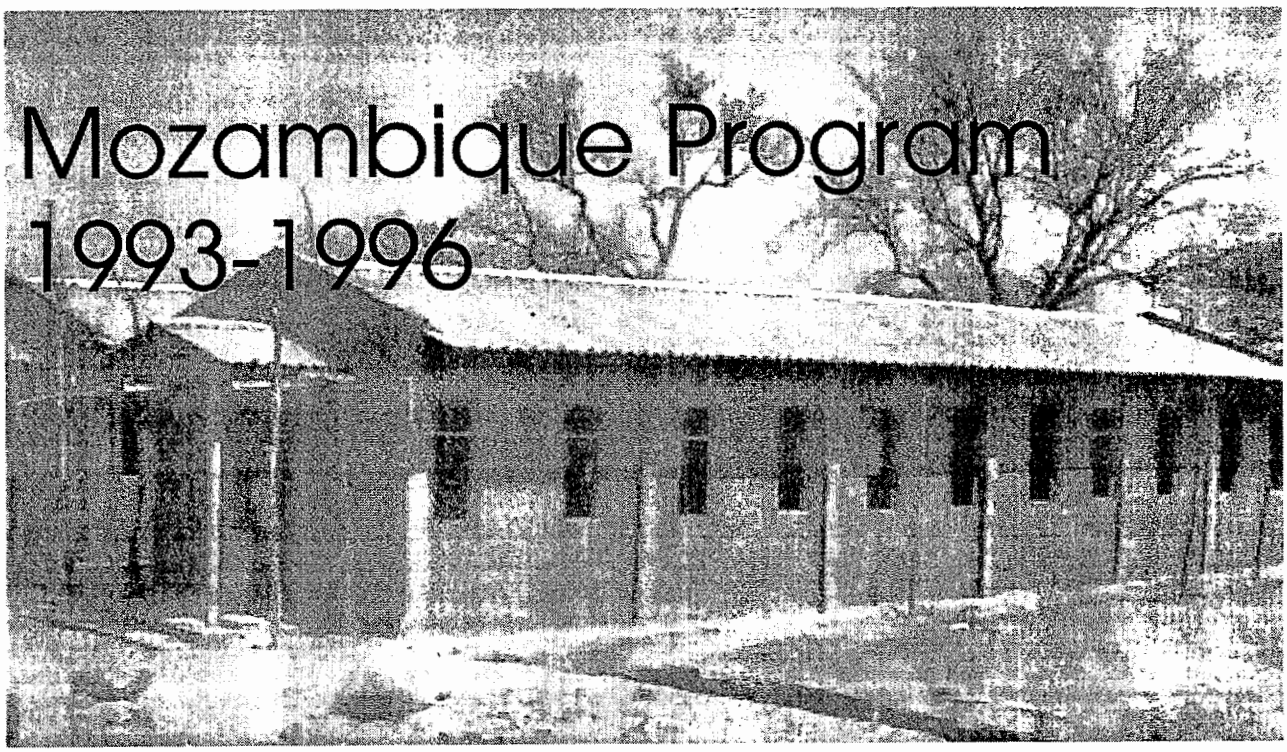
American Refugee Committee



Mozambique Program 1993-1996

Final Program Report
October 1996

Partially funded under USAID/Mozambique PVO Support Project, 656-0217, under grant #656-0217-G-00-5009-00, "Integrated Health, Water, and Sanitation Project in Tete Province".

Comité Americano
Para os Refugiados
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Tete, Moçambique

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A

Acknowledgments

Director Charles Ellmaker would like to salute some of the key administrative and operations staff, including staff accountants Jit and Raj Jaiaprasat, Deputy Operations Manager Joaneth Junior, and Mr. Alfares Lisboa, our field construction coordinator, for the excellent standards they maintained and for their exceptional efforts in completing a difficult program.

The Director gives special thanks to his senior management staff, without whom the program would never have been a success.

▲

Management Meeting

Director with Gwen Young and Melissa McLemore (foreground)

Ms. Judith Lane, MPH, Health Program Manager
Ms. Julie Archer Tunney, MPH, Regional Health Advisor
Ms. Melissa McLemore, MPH, Health Education Coordinator
Mr. Graciano Magombo, Water Program Manager
Mr. Richard Mwachande, Operations and Construction Manager (1994-1995)
Mr. Mark Adams, Operations and Construction Manager (1995-1996)
Ms. Gwen Young, Administrative Manager (1994-1995)

The Director would also like to thank Mr. Robert Warwick, the first director of ARC Mozambique, for taking on the daunting task of setting up the program in 1993 and for making the important initial contacts.

Thanks also to the international staff in our Minneapolis Headquarters, especially International Programs Manager Karen Elshazly, Finance Director Al Holmsten, and International Health Programs Manager Sandy Krause.

On the Cover

Marara Boarding School

Boys' Dormitory

while under construction

◀

Photos

All of the photos in this report are digitized, either by scanning in existing regular photographs or through direct input by digital camera. ARC is experimenting with these relativelynew technologies (at least for us), and we apologize if the quality of some of the photos is less than excellent. We hope to become more adept at the use of digital photography over time as it is an excellent alternative in the field to conventional photoprocessing.

B

Final Program Report

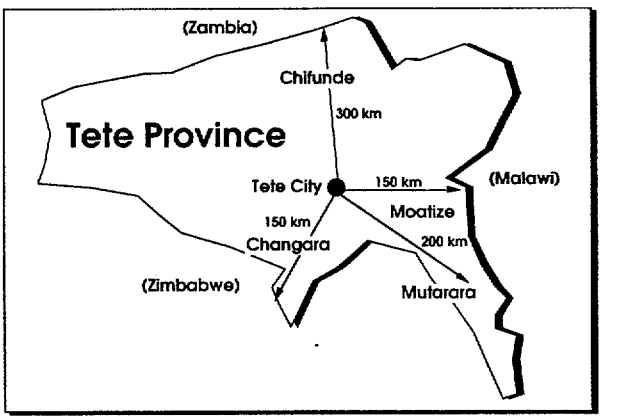
ARC Mozambique
1993-1996

Note

This final report is not meant to be an exhaustive description of the American Refugee Committee's program over the past three years. Rather it is meant to provide a comprehensive overview of the achievements and lessons learned during that time and to give sufficient detail to afford the reader a good overall indication of ARC's work in Mozambique. More detailed information is available from ARC's monthly reports.

I. Overview

The American Refugee Committee's Mozambique Program has drawn to a close after three years in Tete Province. The program has been a marked success, with almost all program objectives achieved and with high quality outputs. An independent final evaluation of the program reported positively on ARC's work.



ARC set out to assist the Government of Mozambique, in conjuction with donor agencies and the people of Tete Province, to improve the health status of ARC's target populations and to help the people of Tete return to a more normal life after more than 16 years of civil war. The work concentrated on refugee returnee areas in three districts of the province: Moatize, Chifunde, and Changara, but also included limited activities in a fourth district, Mutarara, with a total beneficiary population of more than 150,000. ARC's revised program logframe can be found in Appendix D.

The program concentrated on improving rural sanitation and health knowledge and behaviors, providing clean drinking water, and furnishing expanded opportunities for formal health care and formal education through the construction of health facilities and schools.

By the end of the program, ARC had:

- Built or rehabilitated 17 schools, with housing for staff and improved sanitation
- Built or rehabilitated 11 health posts or centers, also with housing and sanitation facilities
- Helped more than 8,000 families build home latrines, almost all with con-

crete dome slabs

- Installed or rehabilitated nearly 160 wells, and trained local committees in the maintenance of both well sites and pumps
- Trained hundreds of rural health workers, increasing their knowledge of key health issues
- Improved the health education knowledge of target populations, the result of more than 200,000 health messages from ARC trainees
- Helped to establish AIDS awareness clubs in several schools in the province, laying the groundwork for a country-wide program now planned by the Ministries of Education Health
- Rehabilitated more than 200 kilometers of rural roads, both to assist with access to project sites and to provide longer term transportation access for those rural populations

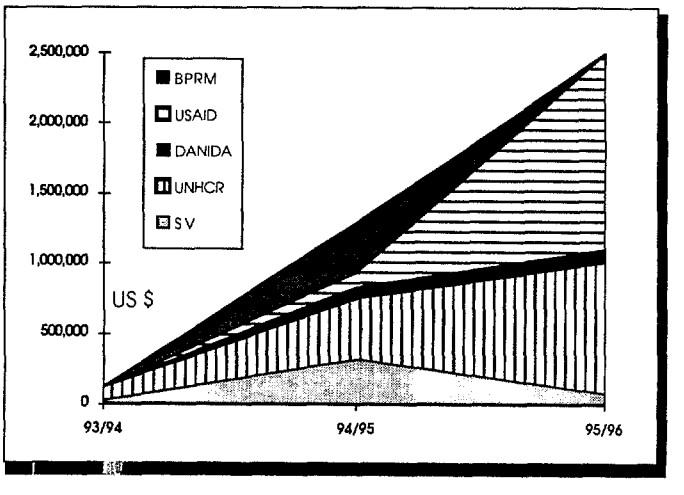
Background

ARC began its interventions in September 1993, working with funding from UNHCR and Stichting Vluchteling (a Dutch refugee assistance organization) to provide water, sanitation, and health facilities to newly arriving returnees in Moatize and Changara districts. The program rapidly expanded to include major new areas in Changara, eventually spreading to the previously inaccessible areas of northern Chifunde District. (See various maps in this report.) The project grew swiftly over time, finally peaking in early 1996 before eventual phase-out later in the year.

The program was a direct outgrowth from ARC's Malawi program, which assisted Mozambican refugees and affected Malawian populations during the years leading up to repatration in 1994 and 1995.

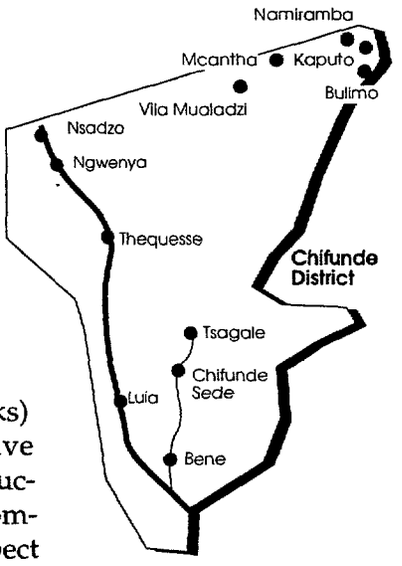
More details on specific interventions are contained in the three program sections of this report (construction, health, and water).

Donor Support



The American Refugee Committee was fully supported by its consistently loyal donors, including Stichting Vluchteling, the United Nations High Commissioner for Refugees, the US State Department's Bureau for Population, Refugees, and Migration, DANIDA (Danish International Development Agency), and the US Agency for International Development. The chart to the side gives a good indiction of the increasing donor support over time, and trends among donors. Total funding for the three-year program, including ARC's contributions, totalled more than $4 million. A donor/project chart is included as Appendix B.

Problems and Constraints

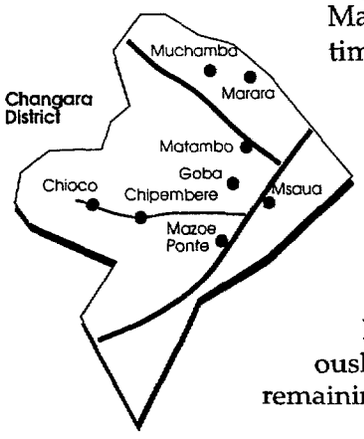


Tete Province is a physically inhospitable climate (very bad roads, no other infrastructure in rural areas), coupled with extortionate prices for materials and services and an absurd legal system that favors anyone with nothing better to do than file lawsuits. Very low skills levels are to be expected for a vastly undereducated populace, which can spread out project timelines by multiple factors. Honesty is also not a high priority to many, especially in Tete City.

Program-related ministries (education, health, public works) were generally cooperative and helpful, but administrative groups (immigration, customs, finance) were more often obstructive. Security groups (police and fire protection) have no competent investigative powers whatsoever and consistently expect extra payments even to perform their regular duties.

In some areas, especially the northeastern section of Chifunde District, access to project sites was exceptionally difficult. To get to Chifunde East, as that area came to be known, ARC had to leave the country, travelling either through Zambia or Malawi, because no internal roads linked that section of the district to the rest of the province. ARC eventually teamed up with UNHCR to reopen the main north-south route from Furancungo (Macanga District) to Vila Mualadzi (Chifunde East), but even when opened that route was a slow slog. (Fortunately for the people of Chifunde East, Zimbabwe's GT Earthmovers, a road contractor, has now realigned and graded nearly the entire 158 kilometers, so much better access is imminent.)

As many materials have been unavailable in Tete, or available only at exceptionally high prices, ARC imported most of its materials from either Zimbabwe or Malawi. The consequent customs difficulties and delays added both to the time frame of projects and to our frustrations.



Because ARC's program involved not only intensive training programs but also a massive construction program, supply and logistics weighed heavily in ARC's operations. Our fleet of vehicles required a significant maintenance program, necessitating the construction and staffing of a comprehensive vehicle workshop. Storing large quantities of vehicle spare parts and construction materials also required large warehouse facilities. (To cap off the program, our main warehouse mysteriously burned to the ground in early October, just as we were moving our remaining, but significant, materials out of the facility.)

Despite these setbacks, ARC would like to acknowledge the cooperation it received from the Provincial Directorate of Public Works and Habitation for the time and energy they spent to help our water program work. Many of our rural employees and trainees are also to be congratulated for their dedication and willingness to learn.

Further lessons learned are found later in this report.

II. Construction

ARC's construction program in Mozambique was the largest building program ever undertaken by the organization, encompassing dozens of structures from health centers, staff houses, and dormitories, to community centers and road rehabilitation.

Because ARC's program was relatively short (3 years), many projects were run concurrently, and unfortunately almost every construction project ran significantly behind schedule. The logistics, transport, and supply demands of such a program were sorely underestimated by the Director and the operations/construction managers, and the wide geographic area over which the program was spread added significantly to the difficulties.

Despite these setbacks, ARC was consistently praised for the high quality of its work. Tete's UNHCR program officer, on a schools inspection in Chifunde District, called the buildings "the best I've seen."

Tsagale

Stone fill for boggy stretch of road

Road Rehabilitation

Access to rural areas is extremely limited in Tete Province. There are only three paved roads: Zimbabwe to Malawi through Tete City, Tete City to the Zambia border, and Tete City to Cahora Bassa dam. The rest of the province relies on dirt pistes, most of which fell into such dismal states during the war that they were impassable even during the dry season.

Road Rehab

Location	Kilometers	Donor	Year
Chifunde District			
Vila Mualadzi Area	50	USAID	94/96
Vila Mualadzi to Furancungo	158	UNHCR	95/96
Tsagale	8	USAID	94/95
Conde	8	USAID	95
Nsadzo	1	USAID	95
Acufu	9	USAID	95
Changara District			
Chipembere/ Chioco Road	20	UNHCR	93/94

ARC started its road rehabilitation program in 1993 with the Chioco road, back then little more than a path cutting through the jungle to the Renamo camp there. ARC rehabilitated approximately 20 kilometers of the Chioco road, opening access

to our first construction site (the Chioco Health Post) and increasing general access to what was once a significant town. As with all of ARC's road work, improvements included vegetation clearance, hand grading and filling, and drainage. All work was done by hand.

Following this same model, USAID funded more than 75 kilometers of road improvements in Chifunde District.

Health Posts

Location	Health Facilities	Staff Houses	Sanitation / Latrines	Donor	Year
Chifunde District					
Nsadzo	Health Center*	3 New	11 ViP	DANIDA	94/95
Thequesse	Health Center	2 New	14 ViP	USAID	95/96
Vila Mualadzi	Clinic/Maternity Reconst. and Extension	1 Rehab (also temp. clinic)	5 VIP	USAID	95/96
Luia	Health Center	2 New	14 VIP	DANIDA	95/96
Changara District					
Chioco	Health Post New	1 New	5 VIP	UNHCR	93/94
Mazoe Ponte	Health Post New	1 New	5 VIP	SV	93/94
Msaua	Health Center	1 New	5 VIP	UNHCR	94/95
Matambo	Health Post Rehab	1 Rehab	5 VIP	UNHCR	94/95
Marara	Health Center	1 Rehab	Yes	UNHCR	94/95
Goba	Clinic Rehab	1 Rehab	5 VIP	UNHCR	95/96
Chipembere	Health Post w/Maternity	2 New	7 VIP	UNHCR	95/96
Mazoe Ponte	Maternity	1 New	5 VIP	USAID	95/96

* Health Centers include maternities

The area known as Chifunde East (Vila Mualadzi east to Malawi) was completely cut off from the rest of the province, which had the effect of making those citizens more part of Malawi and Zambia than Mozambique. Even now the currency used is the Malawi Kwacha. To gain access to those work sites, ARC had to leave Mozambique and travel either through Zambia or Malawi.

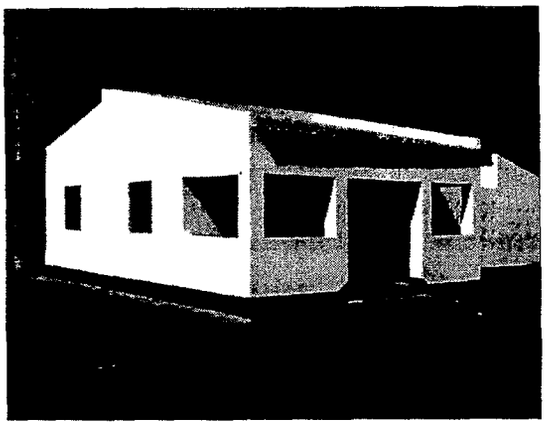
In 1995 UNHCR funded ARC to open up 158 kilometers of the old north-south road from Furancungo (Macanga District, south of Chifunde) to Vila Mualadzi, providing the first direct road access to the region for more than 10 years. Eventually a road construction contractor followed ARC's project with a complete realignment of the road, obviating the need for ARC to continue its rehabilatation efforts.

Schools Program

Location	Classrooms/ Other	Staff Houses	Sanitation / Latrines	Donor	Year
Changara District					
Marara	Kitchen rehab, teachers' offices rehab, girls' dormitory & bath; boys' dormitory and bath	4 Rehabs	Yes	SV	94/96
Matambo	2 New; 2 Reconstructed; 1 Rehab; 2 teachers' officew rehab	1 New	5 VIP	UNHCR	94
Msaua	2 Reconstructed	1 New	5 VIP	UNHCR	94
Mazoe Ponte 1	2 Rehab		4 VIP	SV	94
Mazoe Ponte 2	3 Rehab	1 New	5 VIP	SV	94
Chifunde District					
Bene	1 New	1 New	3 VIP	UNHCR	95
Tsagale	2 New	1 New	5 VIP	UNHCR	95
Chifunde Sede 1	2 New	1 New	5 VIP	UNHCR	95
Chifunde Sede 2	2 Rehab	1 Rehab	5 VIP	UNHCR	95
Nsadzo	4 New	2 New	10 VIP	UNHCR	95/96
Thequesse	6 New	2 New	9 VIP	UNHCR	95/96
Vila Mualadzi	2 New	1 New	5 VIP	UNHCR	95/96
Mcantha	2 New	1 New	5 VIP	UNHCR	95/96
Namiramba	2 New	1 New	5 VIP	UNHCR	95/96
Kaputo	2 New	1 New	5 VIP	UNHCR	95/96
Bulimo	4 New	2 New	10 VIP	UNHCR	95/96
Ngwenya*	4 New	2 New	14 VIP	UNHCR	95/96

School Construction

Most NGOs operating in Mozambique following repatriation took on reconstruction or rehabilitation of primary school facilities. ARC's program was funded primarily by UNHCR, although SV funded two schools in Mazoe Ponte and the rehabilitation of parts of a large boarding school in Marara (both in Changara District).



School construction was ARC's largest construction sector, comprising 19 schools at 17 sites in Changara and Chifunde districts. ARC built or reconstructed 45 classrooms and 23 houses for teachers, and provided improved sanitation for all facilities. School desks and teachers' tables were installed in all schools. A list of all schools projects can be found in the table on Page 5.

At Marara, ARC constructed new dormitories to free up classroom space being used for sleeping, rebuilt teachers offices and kitchen facilities, and rehabilitated four staff houses. The original plan to refurbish the classrooms themselves and to reconstruct the dining hall was shelved due to funding difficulties.

▲

Typical Staff House

View

• • •

Nsadzo

4-classroom block

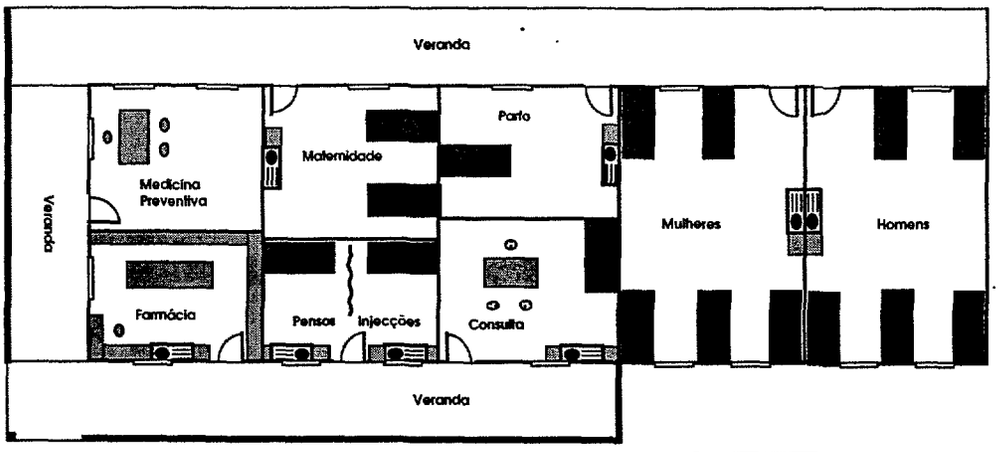
View

▶

ARC was approached by UNESCO and UNHCR to participate in a pilot project to develop community-based schools. The Amose/Ngwenya (Chifunde District) project, completed in 1996, included not only classrooms and staff houses but also a community center and radio room. The facility is designed to function as a primary school, a center for adult education, and a focal point for community meetings and other activities. Local radio broadcast from Ngwenya will provide the community with news, music, and information tailored to local needs and interests. A public address system is also planned to be sure that those without radio can still tune in.

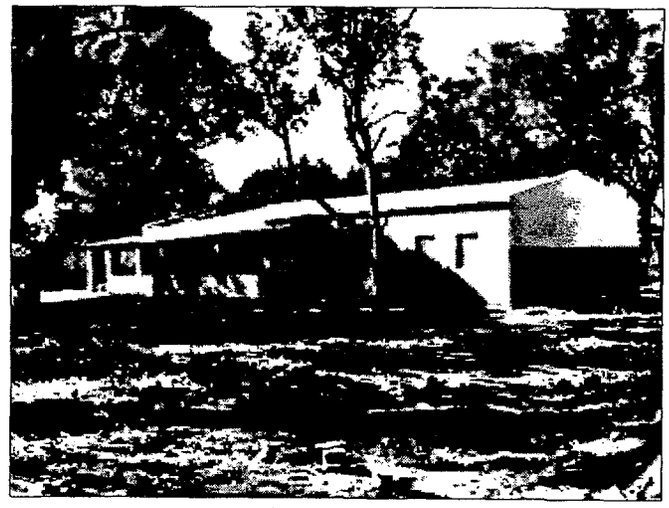
Health Post Construction

Because ARC is primarily a health-centered organization, health post construction and rehabilitation meshed well with ARC's goal to improve health in our target communities. The 11 health posts, centers, or maternities (centers include maternities) constructed by ARC were supported by all donors, as indicated in the chart on page 5.



Vila Mualadzi

Health Center with Maternity *Plan*



ARC began its health post construction program in 1993, building a new health center in the Renamo-controlled area of Chioco (Changara District), which was also a demobilization point for Renamo soldiers. This project, delayed because of rains and because of discovery of a mine at the construction site, was completed in mid-1994. Simultaneously, ARC began projects in Msaua, Matambo, and Marara for UNHCR (Changara District), in Nsadzo (Chifunde District) for DANIDA, and in Mazoe Ponte (Changara) for SV. The award of the USAID grant at the end of 1994 expanded the program further in Chifunde with centers at Vila Mualadzi and Thequesse, and another center at Luia for DANIDA.

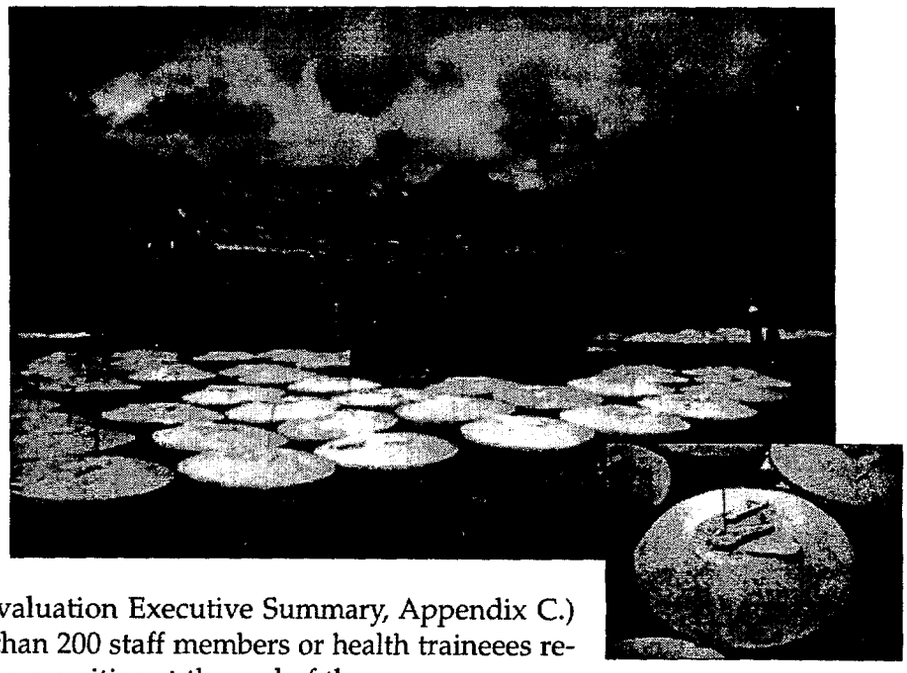
Vila Mualadzi

Health Center with Maternity *Views*

A maternity was added to the Mazoe Ponte health post with USAID funds, and Chipembere and Goba (Changara) were funded in 1995 by UNHCR.

III. Health Education and Sanitation

ARC's primary health objectives in Tete Province were to improve the understanding of and use of family latrines and to increase general health knowledge and improve health practices. This entirely non-clinical program focused on changing health knowledge, attitudes, and practices of the target populations, with significant participation through community-level health workers and mobilization of local residents in contributing effort and materials.



By program's end, more than 19 villages or village clusters had achieved an average of more than 70 percent family latrine coverage and a significant increase in health knowledge by community members. Reported and observed health behaviors and practices increased as well. (See Final Evaluation Executive Summary, Appendix C.) In addition, more than 200 staff members or health traineees remained in those communities at the end of the program, community resources for the future.

Kaphiridzanje

Dome slabs ready for fitting

• • •

8000 more families now have latrines in Tete Province

Hygiene Education and Latrine Promotion

ARC began its health education activities in Mozambique with a pilot sanitation project in Kaphiridzanje, Moatize District. The production of round, concrete, dome latrine slabs called SanPlats (sanitation platforms) and promotion of family latrines began in April 1994.

As the project was deemed successful and the need for latrines considered a high priority, it was expanded to five villages in Changara District in September 1994. Prior to this expansion, members of the new teams as well as those from Kaphiridzanje were trained in community mobilization, non-formal education of adults, and in the hygiene topics on which the project was

based. The coordinators participated in special workshops on management and record-keeping.

In February and March of 1995, six more HELP (Hygiene Education and Latrine Promotion) teams were trained and placed at sites in Chifunde District.

Prior to the commencement of activities in each of these three districts, a water and sanitation survey was conducted to determine current knowledge and practices, and to serve as a baseline from which to measure changes over time.

Latrine Production

Village	# of Families	Goal for 70% Coverage	# Latrines Completed	# of Families with Latrine	Current Coverage	% of Goal Achieved
Changara District						
Cachembe	660	465	521	520	79%	112%
Chiôco	307	216	236	236	77%	109%
Chipembere	296	210	239	239	81%	114%
Marara	686	484	513	497	72%	103%
Matambo	295	208	243	243	82%	117%
Mazoe Ponte	769	540	660	642	83%	119%
M'Saua	699	491	606	605	87%	123%
Muchamba	560	396	470	470	84%	119%
Mufa Caconde	349	246	252	252	72%	102%
Phacassa	475	336	348	348	73%	104%
Subtotal	5,096	3,592	4,361	4,052	80%	113%
Chifunde District						
Bulimo	604	425	521	481	80%	113%
Caputo	166	117	141	128	77%	109%
Cassocheca	197	138	160	160	81%	116%
Chifunde Sede	584	409	401	401	69%	98%
M'Kantha	51	36	44	44	86%	122%
Namiramba	457	322	424	377	82%	117%
N'Sadzu	839	591	638	614	73%	104%
Thequesse	353	250	285	284	80%	114%
Vila Mualadzi	140	102	116	116	83%	114%
Subtotal	3,391	2,390	2,730	2,605	77%	109%
Moatize District						
Kaphiridzanje	1,785	1,251	1,100	1,074	60%	86%
Mutarara District						
Dôa	572	400	464	464	81%	116%
Totals	10,844	7,633	8,655	8,195	76%	107%

While ARC's field teams mobilized and educated communities about the importance of good family sanitation and helped family members site and measure latrine pits, the families themselves provided significant resources and effort: sand and rocks for latrine slabs and backbreaking labor to dig their own latrine pits and build the enclosing superstructure.

As HELP Teams achieved their objectives in villages in Changara District, they began health activities in neighboring villages. Ultimately, HELP Teams worked in 19 villages, including Dôa in Mutarara District. As sites closed, communities were left with a variety of tools and materials to continue the latrine program, and HELP team members were formally recognized by village leaders as health education resources for the communities.

According to ARC field records and observations, all districts with the exception of Moatize achieved 70% latrine coverage. (See chart.) However, when and if latrines that were begun before the end of August are completed, the total number of latrines will increase to 1281 (1245 families with at least one latrine) or 70%. The other three districts greatly surpassed the target of 70% latrine coverage in target areas: Changara, 80%; Chifunde, 77%; and the four zones in Dôa, 81%. Upon completion, coverage in target areas will reach 78% overall.

Use of a latrine is of even greater importance. The final survey found that 75% (± 5%) of all adults and children over 4 years of age or older reported that they use their latrines, and that 43% (± 5%) of children under the age of 4 use a latrine.

Community Health Education Volunteers: "Activistas"

The Activista effort represented a simple volunteer-based community health education program. Thirteen health education practicioners with backgrounds in preventive health education were selected from the Tete area to live in 12 sites in the districts of Changara, Chifunde and Moatize. These Activista Coordinators then recruited, trained and supervised 10-15 activistas at each site. See Training Topics on page opposite.

▲

Chifunde

House-to-house health education

Activistas generally travelled house to house, talking with residents about family health information and good health practices. Selected by their communities and working as volunteers, activistas only received incentives directly related to their work as community health educators. The time available for each volunteer depended greatly on individual initiative and the level of other family responsibilities.

Messages from the WHO/UNICEF/UNESCO resource ***Facts For Life*** **offered simple, tested material on basic PHC messages that could greatly affect a community's health. Because many village residents are illiterate or have had little formal education, activistas used non-formal education techniques such as drama, discussions, puppetry, and song. Activistas were supported with monthly trainings to review previous knowledge and to add new topics to their curriculum.**

Activistas and Coordinators also collaborated with community leaders, health post officials, school directors, traditional healers, and traditional midwives to reach a wider segment of the community.

Activista Sites

District/Site	# of Activistas
Moatize District	
Kaphiridzanje	16
Changara District	
Msaua	8
Mazoe Ponte	22
Muchamba	13
Marara	8
Chifunde District	
Chifunde Sede	5
Thequesse	9
Nsadzo	12
Bulimo	6
Namiramba	6
Vila Mualadzi	8
Kaputo	9
Total	**122**

Between the Activistas and the Hygiene Education and Latrine Promotion teams, more than 200,000 individual health education messages were passed on to community members. Many more residents recieved information from community meetings or other group activities.

At the end of the program, each activista group elected a board consisting of a president, vice-president, and secretary. The boards are responsible for supervising the work of the activistas at the site and for coordinating with village leaders and health post personnel. In addition, the Mozambican Red Cross will work with activistas in Chifunde Sede, Thequesse and Nsadzo (Chifunde District). The Chifunde Provincial Office of Health is still deciding whether they have the resources to supervise activistas in the other sites.

HELP Teams	
•	transmission of disease (especially diarrhea) via the fecal-oral route
•	how the proper use of a latrine can interrupt this cycle of disease transmission and lead to better health
•	proper maintenance of a latrine
•	how and when to wash hands to prevent disease
•	the importance of rehydration during diarrheal episodes
•	personal, food, and household hygiene
•	well hygiene
Activistas	
•	treatment of drinking water taken from a non-protected source
•	maternal and child health
•	family planning
•	Importance of immunization
•	nutrition
•	transmission and prevention of AIDS and STDs
•	transmission and prevention of malaria
•	transmission and prevention of diarrheal disease
•	oral rehydration therapy with an emphasis on cereal-based ORS
•	prevention of acute respiratory infections
Activista Coordinators and HELP Team Leaders	
•	Non-formal education techniques, including the use of drama, song, and visual aids
•	Planning
•	Record-keeping
•	Personnel management
•	Community mobilisation and discussion facilitation

Health Ed Training Topics

Activistas received diplomas listing their dates of work and all trainings attended. Each activista group also received reference books and educational materials to continue with self-training and community education.

Surveys and Evaluations

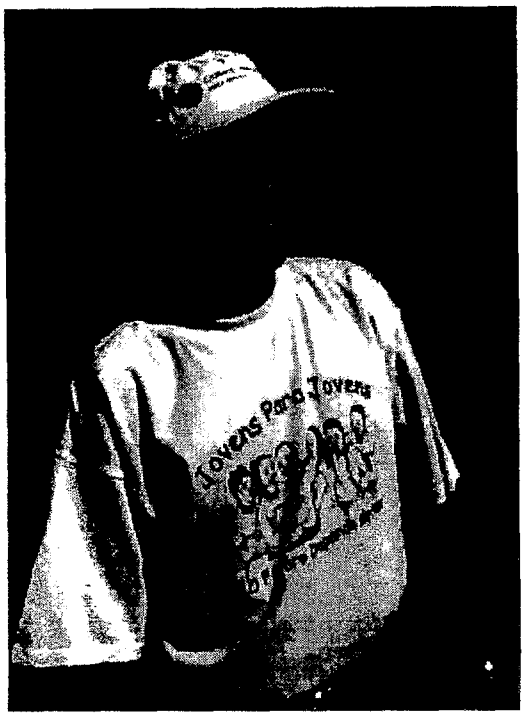
Baseline surveys conducted in all districts (except Mutarara) covered both water and sanitation issues as well as general health KAP (knowledge, attitudes, and practices), to determine initial conditions and to help plan interventions. A follow-up midterm survey showed progress toward objectives and allowed for some modification of approaches and a refocus on health topics that were showing less signs of progress.

A final, independent, evaluation was conducted in August 1996 to measure ARC's success

against the project objectives and goals. (See Appendix C.)

Training Topics

The two components of the health education program (HELP teams and Activistas) both complemented and reinforced one another in their respective communities. Although the HELP teams focused primarily on water and sanitation issues, they were fully trained in many more health education topics. Similarly, the Activistas also covered water and sanitation topics in addition to their core general health subjects. The trainings table therefore is not an exhaustive, nor exclusive, list of health education topics but is meant to give an idea of the core competences of the different groups. (See table on page 11.)



School Aids Clubs: "Jovens Para Jovens"

Activista

Jovens para Jovens:

School AIDS Clubs

Because the spread of HIV/AIDS and other sexually-transmitted diseases poses a serious threat to the health and future development of Tete's youth, ARC was a prime mover in setting up a school-based knowledge and prevention program. Formed with the assistance and cooperation of the Ministry of Health, the Ministry of Education, Population Services International (PSI), World Vision, the Mozambican Red Cross, and other groups, *Jovens Para Jovens* (Youth for Youth) has set up school clubs covering approximately 85% of the secondary schools in the Province, with 22 active teachers and about 165 club members (also known as activistas).

Teachers and activistas have received training in transmission and prevention of STD/HIV/AIDS, risk analysis, drama, and non-formal education. A board has been elected by the Commission and has begun to function independently of ARC, and an advisory board of directors for all member organisations is currently being created.

In addition, ARC largely funded a very successful conference for teachers and activistas in October that offered opportunities for networking, exchanging of ideas, and increasing knowledge. ARC also supplied 250 T-shirts with the JPJ logo for the participants.

The program has been so successful that a national JPJ program has been approved by the ministries. PSI will support this expansion by development of a JPJ manual for setting up clubs in other provinces.

IV.
Water Program

ARC's water experience in Malawi was the organization's entry into Tete Province. In early September 1993, ARC sent an exploratory water team into Kaphiridzanje, an expanding Changara District transit center for returning refugees near the border with Malawi, to assess the condition of old boreholes in the area. The water team did not just assess the water points, but successfully repaired a number of them on that trip.

Both UNHCR and the Tete Provincial Directorate for Construction and Water then invited ARC to open a formal program in Tete Province. With funding from Stichting Vluchteling and UNHCR, ARC soon began repairing boreholes in Kaphiridzanje and starting new water points in Chioco, a demobilization center in Changara District.

Phacassa

Hand-Dug Well with Afridev Pump

In 1994 Mr. Graciano Magombo transferred from ARC Malawi to ARC Mozambique to become the water program manager, and over the next two years worked with six water teams to rehabilitate boreholes and construct new hand-dug and vonder-rig (hand augur) shallow wells in the three districts. The chart below shows the extent of ARC's water work in the three districts. Appendix A gives a complete list of water points.

The water teams worked extensively with the communities to train committees on maintenance of pumps, well site hygiene, and the collection of funds from the community to purchase spare parts. Periodic trainings continued for six months once a well had been installed. Because of the difficulty of procuring spare pump parts, ARC formed a partnership with PSI to develop a system of rural retailers to stock parts.

Water Points

	Borehole	Hand-Dug		Vonder-Rig	Total
District	Rehab	New	Rehab	New	
Changara	34	16	5	12	67
Chifunde	6	56			62
Moatize	23		5		28
Total	63	72	10	12	157

IV.
Lessons Learned

General Comments from the Director

The ARC program was both larger and more geographically widespread than originally foreseen, while the time frame for the program remained short (three years). ARC responded to the constant requests of UNHCR for more, more, more, but these ever-increasing outputs led to an enormous staff, more taxation of finite resources (especially transport), and a general feeling among management that supervision was breaking down and that a lot of things were going on that we neither new about nor had control over.

Supervision of what was, at one point, a staff of more than 500 (not including hundreds of casual field laborers at construction sites) became unmanageable, and this lack of control led to increased theft and waste of materials, increased frustration, and the partial dissolution of necessary team spirit.

Management also underestimated the difficulties in running such a large number of spread-out sites simultaneously. Inevitable delays only compounded an already difficult situation, leading to such absurdities as trying to run 10 or more construction projects at the same time.

The legal and political environment was a significant shock and a huge drain on the time resources of management. The Director, rebounding off of the Malawi program, where the government was extremely helpful and laws were both reasonable and understandable, made the mistake of applying these concepts to Tete Province.

There is certainly no lack of law in Mozambique; indeed, every aspect of running a business (or NGO) seems to be restricted and hamstrung by a multitude of codes, and the penalties for breaking these codes are all out of proportion to the infractions. Intent, motivations, making a mistake, or even "doing what is right" count for nothing, while standards of reasonableness have no application whatsoever. Budgets suffered significantly because of this environment, but time was the major victim.

Despite these difficulties, the management staff responded heroically to the challenge, accomplishing almost every objective set forth, and with excellent quality.

The management team were asked to make observations about such difficulties and to state what changes they would make. Some of these observations and recommendations are a product of hindsight, while others were acknowledged long ago but never properly acted upon. To the Director, some of the recommendations would not have been fully implementable because of the nature of the program, but the underlying reasoning still holds. Below is a synthesis of these comments.

Geographic Focus/Size of Program
Programs were too spread out, and multiple languages increased the difficulty of operating. Field communication was lacking.

The program should not be allowed to spread to an unreasonable size, either geographically or programmatically. Fewer, or continguous, districts should be considered, as appropriate, and key field vehicles should be linked to main and field offices by radio.

Objective Setting/Program Strategy/Assumptions
Managers are sometimes unclear on objectives or have a diminished sense of ownership of their program objectives.

Program managers should be involved in objective-setting from the beginning. Objectives, strategies, and assumptions should be reviewed periodically (for example, every four months) and after all assessments, to allow for changes.

Budgets
The senior management were often unclear as to their control over spending or how much money was available for an entire program or for elements therein. In addition, there was some suggestion that one program was "appropriating" funds from other programs.

Program managers should have a full understanding of the funds available for their programs and be given reasonable latitude as to how those funds should be spent to accomplish program objectives. Budget revisions should be entertained on a periodic basis.

Staffing
Senior management was overloaded. Supervision of national staff became increasingly difficult.

A competent administrative/financial/personnel manager should be on board to handle day-to-day administrative details. Similarly, construction and operations should be managed separately. Overall, ARC should have fewer national employees so that they can be properly supervised.

Staff Training
Staff training programs were uneven. Many staff were not properly oriented to their positions, and either rules and regulations were not properly explained or penalties were applied unevenly. Some expatriate staff had inadequate language skills.

All staff should be properly briefed about their job roles and responsibilities. Rules and regulations should be fully explained, depending on the job. Rules should be evenly enforced. A continuing staff training program should be made an integral part of each program. All expatriate staff should be required to speak the national language to the best of their ability, and language-learning opportunities should be provided consistently.

Evaluations/Surveys
The mid-term evaluation was too late in the program, and concerns raised did not receive proper attention.

A mid-term evaluation should occur at mid-term, not later. If possible, independent or outside observers should be involved to examine strategies, objectives, and assumptions, and to make recommendations that management might otherwise not be able to see. For consistency, the mid-term should address the same issues as the final evaluation.

Management Meetings/Coordination
Management meetings are infrequent and usually take too much time and involve issues not pertaining to all managers. Coordination among programs lacking.

Program coordination should be improved to allow for more efficient use of resources, especially transport, and to present a more coherent package of assistance to communities, where applicable. General management meetings should be held regularly (once a week or every two weeks) and should address only issues pertaining to all. The Director should also schedule regular meetings with individual program managers rather than wait for managers to come to him/her.

Field Visits
Director does not spend enough time in the field.

The Director should schedule regular field visits to review progress and visit with field staff to raise morale. [The Regional Health Advisor felt she should do likewise.] The senior management team should make joint visits to the field sites on a periodic basis.

Legal
Legal problems constantly distracted the Director.

ARC should have competent, available legal representation from the beginning of the program, probably from outside the immediate geographic area in order to limit "the buddy factor." Laws and regulations should be thoroughly researched at the beginning, and efforts should be made to contact key government bureaucrats who could be a source of trouble (or assistance).

Emergency Plans
ARC had no clear emergency plan, either for political or health crises.

Emergency plans should be clearly formulated and reviewed regularly. Such plans should be explained so that no questions arise in such circumstances.

Home Office Visits
Headquarters staff seemed to have shallow interest in the program, and field visits were cursory and few.

Minneapolis senior staff should make more substantive visits to the field to discuss program issues, visit with staff, and have a more comprehensive understanding of both programs and the environment in which they operate.

Appendix A
Water Points

Changara District Water Points

Village	Bairro/#	Completed	Type	New/ Rehab	Donor
Bilia	1	Sep-95	Vonder-Rig	New	UNHCR
Bilia	2	Oct-95	Vonder-Rig	New	UNHCR
Catacha	1	Oct-95	Borehole	Rehab	UNHCR
Gavewe	1	Jul-95	Hand-Dug	New	UNHCR
Chioco	1	Dec-93	Hand-Dug	Rehab	UNHCR
Chioco	2	Jan-94	Hand-Dug	Rehab	UNHCR
Chioco	4	Aug-95	Vonder-Rig	New	UNHCR
Chioco	5	Sep-95	Vonder-Rig	New	UNHCR
Chioco	Chivinge 1	May-95	Vonder-Rig	New	UNHCR
Chioco	Mcumawacha	Jun-95	Hand-Dug	New	UNHCR
Chioco	Nyakatope	Jun-95	Vonder-Rig	New	UNHCR
Chipembere	1	Nov-95	Hand-Dug	New	UNHCR
Chipembere	Bilia	Sep-94	Hand-Dug	New	UNHCR
Chipembere	Demera	Jan-94	Vonder-Rig	New	UNHCR
Chipembere	Kangudze	Jan-94	Vonder-Rig	New	UNHCR
Chipembere	Nhadzigogodzo	Jan-94	Vonder-Rig	New	UNHCR
Chipembere	Sede	Oct-94	Hand-Dug	New	UNHCR
Cuchamano	1	Jan-96	Borehole	Rehab	UNHCR
Goba	1	Apr-95	Borehole	Rehab	UNHCR
Goba	2	Apr-95	Borehole	Rehab	UNHCR
Kangudze	1	Oct-95	Vonder-Rig	New	UNHCR
Marara	2	Aug-95	Hand-Dug	New	SV
Marara	Camanga	Jul-94	Hand-Dug	New	UNHCR
Marara	Camanga	Aug-94	Hand-Dug	New	UNHCR
Marara	Centro	May-94	Borehole	Rehab	UNHCR
Marara	Centro	Jul-94	Hand-Dug	New	UNHCR
Marara	Centro	Jul-94	Hand-Dug	New	UNHCR
Marara	Muchamba	Sep-94	Hand-Dug	New	UNHCR
Marara	Nyapende	Jun-95	Hand-Dug	New	SV
Matambo	Dzimika	Aug-94	Borehole	Rehab	UNHCR
Matambo	Ponte	May-94	Borehole	Rehab	UNHCR
Matambo	Ponte	Jul-95	Borehole	Rehab	UNHCR
Mazoe Ponte	Chiweje	Feb-94	Borehole	Rehab	SV
Mazoe Ponte	Mathwire	Feb-94	Borehole	Rehab	SV
Mazoe Ponte	Mathwire 2	Feb-94	Borehole	Rehab	SV
Msaua	1	Aug-95	Borehole	Rehab	UNHCR
Msaua	2	Aug-95	Borehole	Rehab	UNHCR
Msaua	Canongola	Nov-94	Hand-Dug	Rehab	SV
Msaua	Kachenje	Jul-94	Borehole	Rehab	SV
Msaua	Kachenje	Jul-94	Borehole	Rehab	SV
Msaua	Pacassa	Jun-94	Borehole	Rehab	UNHCR
Msaua	Pacassa	Jun-94	Borehole	Rehab	UNHCR
Mtemangau	1	Jun-95	Borehole	Rehab	UNHCR
Mtemangau	2	Jun-95	Hand-Dug	Rehab	UNHCR
Mtemangau	3	Oct-95	Hand-Dug	New	UNHCR
Mtemangau	4	Nov-95	Borehole	Rehab	UNHCR
Muchamba	1	Mar-95	Borehole	Rehab	SV
Muchamba	2	Mar-95	Borehole	Rehab	SV
Muchamba	3	Apr-95	Borehole	New	UNHCR
Muchamba	4	Apr-95	Hand-Dug	New	UNHCR
Mufacaconde	1	Oct-95	Borehole	Rehab	UNHCR
Mufa-Boroma	1	May-95	Borehole	Rehab	SV
Mufa-Boroma	2	May-95	Borehole	Rehab	SV
Mufa-Boroma	3	May-95	Borehole	Rehab	SV
Mufa-Boroma	4	May-95	Hand-Dug	Rehab	SV
Mufa-Boroma	5	Jun-95	Borehole	Rehab	SV
Mufa-Boroma	6	Jun-95	Borehole	Rehab	SV
Mufa-Boroma	7	Jul-95	Borehole	Rehab	UNHCR
Mufa-Boroma	8	Sep-95	Hand-Dug	New	UNHCR
Nhamazão	1	Jan-96	Borehole	Rehab	UNHCR
Nyadzigogodzo	1	Apr-95	Vonder-Rig	New	UNHCR
Nyadzigogodzo	2	Apr-95	Vonder-Rig	New	UNHCR
Nyalikuni	1	Mar-95	Borehole	Rehab	UNHCR
Nyalikuni	2	Mar-95	Borehole	Rehab	UNHCR
Nyalikuni	3	Nov-95	Borehole	Rehab	UNHCR
Nyapende	1	Jul-95	Hand-Dug	New	UNHCR
Phacassa	1	Mar-95	Borehole	Rehab	SV

Chifundi District Water Point

Village	Bairro/#	Completed	Type	New/ Rehab	Donor
Acuta	2	Oct-95	Hand-Dug	New	USAID
Adai	1	Jan-95	Hand-Dug	New	USAID
Aluiu	2	Dec-95	Hand-Dug	New	USAID
Amose	1	Sep-95	Hand-Dug	New	USAID
Bulimo	1	Mar-95	Hand-Dug	New	USAID
Bulimo	2	Apr-95	Hand-Dug	New	USAID
Bulimo	3	Sep-95	Hand-Dug	New	USAID
Bulimo	4	Oct-95	Hand-Dug	New	USAID
Bulimo	Bairro 2	May-96	Hand-Dug	New	USAID
Bulimo	Bairro 3	May-96	Hand-Dug	New	USAID
Bulimo	Bairro 4	May-96	Hand-Dug	New	USAID
Cassamandola	1	Jan-95	Hand-Dug	New	USAID
Cassamandola	2	Dec-95	Hand-Dug	New	USAID
Cassocheca	1	May-95	Hand-Dug	New	USAID
Cassocheca	2	May-95	Hand-Dug	New	USAID
Catache	Kazimule	Jan-95	Hand-Dug	New	USAID
Chifunde Sede	1	May-95	Hand-Dug	New	USAID
Chifunde Sede	2	Jun-95	Hand-Dug	New	USAID
Chifunde Sede	3	Jun-95	Hand-Dug	New	USAID
Chifunde Sede	4	Jun-95	Hand-Dug	New	USAID
Chifunde Sede	5	Jun-95	Hand-Dug	New	USAID
Chifunde Sede	6	Jul-95	Hand-Dug	New	USAID
Chipiri	1.	Aug-95	Hand-Dug	New	USAID
Fululudzi	1	May-95	Hand-Dug	New	USAID
Fululudzi	2	May-95	Hand-Dug	New	USAID
Kaputo	1	Jun-95	Hand-Dug	New	USAID
Kaputo	2	Aug-95	Hand-Dug	New	USAID
Unghoni	1	Oct-95	Hand-Dug	New	USAID
Lula	1	Dec-95	Borehole	Rehab	USAID
Lula	1	Apr-96	Borehole	Rehab	USAID
Madaquesse	1	Nov-95	Hand-Dug	New	USAID
Mairosse		Sep-95	Hand-Dug	New	USAID
Mcantha	1	Mar-95	Hand-Dug	New	USAID
Mcantha	2	Apr-95	Hand-Dug	New	USAID
Mcantha	3	Aug-95	Hand-Dug	New	USAID
Mkumbudzi	1	Jul-96	Hand-Dug	New	USAID
Namiramba	1	Feb-95	Hand-Dug	New	USAID
Namiramba	2	Mar-95	Hand-Dug	New	USAID
Nsadzo	1	Sep-95	Hand-Dug	New	USAID
Nsadzo	2	Oct-95	Hand-Dug	New	USAID
Nsadzo	3	Nov-95	Hand-Dug	New	USAID
Nsadzo	Chigumukire	May-96	Hand-Dug	New	USAID
Nsadzo	John	Dec-95	Hand-Dug	New	USAID
Nsadzo	Juliassi 1	Dec-95	Hand-Dug	New	USAID
Nsadzo	Juliassi 2	Dec-95	Borehole	Rehab	USAID
Nsadzo	Kabango	May-96	Hand-Dug	New	USAID
Nsadzo	Labisoni	May-96	Hand-Dug	New	USAID
Nsadzo	Namwera	May-94	Borehole	Rehab	DANIDA
Nsadzo	Namwera	Dec-94	Hand-Dug	New	DANIDA
Thequesse	4	Mar-95	Hand-Dug	New	USAID
Thequesse	5	Jul-95	Hand-Dug	New	USAID
Thequesse	Govati	Mar-95	Hand-Dug	New	USAID
Thequesse	Lipilani	Nov-95	Hand-Dug	New	USAID
Thequesse	Macheneka	Mar-95	Hand-Dug	New	USAID
Thequesse	Sede	Jan-95	Hand-Dug	New	USAID
Thequesse	Sede	Dec-95	Hand-Dug	New	USAID
Thequesse	Sede	Dec-95	Borehole	Rehab	USAID
Tsagale	1	Aug-95	Hand-Dug	New	USAID
Tsagale	2	Sep-95	Hand-Dug	New	USAID
Vila Mualadzi	1	Feb-95	Hand-Dug	New	USAID
Vila Mualadzi	2	Feb-95	Hand-Dug	New	USAID
Zoswe	Field Office	Aug-95	Borehole	Rehab	USAID

Maotize Water Points

Village	Bairro/#	Completed	Type	New/ Rehab	Donor
Catipo	1	Feb-95	Borehole	Rehab	SV
Catipo	2	Feb-95	Borehole	Rehab	SV
Catipo	3	Feb-95	Borehole	Rehab	SV
Catipo	4	Feb-95	Borehole	Rehab	SV
Kambulatsitsi	1	Feb-96	Borehole	Rehab	USAID
Kambulatsitsi	2	Feb-96	Borehole	Rehab	USAID
Kambulatsitsi	3	Feb-96	Borehole	Rehab	USAID
Kambulatsitsi	4	Feb-96	Hand-Dug	Rehab	USAID
Kambulatsitsi	5	Mar-96	Hand-Dug	Rehab	USAID
Kaphiridzanje	1	Feb-94	Borehole	Rehab	SV
Kaphiridzanje	10	Feb-94	Borehole	Rehab	SV
Kaphiridzanje	11	Feb-94	Borehole	Rehab	SV
Kaphiridzanje	2	Feb-94	Borehole	Rehab	SV
Kaphiridzanje	3	Feb-94	Borehole	Rehab	SV
Kaphiridzanje	4	Feb-94	Borehole	Rehab	SV
Kaphiridzanje	5	Feb-94	Borehole	Rehab	SV
Kaphiridzanje	6	Feb-94	Borehole	Rehab	SV
Kaphiridzanje	7	Feb-94	Borehole	Rehab	SV
Kaphiridzanje	8	Feb-94	Borehole	Rehab	SV
Kaphiridzanje	9	Feb-94	Borehole	Rehab	SV
Mussacama	1	Dec-94	Borehole	Rehab	SV
Mussacama	2	Dec-94	Borehole	Rehab	SV
Zobue	1	Apr-96	Hand-Dug	Rehab	USAID
Zobue	2	Apr-96	Hand-Dug	Rehab	USAID
Zobue	3	Apr-96	Borehole	Rehab	USAID
Zobue	4	Apr-96	Borehole	Rehab	USAID
Zobue	5	Apr-96	Hand-Dug	Rehab	USAID

Appendix B
Donor/Project Information

Donor		1993		1994		1995/96		Total
		Activities	Funding	Activities	Funding	Activities	Funding	
	General Comments	Start-up; water mainly and beginning of Chioco HP		Construction/water/sanitation in full swing; focus on Changara		Expansion to Chifunde; activistas trained all districts		
SV	Supported all activites in Mazoe Ponte and Kaphiridzanje + water in Changara/Moatize	Start-Up Costs and beginning water points: Kaphiridzanje (Moatize): 12	30,000	Mazoe Schools 1 & 2; Mazoe HP; Marara Boarding School (start); Kap sanit. and hygiene ed + VIP latrines for Kap market; 15 water points (Changara); sanit. and hygiene ed: Kap and Mazoe	325,000	Cont. of Marara Boarding School; cont. of health ed/sanitation in Mazoe and Kaph.; 8 water points in Changara/Moatize	80,000	435,000
UNHCR	Supported schools, health posts, water, roads, health ed/sanitation (until 95); health ed materials; some office costs	Chioco (Changara) Health; 5 water points	90,000	Chioco HP cont; Marara HP; Msaua HP and school; Matambo HP and school ; sanit. and hygiene ed: 5 sites; 12 water points (all Changara)	425,000	Chifunde Schools: 11; Changara water points: 33; Goba HP and Chipembere HP & Mat; Furanc-V Mual road; workshop services; health ed materials	930,000	1,445,000
DANIDA	Nsadzo and Lula Health Posts			Nsadzo (Chifunde) Health Post; 2 water pts	80,000	Lula Health Post	90,000	170,000
PRM	Generally institutional support costs for ARC Mozambique and training funds: Sept 94-Dec 95			Institutional Support (late 1994)	See 95/96	Institutional Support (until end 1995)	360,000	360,000
USAID	All activities except school construction; institutional support: Dec 94 - Sept 95					Water points: 70 in Chifunde/Moatize; health ed and sanitation: all districts (19 sites); V Mual. (Chif) health center; Theq. (Chif) health center; Mazoe Ponte maternity; Chifunde roads; institutional support costs	1,500,000	1,500,000
Total			120,000		830,000		2,960,000	3,910,000

Appendix C
Final Evaluation
Executive Summary

Below find the Executive Summary from the Final Evaluation Report, written by by Ms. Teju Alakija, MPH, of the University of Zimbabwe, and Mr. Martin Taremba of the Zimbabwe Development Consultancy.

Executive Summary

In August 1996 a team of two consultants was hired to conduct an independent evaluation of the American Refugee Committee Programme in Tete Province, Mozambique. The programme started in 1993 and ran for a period of three years. The overall goal of the programme was to improve the health of approximately 140,000 residents, returnees and displaced persons in the target areas of Moatize, Changara, Chifunde, and Mutarara districts of Tete Province. The objectives of the programme are:

1) 80% of households living within 750 m radius of an ARC water point get their drinking water from that protected source.
2) 20% increase in Primary Health Care (PHC) knowledge among adult target population.
3) 70 % of households in target areas have and use family latrines.
4) 50% of births in target area are attended by a trained health worker.
5) ARC trainees show a 25-50% increase in knowledge for each training.
6) 33% of adults in target areas report practicing appropriate health behaviours.
7) Provide health facilities in areas where sufficient population warrants cost.
8) Provide educational facilities in areas where sufficient population warrants cost.

The evaluation took place in August/September 1996 and involved the following activities: 1) a review of documents, 2) interviews with ARC programme managers and staff, 3) field visits/inspections to ARC programme sites, 4) a PHC knowledge, attitudes and practices (KAP) survey and 5) a water observation and utilization survey.

Main Findings of Survey and Observations of Consultants

Water

- 93.8% of households surveyed living within 750 m of an ARC functioning collect their water from that protected source.
- Of those surveyed, 96% of respondents obtain their drinking water from the closest water source.
- 92% of aprons were clean and free of debris.

- 42% of pumps were fenced although animals were still able to get into 37.5% of those fenced.
- 44% of pumps had broken down since ARC completed the water points and in 91% of cases, someone in the community had been able to repair the pump.
- Water point committees have been trained and are capable of maintaining the pumps and of carrying out minor repairs in most cases provided they are able to collect money from the community to purchase the spare parts.
- Major repair work is beyond the capacity of the water point committees and unlikely to be undertaken by the Ministry of Water (DPOPH).

Construction

- Sites for construction of schools and health facilities were selected by the Ministries of Education (DPE) and Health (DPS) respectively. At the time of the evaluation all construction had been completed with the exception of Thequesse, Luia, Amose/Ngwenya and Marara, which will be completed by October 96.
- Although not part of ARC's objectives, many of the schools and health facilities already completed by ARC have not yet been utilized.
- Maintenance of the schools and health facilities is now the responsibility of the Ministries who have confirmed that they do not currently have the capacity to carry this out.

Health Education and Hygiene Promotion/Activista Volunteer Programme

- The survey showed an increase in knowledge in the target population in the following topics since the baseline survey was conducted:

  Benefit of using pump water increased from 33% to 72%
  Benefit of using a latrine increased from 39% to 72%
  Knowledge of diarrhoea transmission increased from 38% to 65%
  Age at which baby should be weaned increased from 23% to 46%
  Malaria transmission increased from 14% to 30%

- The number of adults that reported practicing appropriate health behaviours increased in the following areas:

Reported Behaviours	
Potable water	70%
Adults an children using a latrine	43%
Adults only using a latrine	75%
Correct treatment of diarrhoea	89%
Mosquito prevention	55%
AIDS prevention	95%

Observed Behaviours	
Correct water storage	59%
Clean latrine and lid in place	66%
Proper rubbish disposal	97%

- From a record review, an average of 76% latrine coverage was recorded in the villages where ARC had a sanitation programme.
- The survey revealed 66.1% latrine coverage with 14.8% of the respondents still constructing latrines at the time of the survey. When completed, this should bring the total coverage to 80.9%.
- The survey revealed that only 21% of those households with a latrine had water for hand-washing within 5 m of the latrine.
- Only 12% of children between the age of 1 and 2 years ate a balanced diet the day before the survey.
- Increase in knowledge of ARC trainees ranged from 14-58 percentage points depending on the training.

Summary of Achievement of Objectives

ARC achieved the majority of its objectives and outputs as stated in the end-of-project status indicators and outputs in the programme logframe.

Water
The objective addressing water has been achieved but it does not address the functionality or breakdown time of the water pumps. Out of the 20 pumps randomly selected for the survey only one (5%) was not working. During the field visits by the consultants, 6/15 or 40% of the randomly selected pumps were not functioning. This figure excludes Kaphiridzanje where 6/11 or 55% of pumps were out of order.

PHC Knowledge
Greater than a 20% increase in knowledge was recorded for 5 out of 12 of the knowledge questions asked in the survey. Other questions such as when to wash hands, how to make leftover food safe, and AIDS transmission were high in the baseline and so a 20% increase could not be expected.

Latrines
Records show that latrine coverage has reached 76% in all target villages. The survey revealed a coverage of 80.9% when latrines currently under construction are completed.

Appropriate Health Behaviours
More than 33% of adults reported practicing or were observed practicing appropriate health behaviours for 9 out of eleven of the behaviours examined in the survey.

Births attended by a Trained Health Worker
The objective of ensuring that 50% of birth in target areas are attended by a trained health worker was not addressed as originally planned as only 10 TBAs were trained.

However, the number of births assisted by a trained health worker increased from 45% in the baseline survey to 61.8% in the final survey. ARC addressed this issue through the community health volunteer (Activista) programme, although it is not possible to say to what extent this increase is due to the work of the Activistas.

School and Health Facilities
Some of the schools and health facilities constructed by ARC are in use and the maintenance of these structures is now the responsibility of the Ministries. It is not certain whether these structures will be staffed and maintained by the Ministries.

Sustainability
Given the nature of the programme (emergency/resettlement) and the limited time frame, the issue of sustainability was not fully addressed and many of the assumptions made in the logframe were not held.

Recommendations

- ARC Mozambique may have benefited from a more integrated programme. Health programme should establish stronger links with water and construction programmes. In particular water and health could have worked more closely on the training and follow up of the water point committees.
- Regular management meetings and join management/inspection visits should be held to strengthen links between the programmes.
- Outside technical support should be sought earlier on in a programme from independent consultants or staff from other ARC country programmes.
- The programme should focus on one district with one local language or two contiguous districts with the same language.
- All programme activities (health, water and construction) should start at the same time in one village or location to ensure integration and to present the ARC programme as a package to the community.
- Managers should all be involved in the development of the logframe and have the opportunity to revise the objectives and outputs after the baseline survey has been conducted. Flexibility from the donors would be required for this.
- Corrective action should be taken when assumptions no longer hold.
- Time should be spent at the beginning of the programme familiarizing staff with the relevant Ministries and the way they operate so that ARC staff can identify areas of cooperation.
- Future construction programmes must consider support for maintenance and use, e.g., teachers and educational materials, health facility staff, medical equipment and supplies.
- A resettlement programme is not the same as an emergency programme and sustainability issues need to be addressed.

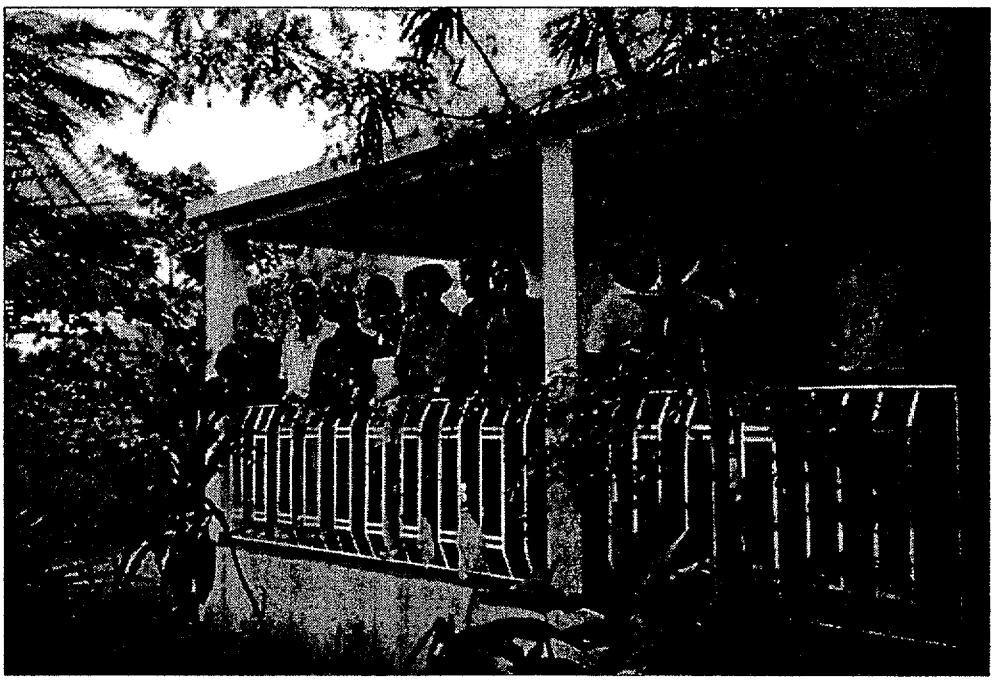
Programme specific Recommendation can be found in the [Final Evaluation Report].

ARC should address the following issues before completing its programme in Mozambique:

1) Ensure a smooth handover of the programme activities.
2) Repair water points that are not functioning.
3) Deepen wells that were dug in the rainy season.
4) Ensure that each well has a trained and active water point committee.
5) Review the water problems in Kaphiridzanje and pilot test an alternative deep borehole pump in collaboration with DPOPH.
6) Together with DPOPH, survey all water points constructed or rehabilitated by ARC to assess their functionality, yield, and presence of a water point committee. Ensure that all interested parties have this information when ARC leaves.
7) Mobilize communities to start a preventive maintenance programme for schools and health facilities.
8) Liaise with UNHCR to ensure that a maintenance programme is in place for the schools.
9) Liaise with DANIDA and DPS to ensure that a maintenance programme is in place for the health facilities.
10) Seek further dialogue with DANIDA and the DPS to clarify issues of staffing, supervision, equipment and supplies of health posts and maternity units constructed by ARC.
11) Establish closer linkages with the health facilities and DPS to increase the likelihood of sustainability of the Activista programme.

Appendix D
ARC Program Logframe
Revision of October 1995

Narrative	Indicators	Means of Verification	Assumptions
Goal To improve the health of approximately 140,000 residents, returnees,and displaced persons in the target areas of Moatize, Changara, Chifunde, and Mutarara districts of Tete Province, Moz.	1. Decreased Morbidity 2. Decreased Mortality (Beyond the scope of this project to measure: see Means of Verification)	CDC cites descreases of 26% (morb) and 55% (mort.)from similar interventions. PHC approach is key to obtaining "Health for All" (Declaration of Alma Ata, 1978).	1nterventions are sustained
Purpose To improve primary health care knowledge and practices among the target population	**End-of-Project Status** 1. 80% of households receiving water from a working protected drinking water point (750-meter radius). 2. 70% family latrine coverage in target areas 3. 25-50%increase in pre- and post-test scores in all trainings 4. 33% report practicing health bvehaviors as outlind in Health Education objectives 5. 20% increase in PHC knowidge among adult target population 6. 75% of households visited by an ARC village-level health worker 7. 50% of births attended by a trained health worker 8. Health facilities constructed where sufficient population warrants cost 9. School facilities constructed where sufficient population warrants cost	1. End-of-project survey 2. Pre-test/post-test results 3. ARC records	Environmental stability
1. Provision of clean drinking water 2. Provision of sanitary facilities 3. Provision of health centers/posts and equipment 4. Provision of educational facilities 5. Provision of road access to project sites 6. Provision of health education	**Outputs** 1. 150 water points established; water committees established and trained for each 2. 189 communal latrines built 3. 8,000+ family latrines built 4. 120 village health workers trained 5. 11 health facilities built or rehabilitated 6. 19 schools built or rehabilitated 7. 5 school-based AIDS clubs established 8. 150,000 health education messages delivered 9. 9,000+ families visited by ARC-trained village-level health worker 10. 200+ km of roads rehabilitated	1. Visual Inspection 2. Acceptace by GRM 3. Operating/inspection 4. ARC records	1. Target population conductve to change 2. Target community uses facilities made available 3. Facilities maintained by GRM and population, and properly staffed and supplied by GRM 4. Population remains stable
Activities 1. Recruit, hire, train, and supervise staff 2. Secure material and equipment 3. Revise administrative and operations system 4. Maintain donor support 5. Maintain collaboration with ministries, NGOs, and communities 6. Implementation of project activities	**Inputs** 1. Personnel (Director, HPM, HEC, WPC, O/CM, AM, and project personnel 2. Material and equipment 3. Transport 4. Information 5. Facilities	**Budget** Approximately USD 4 million for entire program	1. Sufficient donor support 2. Materials available and affordable 3. Appropriate local staff available 4. Adequate GRM / other NGO collaboration, support, and cooperation



Tete

Admin Staff at the Office

1994

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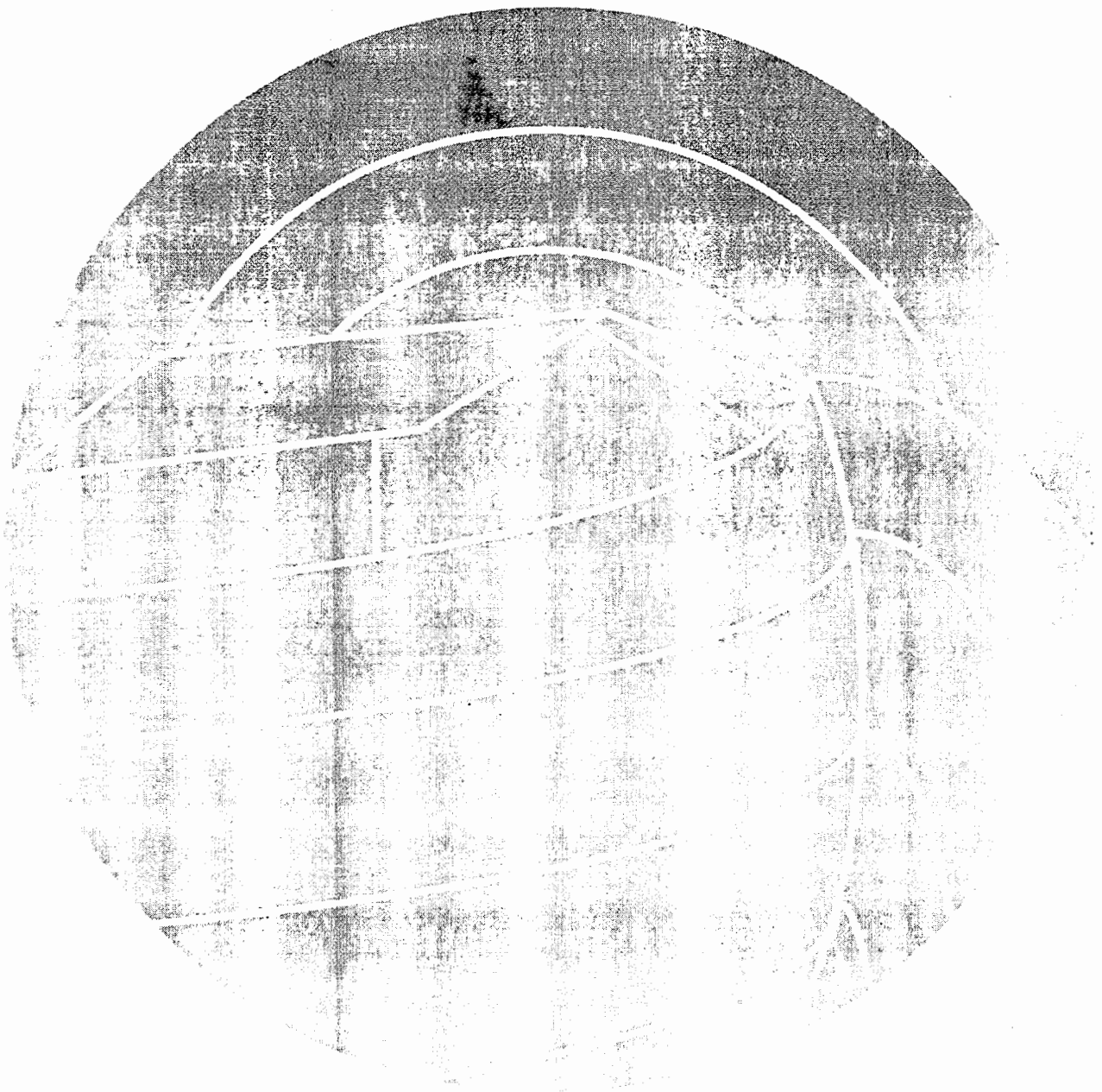
Community Service

Tete Staff repairing a road in Tete

Thanksgiving Day



American Refugee Committee

Comité Americano para os Refugiados