REDIRECTION PLAN FOR THE HEALTH, WATER, AND SANITATION PROJECT, MOZAMBIQUE

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Africare

WATER AND SANITATION for HEALTH PROJECT

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by

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APPENDIXES

ACRONYMS

HWS	Health, Water, and Sanitation Project
LBD	locally-based demand
OFDA	Office of Foreign Disaster Assistance (USAID)
ORT	oral rehydration therapy
TOT	training-of-trainers (workshop)
WASH	Water and Sanitation for Health Project
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

In 1992, the Water and Sanitation for Health Project (WASH) undertook an assessment of the water situation in Beira, Mozambique, at the request of USAID's Office of Foreign Disaster Assistance. As a result of this study, Africare submitted a proposal and received a grant from USAID to implement the Sofala Province Health, Water, and Sanitation (HWS) project in Beira, a provincial capital and major port city. The objective of the grant was to address the emergency situation in the city's peri-urban neighborhoods due to the severe shortage of potable water. By October 1993 when the Africare team was in place, much had changed since the emergency assessment of 1992. In a survey conducted to better understand the peri-urban context of Beira and in the course of discussions with provincial policymakers, the team recognized that the objectives of the grant agreement were no longer relevant to the context and political situation of the country. There was a clear need to shift the project's emphasis from emergency assistance related to water shortages to an emphasis on the processes of development. The change in focus called for skill-building for problem-solving and capacity-building in peri-urban neighborhoods.

In response to a request submitted by Africare to USAID/Maputo, a WASH staff person arrived in Beira to work with the Africare project team. Although the scope of work submitted to WASH focused on developing a health information system, it quickly became clear that the processes for changing the project's emphasis from emergency assistance to development needed to be put in place. Over a period of two weeks (March-April 1994), extensive discussions with each of the team members indicated the following areas of priority:

- Having made the decision to move from emergency assistance to development, what role and magnitude did each of the project components have?
- Having determined that capacity-building skills are needed to develop capable local neighborhood institutions, what would be the best sequencing of activities at the community level?
- If health improvement is an important goal of the project, what processes, technical skills, and budgetary recommendations will this focus have?

To answer these questions, a team process was facilitated over a period of two weeks. The first benchmark for arriving at these answers was a clearly articulated vision of the project. The team listed its accomplishments and its strengths as a project and then stated its vision as:

"Each neighborhood in the project area with an active and sustainable community institution, with appropriately utilized health, water and sanitation infrastructure, resulting in a clear reduction of behaviors affecting the incidence of communicable diseases and ensuring that lessons learned from processes of implementation are institutionalized within the government/Renamo."

In the second step of this process, team members listed their individual activities on cards and began to sequence and order them in an integrated fashion. The most critical components were the clear integration and sequencing of the water; information, education, and communication; and health components. The review of these sequenced activities then led to identification of the technical skills required for a development project whose inputs would make a direct contribution to the health and capacity-building of local neighborhood communities.

This report is organized to reflect the process described above. Chapter 1 contains a brief description of the grant agreement, the study findings, and the place Africare has established for itself as an important actor in the water, sanitation, and health agenda of Beira. Chapter 2 looks at the shift in emphasis from emergency assistance to development. It outlines accomplishments of the project team to date, the vision for the revised focus, challenges to meeting that vision, sequencing and integration of the various components, and the selection process for the baseline indicators. In Chapter 3, the technical processes and the skills required to meet the vision are outlined. This chapter also outlines how the various indicators at differing levels of the project will be monitored. Finally, Chapter 4 contains a list of recommendations for technical assistance and for Africare staff to carry out, and the budgetary and other resource (e.g., time) implications required to implement the vision.

Chapter 1

BACKGROUND: OBJECTIVES AND SURVEY RESULTS

1.1 Original Grant Agreement and Objectives

In February 1993 WASH published a report entitled "Water Shortage and Related Public Health Problems: An Action Plan for the City of Beira, Mozambique" (WASH Field Report No. 389). In response to this plan, Africare wrote the grant proposal, "The Sofala Province Integrated Health, Water, and Sanitation Project." This document contained objectives reflecting the state of emergency within the public health sector at that time (early 1993), including measures responding to the perceived need for immediate construction of water systems throughout the city. This proposal was funded by USAID in October 1993, and a health, water, and sanitation (HWS) team was formed to implement the project.

1.2 Africare Assessment of Local Needs and Priorities

The stated purpose of the proposed activity was health improvement within selected peri-urban populations of Beira through the reduction and control of water-borne and other diarrheal diseases.

One of the first actions of the HWS team in the fall of 1993 was to design and implement a fact-finding survey to investigate the state of public health and water within the city. Four hundred households were surveyed using the following main categories:

- Number of children under five years of age and the general state of literacy within each household
- Major actors and influences within each community
- Recent incidence of diarrhea among children and the explanation of why these incidents occurred
- Access to information
- Water use, cost, and collection strategies
- Use and knowledge of latrines
- The general cost of food and other household staples

1.2.1 Major Findings of the Survey

The results of this survey gave the Africare team an opportunity to make a quick assessment of geographic and social distinctions within the city. For example, demographic differences were encountered: approximately one-third of those interviewed stated they were from Beira, tending to inhabit the more densely populated bairros of the *baixa*, or downtown, with larger families (including more children under five years of age) living in older apartment buildings, and, in general, having a higher literacy rate than recent immigrants. These more recent immigrants from surrounding districts and provinces tended to inhabit the more recent make-shift settlements on the city's periphery, often emulating their rural origins vis-à-vis indigenous structures of wood and stone in homogeneous ethnic enclaves. Thus, residents throughout the peri-urban sections of Beira seemed to reflect a mix of urban villages, as opposed to the older, "urban" residential units. However, two exceptions were noted: the peri-urban bairro of Manga contained a higher percentage of native Beirans than non-natives, and the more "urban" bairro of Ponta Gea contained more non-natives than natives. (These distinctions between "natives" and "non-natives" are considered important planning issues by the Beira city government, especially regarding residents' plans to remain in Beira or to return to lands of origin.) Despite this mix of housing and community structures, the city of Beira is divided into distinct zones or *bairros*, which are further divided into *quadroes*; each of the latter is in turn divided into *unidades* of approximately 25 households represented by a bairro secretary, who ultimately reports to the city administration. Water use was mixed; however, it was generally found that those residents living on the city's periphery utilized wells, while urban residents used taps, and both utilized public standpipes when available. The incidence of diarrhea was found to be higher in areas that relied on well water. Only 20 percent of households interviewed boiled their drinking water.

1.2.1 Interactions with Government and Other Institutions

In addition to giving the Africare team a general idea of the project area, the survey provided a focal point for discussions with important actors in the health, water, and sanitation sectors. Participants included representatives from the *Conselho Executivo* (Beira city council), provincial and city health services, provincial and city water services, *Latrinas Melhoradas*, Renamo provincial health services, *Zonas Verdes*, the Mozambican Red Cross, Kulima (a national NGO working with various community groups), and several churches in the province. These discussions led to the formation of a task force whose goal was two-fold: (1) to decide on the most appropriate site to start project implementation, and (2) to identify the means by which each of the participants could best assist Africare in reaching the project's stated purpose: health improvement within selected peri-urban populations of Beira through the reduction and control of water-borne and other diarrheal diseases.

Chapter 2

SHIFTING EMPHASIS FROM EMERGENCY TO DEVELOPMENT

2.1 Major Accomplishments, by Component

The Water Coordinator for the project was instrumental in responding to the February 1993 WASH report. He was a member of the original grant proposal writing team, designing the entire water component of the project. To date he has assisted in the inspection of over 300 wells and plans to continue the inspections through April, May, and June 1994. This water-well survey consists of noting the exact geographic location of each well, its current status (currently being used or in disrepair), and extracting water samples for analysis by the provincial laboratory. The water coordinator has helped to define the roles of three government agencies (Construcao e Aguas, Aguas de Beira, and Latrinas Melhoradas) within the project, as well as soliciting their approval for all water- and latrine-related activities. He has met with six school directors and teachers to set the stage for future latrine construction projects, and most recently (in conjunction with the IEC Coordinator), he assisted the water and sanitation committees of the bairro Manga Mascarenhas in defining their roles and responsibilities within the community.

The Information, Education, and Communication (IEC) Coordinator has been responsible for making contact with Beira city government officials and those most involved with city and provincial health, water, and sanitation services. She has organized several meetings and workshops to explain Africare's interest and role in health and water development, and acted as liaison between Africare, the Mozambican government, and Beira urban/peri-urban communities. To date, the IEC Coordinator has mobilized and trained the enumerators used in the first investigative survey, as well as the first group of trainers who, in turn, will be responsible for training community health agents and other trainers. She was responsible for initial contacts with Manga Mascarenhas bairro residents and in the formation of health, water, and sanitation committees. In addition, she has developed the IEC training materials used in all workshops and trainings.

The Health Coordinator has been responsible for all activities related to Chibabava District health post rehabilitation and construction, including making contact with administrative officials and gaining approval for Africare involvement in both government and Renamo zones. He assisted the IEC Coordinator with the design and implementation of the December 1993 survey, and analyzed the results for use by an Africare/government task force. He has met with Manga Mascarenha health committee members to define roles and responsibilities. Most recently, he has mobilized residents within the town of Goonda (Chibabava District) to begin brick-making prior to health post rehabilitation at three different sites.

2.2 Africare Team Strengths

Africare was fortunate to have had the opportunity to utilize the experiences gained from work in another Portuguese-speaking southern African nation; all three coordinators had worked in similar activities in Angola. They have experienced the tensions which arise in a country in turmoil and are familiar with strategies needed to work under difficult political and physical circumstances. They have the experience and expertise needed to address basic issues such as health care and water development from various personal as well as political perspectives; the IEC Coordinator was particularly successful in facilitating meetings between opposing factions and in implementing health programs under war-time conditions. Their evacuation from Angola and subsequent assignment to Mozambique meant that professional experiences were still very fresh and that lessons learned from one set of circumstances could be modified and adapted to the present situation in Beira.

The Africare HWS team also brought a unique set of skills into the Beira project: the Health Coordinator, a French physician, has experience in the construction of health posts in addition to specializing in tropical medicine. The Angolan IEC Coordinator is a registered nurse and also has a Master's degree in public health (specializing in nutrition). She has had many years of experience in a variety of health-related issues, from vaccination campaigns to head-nurse duties in U.S. hospitals to community development work in rural Angola. The Water Coordinator for the project developed water systems in Kenya and Angola, and his early arrival in Beira eased the transition for other team members as well as beginning the procurement process much earlier than the grant signing date. The Mozambican HWS Logistics officer is an excellent graphic artist and has already produced a number of educational materials used by the IEC Coordinator and trainers. All have had years of experience within the Africare organization; thus, little time and few resources were spent on their orientation into the project or organization. Despite the variety of nationalities and personal backgrounds, they have been working together to bring a strong blend of health and water experience into a situation requiring language skills, diplomacy, and a willingness to share their skills and development experience with the Mozambican counterparts and community groups with whom they will be working.

2.3 Africare's Place in the HWS Sector in Beira

There is little NGO activity in basic health, water, and sanitation services issues within the city of Beira; the Africare HWS team is notable in the vibrant personalities of its staff. For both reasons, Africare has become a major force within the health and water sector. Africare is a familiar name to many Beira residents: TV Mozambique, radio, and newspaper articles have all described Africare activities, and interviews have thus far led to relatively easy entrance into bairro communities. The president of Beira's city council has appointed Africare's IEC Coordinator to be "point person" in the city's efforts to address obvious sanitation issues, and has assigned a member of his staff to Africare's training-of-trainers activities, in effect to act as liaison between Africare and city government, thus cutting through many bureaucratic avenues which would otherwise make the project less efficient.

In addition to the contacts made thus far, Africare will continue to open channels of communication between appropriate govemment agencies, NGOs, and community groups. On April 4, 1994, the first group of TOT programs will be introduced to Manga Mascarenhas health and water committee members. This will mark the first step of community extension efforts aimed at making communities responsible for their own water and health systems.

2.4 The Current Situation and the Need for Redirection

Since the start of the HWS project and the signing of the grant agreement with USAID (September 1993), a great deal has changed in the country. During the past 20 years of war and drought, the major form of assistance to Mozambique has been emergency relief aid. Receiving this form of aid for so long has illustrated the old adage that while people received the fish to survive, they have not leamed to fish.

During the past year, the govemment has been preparing for elections. Reaching out to the grassroots and establishing a relationship of trust after 20 years of war are challenges to the govemment and to Renamo. There is an emerging willingness on the part of district and provincial administrators, both govemment and Renamo, to work together, and such collaboration is increasingly imperative due to the political transformations taking place at the national level. Moreover, with the end of the drought and the war, the need for emergency aid has been supplanted by the need to develop local capabilities and development efforts.

Africare and the HWS project have been asked to play a significant part in this transformation. As mentioned earlier, Africare is clearly recognized as an important actor in the water and sanitation agenda of the municipality of Beira. The March 22 World Water Day Exhibition in Beira featured Africare's work at the grassroots level with local neighborhood organizations. Africare is also represented on the Executive Council for water and sanitation of Beira. Thus,it has clearly carved out an important role both in policymaking and through its activities at the local level. However, at the heart of this transition—from emergency to development assistance—are operational issues that contain conflicting objectives, time tables, resources, and technical skills.

The grant agreement with USAID focused primarily on the delivery of outputs such as water systems, water storage tanks, rehabilitation of water wells, and health units. Wells needed rehabilitation primarily due to neglect or misuse. Institutional support was not in place to monitor and develop an appropriate framework for operations, maintenance, and fee collection at the local level to ensure continued functioning.

In an effort to be responsive to the grant agreement with USAID, and recognizing that the emergency assistance paradigm was both outdated and inappropriate, Africare staff found itself in the frustrating position of trying to provide emergency relief services using development processes of learning and capacity-building. The objectives, outputs, and indicators for effectiveness are clearly different in the two approaches. Since the arrival of the complete team in Beira in October 1993, this conflict has created miscommunications between the coordinators for IEC, health, and water. Although there was a clear recognition on the part

of each as to what his or her role was in the agreement, they did not know how to translate and renegotiate these agreements to meet the current conditions of the country and their partner institutions in Beira.

The confusion and frustration created by conflicting obligations and purposes of the project resulted in team members being pulled in different directions to fulfill the needs and agendas of various institutions. This continued pulling and pushing has resulted in a great deal of wasted energy in attending meetings and responding to political agendas of various entities and organizations.

The clear tensions of the dual purposes, promoting development versus meeting "deliverables," has resulted in miscommunication around how the various components of the project are to be integrated in a coherent fashion. The areas of water well rehabilitation and construction of water systems needed to be clearly linked to the identification of local-level institutions; the same linkages were needed in training relevant to the operations and maintenance of the infrastructure. Other connections that needed to be forged included integrating improvement of environmental health conditions with the use of the infrastructure, and linking the surveillance of these conditions to the rehabilitated (or existing) health posts. Thus, while each of these components of the project existed, there was no clear functional and operational linkage between or among them.

Moving from emergency assistance to development also meant redefinition of the stakeholders (national and nongovernmental organizations as well as neighborhood organizations) and the relationships that Africare will have with them. Whereas in emergency assistance it was sufficient to drop food off in the middle of neighborhoods, development processes are different. They demand a more effective, accountable, and democratic urban governance to transform the quality of the urban and peri-urban neighborhoods. Africare's role within the municipality is, as mentioned earlier, clearly recognized and accepted. However, the training and the mentoring of these stakeholders will need to be strengthened. Moreover, to continue the development processes, local NGOs will need to be identified, trained, and mentored by Africare.

To achieve the goals as stated in the original grant agreement, the health, and specifically the sanitation, components of the project will require a great deal of attention. At the present time, latrine construction has a very limited role in the existing grant agreement. Construction of latrines at selected peri-urban schools is primarily intended for demonstration purposes.

2.5 Developing a Vision for Development

In grappling with the change of direction for the project, the Africare team reviewed its accomplishments and strengths and worked to develop a unified vision of what they hope to accomplish in the next 2 to 3 years.

The vision for the project which emerged from this process is as follows:

Each neighborhood in the project area with an active and sustainable community institution, with appropriately utilized health, water, and sanitation infrastructure, resulting in a clear reduction of behaviors affecting incidence of communicable diseases and ensuring that lessons learned from processes of implementation are institutionalized within the government/Renamo.

2.6 Challenges to Meeting the Vision.

2.6.1 At the Project Level

The most important challenge for implementing the vision was reaching a consensus on a clear definition of it. This step was the fundamental building block for beginning the processes of change. The vision statement integrates the different components and requires that the sequencing and field-level implementation of various activities be further integrated.

2.6.2 At the Technical Level

The change in focus outlined earlier means that creation and training of sustainable institutions at the bairro level becomes the driving force of the project. To foster appropriate use of the infrastructure, the training and capacity-building aspects become as important as construction. The focus has also shifted from very general types of health messages to a health education program which addresses priority behaviors contributing to the incidence of communicable diseases. These behaviors are monitored (for morbidity and mortality) at the bairro level and at the health posts. Finally, from an institutional point of view, public agencies and local NGOs will also be drawn in to learn from this process.

Clearly, the greatest technical challenge here is training, capacity-building, and institutionalization. Many training programs in Mozambique have failed because they have tended to be pedagogical, based on the one-way delivery of information. To avoid this, the HWS project will emphasize experiential learning, using participatory techniques and creating continued opportunities for review of information and its practice.

2.6.3 At the USAID Level

To make a successful effort in changing the focus, the HWS project will require the continued support of USAID, demonstrated by flexibility and an openness to innovation.

2.7 Integration of Project Components

The project team has jointly carried out activities since October 1993, when all the team members were in place. This coordination helped develop the idea that a close inter-relationship between the various components is imperative for the project. To understand how this integration will take place, team members listed their projected activities on individual cards. On a wall covered with paper and divided into quarters covering the time period 1994 to 1996, team members put up their various activities in chronological order. Cards were moved around and re-arranged, more cards were added and others removed, until an integrated sequence of activities was developed.

The areas that needed the most thought were (1) how the IEC component relates to the construction/rehabilitation component and (2) how it will subsequently feed into the health and sanitation component. How this integration will be implemented at the community level is outlined in Appendix D and explained below.

Sequence of Steps in Implementation

To date, two critical activities have taken place:

A. Linkages with key government and NGOs have been established, and a team of seven trainers is established.
B. A survey of 300 water points has been conducted and additional water points will also be studied to determine yield and adequacy for the particular population.

The following is a sequence of activities which integrate these important achievements.

1. Working with communities where the water survey has been completed, such as in the zone of Manga, the results of the survey are communicated to the IEC coordinator: whether or not there is sufficient water yield and what (if any) rehabilitation/construction will be taking place.
2. The IEC coordinator or her staff of trainers then meets with the secretary of the bairro to explain what will be happening in their community and if they are interested in these activities. (The HWS team has clearly decided that if responses from community representatives are not forthcoming, this will be taken to mean that neighborhood groups are saying "no". Where this happens, project activities will not move forward and the next community will be addressed.)
3. The secretary of the bairro or other appropriate leader organizes a community-wide meeting.
4. IEC staff member meets with the community representatives and project committees are selected. These committees include: members of the finance committee, operations and maintenance committee, management committee and health committee. As latrine construction becomes more central to the project activities, then a latrine construction committee is formed.
5. After the committees are formed, the technical coordinator and the health coordinator meet with each of the committees.

Sequence of Steps in Implementation cont...

6. The water committees discuss their roles and responsibilities, after which they are given sufficient time to decide whether or not they wish to make an investment of time and resources to participate in their community's public health activities.
7. If they wish to participate, then the health, water, and sanitation committees are formed.
8. As the technical activities of construction/rehabilitation are taking place, community members are encouraged to join the construction crews to learn how this is getting done.
9. The technical committee at this point is responsible for coordination of construction activities, specifically in providing construction materials and labor.
10. While construction activities are in progress, the health and sanitation committees are being trained, and a community-based health agent is selected and becomes the focal point of communication between the neighborhood and project health activities.

As the excitement of the construction of the water point recedes into the background, the health and sanitation committees become the focal point for training and for community actions.

1. These health and sanitation activities include mapping out their communities.
2. With the help of project staff:
   a. the clustering of illnesses is identified,
   b. the related high-risk behaviors are determined, and
   c. the implementation of public health communications strategy begins.
3. The community level extension/coordinator learns how to use a monitoring tool to monitor household-level behaviors.
4. She reviews the monitoring tool with the project trainers and communicates on a monthly basis with the *health post*. If, in the process of monitoring behavior, she notes any new symptoms occurring in the neighborhoods, she communicates these symptoms to the *health post*.
5. Community-based diagnostic tools can be introduced in this process. New appropriate technologies for community-based monitoring of fecal coliform in water, pesticides in water, fecal content in prepared market foods, and diagnostic tools for confirming cholera are now available and can be used by the neighborhood extension staff for monitoring. The results will be communicated to the health post.

2.8 Identifying Baseline Indicators

Determining baseline indicators for the HWS project will use a process developed in a number of WASH technical assistance assignments and now adapted for assessing the impact of environmental health conditions in peri-urban contexts. Locally-based Demand (LBD) is a process to identify the demand for services at the local level and the reasons for the demand

(or lack there of).[1] The LBD process for determining the baseline indicators in the HWS project will be innovative, reality-based, and participatory and will contribute directly to the implementation of effective health education.

The process is innovative because it will be a departure from the usual way that indicators are determined. This new approach allows those experiencing the impacts of poor environmental health conditions to speak for themselves and to define those impacts. In other words, those living under peri-urban conditions are recognized as the ultimate experts in defining the baseline indicators.

The process is reality-based because people rarely see their situation in terms of one impact from one disease. Yet, implementing agencies often see the critical indicators as those leading to reductions of a particular disease.

While single intervention/single indicator/single impact cycles might work well where the intervention is meant to impact on only one area of a person's condition (as is the classical case with ORT and diarrheal dehydration), this approach to determining indicators does not work very well in broad-based public health interventions such as those used to address peri-urban environmental health conditions. For example, effective strategies for solid waste will affect the reduction of breeding grounds for malaria, dengue, and a multitude of other diseases carried by vectors such as rats, cockroaches, and hookworms.

The question always arises as to which hygiene behaviors should be used to assess the ultimate impacts of an intervention. Clearly, in broad-based public health interventions the benefits are the reduction of a number of diseases and therefore the indicators from a pollution source are likely to be seen as a number of symptoms. There might be a number of reasons and causes (behaviors) for a disease. For example, in cholera, is it the water-related behavior or sanitation or food? The selection of which behavior has greatest impact needs to be consciously and clearly determined.

A methodology that involves people in the selection of indicators will be an important first step for ensuring sustainable actions at the bairro level. In such a case, individuals are able to see that their conditions are improving through their own actions, and that the indicators are meaningful to them. Implementation of the LBD process requires a high degree of skill and

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[1] LBD approach to determining baseline indicators had been used in Nigeria with dracunculiasis (guinea worm disease). Whereas national statistics for taking action to prevent guinea worm disease focused primarily on macro level statistics, indicators collected at the local level provided indicators showing a much broader burden of the disease. Women discussed the loss of capital for trading, the inability to take children for vaccination, inability to leave their dwelling to defecate therefore voluntarily curtailing food intake. This information not only provided indicators that are broader in range, but also provided indicators that are the motivating factors for taking action. (See WASH report and articles in Health Policy and Planning, Tropical Pediatrics, Social and Medicine).

Similarly in Quito, Ecuador, environmental risk assessment utilized the same methodology in peri-urban contexts. Here women identified bladder infections as resulting from the lack of access to sanitation facilities in the market place. This was an important indicator for what has meaning for the market women as well as providing clear motivation for them to pay for and maintain latrines.

experience in interviewing for qualitative data as well as knowledge of public health to link those qualitative indicators to the project's ultimate impacts.

Methodology for Developing Baseline Indicators, Using the LBD Process

1. Using the initial survey data, representative zones will be selected reflecting some of the basic characteristics such as Beira natives, migrants, users of various water sources, central zones, and more peri-urban zones.

2. Focus groups of working women, men, and children will be organized.

3. Focus groups will elicit information on symptoms people attribute to the different environmental health conditions they encounter daily at home and work.

4. The consequences of each of the symptoms will be elicited from the focus groups. For example, "stomach pains" will be accompanied by "feeling too tired to go to school" or "feeling too sleepy in the school." A mother might note that she buys various medications from traditional health providers, the amount of money she pays for the consultation and medications, the time it takes her to do this, and the opportunity-cost of missing income from her market activities.

5. One or at most two individuals will be selected from each focus group for an hour-long interview and spot observations around the household. The interviews will review the areas discussed in the focus group and possibly add others, such as disfigurement caused by skin diseases and social isolation that might result from such disfigurement.

6. The list of impacts from symptoms will be compiled and reviewed with the focus groups as to how it will be used in programming.

These baseline indicators will encompass the social and the economic burdens of health conditions attributed to current environmental health conditions. They also provide the motivating factors for taking action and sustaining it at the bairro level.

Chapter 3

OUTLINE OF PROPOSED ACTIVITIES AND WORKSHOPS

3.1 Rationale for Health Behavior Focus

As noted in earlier sections, the provision of infrastructure alone has not resulted in health benefits. One important reason, as noted above, is that sanitation plays a very important role and needs more attention. Another reason is that often water and sanitation projects do not allocate adequate resources (time, training, and careful data analysis) to understanding individual and community behavior that affects people's use of the facilities provided.

Sanitation projects have tended to focus on the number of latrines built, without adequate consideration of how human fecal matter is disposed of. (In particular, in many cultures, feces of infants and children are considered harmless.) Other areas, such as personal and household hygiene, food handling and protection of water sources in the home and at the source, all determine whether access to facilities gets translated to improved health.

3.2 Stakeholder Participation

The major activities outlined here aim to provide the necessary support for the public health and hygiene aspects of the project. Although the areas identified aim to strengthen specific skills to meet the project's overall objectives, the design and sequencing of the activities is such that organizational capabilities of Africare staff and partner institutions in Beira water, sanitation, and health sectors are increased to ensure the sustainability of Africare's efforts. This objective is met in the participatory mechanisms used in the activities themselves, their sequencing, and the end products resulting from them.

One strategy is to bring in a wider circle of stakeholders with whom Africare can develop a continuous relationship and hands-on training. Such a circle of stakeholders has already been identified by the project staff:

- Each of the collaborating government institutions and partner organizations in both the Beira municipality and at the provincial level have provided a staff person to become part of the core trainers.
- Africare will develop a mentoring relationship with one or two local NGOs whose staff will be trained with the current core trainers. Kulima is one such NGO.
- Information-sharing and meetings with sectoral provincial decision-makers will occur when appropriate for facilitated working sessions.
- Community-level action plans will be developed in support of the TOT teams and the local neighborhood-level organizations.

Thus, by the end of the HWS project, a cadre of trainers, both from government and national/local NGOs, will be able to continue the process established by Africare.

3.3 Objectives of Tasks

The sequencing and pacing of activities allows Africare staff the time necessary to step back and review the effectiveness of its activities, developing a renewed level of energy to continue its activities. These activities should include:

- Integration of both the technical, i.e., hardware installation, and the human behavioral aspects will be constantly reviewed, revised, and strengthened.
- Methodologies and processes are designed to assure that local communities can monitor their own health practices. Such processes require continual acquiring of new skills and practicing of those skills so that institutionalization can be realized.
- The approach for capacity-building used in these activities will also meet national objectives—to move away from emergency assistance toward a focus on development processes.

3.4 Tasks to Be Carried Out

3.4.1 Neighborhood Mapping and Health Education Workshop

Training of Trainers. A team of seven trainers drawn from the various partner organizations involved in health, water, and sanitation have been seconded to the HWS project and have recently completed their training in basic community-based health education skills.

Epidemiological Mapping. The initial study by the Africare team identified the peri-urban communities in Beira with the highest disease prevalence and the most adverse public health conditions. The neighborhood of Manga is the first peri-urban area in which Africare interventions, both technical and institutional, will be implemented. Mapping will begin there.

The purpose of the epidemiological mapping is to begin identifying specific diseases and develop an effective package of interventions that include specific technologies and messages. Neighborhood epidemiological maps will identify individual households, the water source used, food vendors or markets, and the proximity to school, church, main road, defecation sites, and streams. These maps tend to provide an important participatory tool for community members to define their common and shared resources and areas. Neighborhood mapping also leads to a better understanding by the Africare team of the self-definitions of a particular community.

Disease Identification and Clustering. The second step in this task will involve carefully structured questions in selected neighborhood households (for example, a sample of a few

households might be selected for an apartment building). The purpose of this exercise is to determine disease prevalence by using questions about symptoms. The symptoms will then be used to determine the local categories of disease classification.

As an example, fevers tend to be a very broad category. Fevers with the same level of temperature will have a special local name, and the cause will be identified culturally. Fevers that fluctuate with extreme highs and lows might have their own name, with the causes attributed to specific cultural conditions. Fevers in young children might also have a particular name and perceived causality. These conditions and symptoms will need to be matched to medically determined disease categories, such as typhoid or malaria. In designing the health education materials, the local terms used by the community for specific types of fever will be used. The health education component will also need to acknowledge people's beliefs of causality and, where possible, relate preventive actions to the believed causality. In a similar vein, stomach ailments of all sorts, in adults and children, will need to be categorized.

The symptoms and diseases in biomedical categorization will be attributed to the households, and a clustering of specific diseases will be attempted. Through the mapping exercise, community people themselves will be able to see the impact of indiscriminate defecation behaviors on disease patterns of the neighborhood. The use of water from contaminated sources will also appear as a factor in disease incidence.

Health Education Workshop. The purpose of the workshop, as part of the development of the TOT team, will be:

- Training in field methods for observation of household and community health practices and
- Identifying the high risk behaviors directly responsible for a number of key diseases.

A format for continued collection of data on these behaviors will be developed so that it is simple enough to be used by local community institutions. Finally, using the maps, the disease patterns, specific behaviors observed, and specific neighborhood conditions, a health education training manual will be developed for use by the TOT team in communities. A behavior monitoring format will be created for use in the local communities.

A one day workshop for high-level provincial decision-makers will be carried out to ensure their support for an effective communications strategy and enforcement of legislation regarding high-risk behaviors. Such a meeting would summarize the mapping, disease burden, observation of households, etc.

3.4.2 Workshop on Latrine Construction

Despite their importance to health, latrines (and sanitation programs) are often given less attention than water. One reason for this is the lack of local demand for them. However, the sequencing of activities here is intended to create demand for latrines by educating decision-makers and local communities about health consequences of indiscriminate defecation

behaviors. To meet this objective technical training on appropriate sanitation technologies will be required.

The purpose of the workshop is to train 20-25 key government and local NGO staff, especially *Latrinas Melhoradas*, along with the TOT and construction team of Africare, in the adaptation of latrine construction to local realities. Participants in this workshop will use the mapping and disease data described above, and will learn to collect data on willingness and ability to pay and on specific defecation practices (such as the use of water for cleaning among Moslems and childrens' fear of dark pits). This information will then be used in adaptation of the basic VIP latrine and other sanitation technologies for local conditions.

The workshop will be about 10 days long, culminating in a one-day workshop for high-level decision-makers. The end product will be a manual on latrine construction for use by trainees in their work with local neighborhoods in peri- urban Beira.

Somewhat less urgent, but nonetheless important, will be a second workshop to train the same group as above. The focus of this workshop will be household-level latrine technologies for crowded peri-urban situations. The end product from this workshop will be a plan of action put into a proposal format.

3.4.3 Health Information System

A community health information system will be a summary of the effectiveness of activities described in Sections 3.4.1 and 3.4.2. By mid-1995, the processes put into motion will hopefully be in place: appropriate designs for latrines, health education strategies using mass media, and community-based behavior monitoring. The objectives of a community-based health information system will be:

- Linking neighborhood-level behaviors and mortality and morbidity reductions in the specific disease prevalence identified in the epidemiological mapping.
- Assessment of existing mortality and morbidity data basis.
- Data collection processes (from the community level to the most appropriate governmental level) to ensure continued monitoring of the interventions.

Implementation of the health information system will be done through on-the-job training by Africare staff. It will also be followed up with a design for a modified workshop for the TOT team and local NGOs. A presentation, with linkages to provincial decision-makers, will be made and the monitoring of this data system will be continued by their staff.

3.5 Developing New Indicators

The HWS project indicators can be measured at three levels:

- Physical or "efficiency" level (operations of the project)

  This level consists of the immediate or direct consequences of the project, defined quantitatively in terms of number of trainers trained, number of committees formed and trained, technical workshops conducted, project meetings with policy-makers, water systems rehabilitated, latrines built, water tanks produced, health posts rehabilitated, health education materials produced.

- Behavioral level (performance)

  This level will need the most careful delineation. Questions asked at this level focus primarily around use of the inputs. How have people's behaviors changed? What kinds of committees and local capabilities have been established to maintain the facilities and ensure their proper use? The content of this level will be process skills leading towards changed behavior.

- Impact level (consequences of the project)

  The HWS project places a great deal of emphasis on developing a system for monitoring behaviors at the community level. Neighborhood-level monitoring is done by the community extension worker who will be using the map developed with clustering of diseases. A monitoring chart will be designed with pictorial or representative symbols. Those households being monitored over a period of months will be described in relation to hygiene behavior. Specific households needing greater attention can then be targeted to determine the reasons for their lack of practice of the behavior.

Although still in the experimental stage, diagnostic tools can be used by the health and sanitation committees to note fecal coliforms exceeding a certain level in the water and in prepared foods from the markets. These diagnostic tools can be used to test for cholera cases. The health post will perform a regular monthly review of information and follow up on any unusual findings.

"Impact" level indicators are reductions in the high-risk behaviors which contribute to incidence of diseases identified at the community level. However, the HWS project will not limit itself to mortality and morbidity surveillance data alone, because sometimes disease patterns may reflect recent migration rather than actions taken or not taken by the project. For this reason, the impact indicators will be based on the indicators which community people themselves have identified as the debilitating forces of specific symptoms. Because the motivation to address specific symptoms will become apparent from early investigation, these indicators will provide the broader-based impacts that go beyond mortality or morbidity. Such impact indicators might include:

- Time saved by mothers by not having to tend ill family members.

- School days not missed due to illness (i.e., improved attendance).
- Money saved at the household level by not having to pay for consultation fees and medications of traditional and formal health-care providers.

Other impact indicators will be determined in the course of discussions with neighborhood focus groups.

Benefits which are also the direct result of HWS project and which will provide a very important contribution to the health, water, and sanitation sector of Beira will include:

- Classification of symptoms by local names and their bio-medical names
- Neighborhood-level monitoring of communicable diseases
- Provincial and municipality-level staff with better understanding of public sector role in policy formulation and legislation in support of local efforts to improve sanitation.
- More donors and NGOs involved in household-level sanitation.

In conclusion, as indicated in the section on the identification of baseline indicators, the approach is one of demand rather than need. The HWS project uses the process of locally-based demand to judge and guide the very decisions about which actions to undertake. The interventions themselves are meant to satisfy "locally-based demand." And demand is not interpreted narrowly. Success is evaluated not only on the basis of quantified measures of outputs, but on qualitative evaluations of the processes that are brought into people's lives as a result of the project interventions. The framework outlined here is a dynamic framework when compared to the traditional approaches of cause and effect as perceived in western thought.

Chapter 4

RECOMMENDATIONS

4.1 Targets

Targets in the 1993 grant agreement will need to be reduced, based upon the speed with which operations, maintenance, and financial committees can be trained to assume responsibilities.

4.2 Development of Baseline Indicators

To develop sound indicators, a technical assistance input is recommended to help determine locally-based demands. One consultant is needed to work with project coordinators and appropriate counterparts to determine how best to organize and work with focus groups, which in turn will help determine a broader range of indicators appropriate to the Beira peri-urban setting.

4.3 Health Education

A workshop on the identification/monitoring/documentation of high-risk behaviors is required for the Africare team to understand the specific types of behaviors leading to health, water, and sanitation problems within Beira. This should be followed by a communications strategy aimed at addressing the identified high-risk behaviors.

4.4 Epidemiological Mapping

A workshop on how to implement a system of epidemiological mapping would follow the physical mapping of the various bairros currently identified to be within the project area. This would include the identification of diseases within each area, to cluster specific problem areas which can then be addressed at the local level.

4.5 Latrine Construction Technologies

This workshop would address the "sanitation gaps" presently existing in the project. Consultants will discuss the current state of latrine technology globally and advise what types of technologies might be most appropriate to the Beira physical and sociological setting. One workshop would address the appropriate technologies for schools and similar institutions, while another would address the most appropriate technologies for households. *Latrinas Melhoradas*,

with whom Africare has already established a working relationship, would be advised of and invited to all activities related to latrine technology.

4.6 Health Information Management System

This technical assistance would specifically address the need for indicator documentation for Africare staff and counterparts to learn recording techniques appropriate to the information gathered by local and government sources.

4.7 Monthly HWS Team Meetings

It is recommended that the entire HWS team meet a minimum of once a month to address what tasks each member has done towards fulfilling the stated Africare/HWS vision; and to review how the team has integrated/should integrate those tasks towards this vision.

4.8 Beira Health Posts

Health posts are seen as important resource centers not only for primary health care and health education information, but also for the pivotal role they can play in community development and public health improvement. In conjunction with the appropriate city/provincial health officials, Africare should survey the status of each community health post and compile a list of recommendations for rehabilitation and/or equipping each. These recommendations should then be submitted to USAID in proposal form for future funding consideration.

4.9 Local Demand for Latrines

After the workshop on latrine technologies, Africare should work closely with *Latrinas Melhoradas* to investigate ways in which local demand for latrines might be created.

Appendix A

Individuals Contacted

USAID

Peter Argo	Engineer Officer - USAID/Maputo
Sidney Bliss	Project Development Office, USAID
Bob Braden	REDSO/ESA Engineer
Ralph Coleman	Africare
Robin Mason	PVO
Cheryl McCarthy	Program Officer
Sue Nelson	Project Manager, PVO
Caseiro Rocha	HPN
Mary Schwarz	Water and Sanitation, PVO

Appendix B

Revised Budget Amounts for Africare/USAID

Line Items:

1) Health Education/Behavior Identification Workshop

   20 participants x $25.00/day x 10 days = $5,000

2) Schools Latrine Technology Workshop

   20 participants x $25.00/day x 10 days = $5,000

3) Household Latrine Technology Workshop

   20 participants x $25.00/day x 10 days = $5,000

4) Health Information Management System Workshop

   10 participants x $25.00/day x 10 days = $2,500

5) IEC Materials

   Various types of educational materials directly related to the above workshops and to community development, including publications, subscriptions, duplicating, printing, health post resource materials, etc. = $12,000

6) Compensation for Community Organizers/Trainers

   10 Organizers x $900.00/year x 1.5 years = $13,500

7) Transportation for Organizers

   10 bicycles x $250/bicycle = $2,500

8) Salary Adjustment for Water Construction Team

   15 Workers x $50/mo x 12 months = $9,000

9) Beira Health Post Rehabilitation

   10 health posts x $2,000/post = $20,000

10) Diagnostic Tools

    Diagnostic tools for bairro extension staff/health posts to monitor cholera and fecal chloroforms = $45,000

Appendix C

Proposed Work Schedule

Quarter 1 (January-March 1994)

A team of seven trainers in place

Committee in Manga has been established

Contacts with provincial government and Renamo

Supervise Health Post project assistant

TOT for Manga teams

Training the community (the 2nd quarter)

Contacts with Chibabava district and Goonda administration and Renamo

Contacts with Beira city government

Investigating the next area

Implement vehicle maintenance system

Establish and monitor inventory for construction materials/vehicles

Health education workshop

Establish TOT team, define roles with committees in Manga

Weekly reports

Supervise the TOT team mapping Manga area

Supervising government team in coordinating activities for water sanitation in urban/peri-urban areas of Beira

Develop training materials for TOT workshop

Train TOT team

Assisting IEC assistant coordinator, in-service training

Assist in translation of letters, documents

Organize logistics for the material and equipment

Participate in meetings, seminars regarding the project

Make graphics for training and public education purposes

Organize file for all publicity regarding project

Procure inputs

Machanga field trip

Borewell involvement

Construct first elevated tank

Latrinas Melhoradas course

Off-load Equipment

Quarter 2 (April-June 1994)

Connect Africare game plan to Maputo

Seek funding for further health, water, and sanitation projects (e.g. Health Post's)

Improve computer operating skills/data collection

Supervise Health Posts construction and sanitation education teams in Chibabava

Food for work in Chibabava

Participation on coordination meeting with city council

Meet with small groups of villagers for discussion on concrete issues

Ensure planned water activities accompanied by community- education participation

Meet with village elders and Chibabava

Ensure necessary documentation (e.g. written agreements)

Design ventilation system for incorporating into *Latrinas Melhoradas* design

Acquire hand-drilling tool for simple latrines in Chibabava

Select 200 best well sites, meet with owners

Continue and complete wells survey

Create archive of graphics

Organization of publication of project phases, share with Africare and NGO's

Quarter 3 (July-September 1994)

Logistic Health Project

Construct 16 latrines at public schools

Construct WST's(?) (AdB) at Fontenarios, train AdB staff

Train teachers, education of students in behavior change on utilization of latrine and good hygiene in Chibabava

Health post equipment

Meet with directors staff of 46 public schools and committees

Quarter 4 (October-December 1994)

Evaluating health/sanitation conditions mapping

Evaluating health technicians work

Managing computer analysis program

Epidemiological mapping in the area of the project of Chibabava

Ten committees trained

Form water committees (guards, user fee committees)

Construct WSTS, rehabilitate wells

Renovate water system at institutions industrial commercial of Beira, including training of students and construction of latrine

Construct ten latrines (10-12 units each at all public schools)

Quarter 5 (January-March 1995)

Training, teaching

Twenty latrines at public schools

Assess environmental impact for each component

Form water committees and construct WST's, rehabilitate wells

Construct ten WST's at Fontenarios

Ten committees trained

Quarter 6 (April-June 1995)

Develop health information system

Continue training the community on each quarter

Form water committee and construct WSTS, rehabilitate wells

Ten committees trained

Quarter 7 (July-September 1995)

Form committees

Twenty latrines in schools

Water committee WSTS, rehabilitate wells

Ten committees trained

Quarter 8 (October-December 1995)

Get to know the areas before the other intervention can come into the area

Ten committees trained

Form committee WST, rehabilitate wells

Appendix D

SEQUENCE OF STEPS

1	*SURVEY OF WELLS IN COMMUNITY*	
2	*RESULTS OF SURVEY COMMUNICATED TO IEC*	**LINKAGES AND ELICITING ACTIVE PARTICIPATION OF GOVERNEMENT AND OTHER NGO's**
3	IEC COORDINATOR MEETS WITH SECRETARY OF BAIRROS - PROJECT EXPLAINED	
4	SECRETARY OF BEIRA OR OTHER LEADER ORGANIZES COMMUNITY WIDE MEETING	
5	IEC COODINATOR MEETS WITH OTHER COMMUNITY REPRESENTATIVES PROJECT COMMITTEES	**TOT TEAM TRAINED AS TRAINERS**
6	MEMBERS FOR COMMITTEES SELECTED	
7	*TECHNICAL COORDINATOR AND HEALTH COORDINATOR MEET WITH COMMITTEES INDIVIDUALLY*	**COMMUNITY AGENTS TRAINED BY TOT TEAM**
8	WATER COMMITTEES DISCUSS ROLES AND RESPONSIBILITIES COMMUNICATE AGREEMENT TO TECHNICAL COORDINATOR	
9	HEALTH AND SANITATION COMMITTEES FORMED	
10	*TECHNICAL TEAM IMPLEMENTS WATER SYSTEM MATERIALS, LABORS, TRAINING BY TECHNICAL TEAM*	**IEC COORDINATOR TRAINS TOT TEAM IN MAPPING**
11	HEALTH AND SANITATION COMMITTEES ARE TRAINED IN COMMUNITY SANITATION AND HEALTH BY COMMUNITY HEALTH AGENTS	**HEALTH + IEC COORDINATORS + TOT TEAMS CONDUCT SYMPTOM DISEASE IDENTIFICATION**
12	HEALTH AND SANITATION COMMITTES MAP OUT THEIR NEIGHBORHOOD	
	WORKSHOP IN HEALTH AND EDUCATION FIELD METHODS FOR IDENTIFING HIGH RISK BEHAVIOR	
13	EPIDEMIOLOGIC MAPPING AT BEIRA LEVEL	**TRAINING IN HIGH RISK BEHAVIOR**
14	IDENTIFICATION OF HIGH RISK BEHAVIOR	
15	**TRAINING IN MONITORING BEHAVIOR BASED HEALTH EDUCATION**	
16	**IMPLEMENTING COMMUNITY HEALTH STRATEGY**	
17	**MONITORING IMPACT AT HEALTH POST**	

Appendix E

ACCOMPLISHMENTS

The first task which the team conducted during the first meeting was a list of the accomplishments of each of the team members. After the team member completed their accomplishments to date, the rest of the team added the areas which the team as whole felt the individual team member is contributing . The following were selected from the longer list transcribed from the flip charts recording the outcomes of this specific exercise:

Ric:

1. In Beira, making contacts with major actors in health, water and sanitation areas.
2. Getting to know Africare/ Beira team and their strengths, especially flexibility in the face of the constantly changing demands.

(Team's contribution)

3. Helped in pulling and holding the team together in collaborative work style which team members appreciate very much.
4. Trouble shooter, problem solver and facilitator- "doesn't pass the buck".
5. Helped define and support team members roles and responsibilities on WHS Project.

Claude:

1. In Chibabava, made contacts with the local administration and with its staff, and the existing health team in the district.
2. Conducted field visits to better understand the health structure.
3. Supervised the rehabilitation of health post in Goonda.
4. Developed a collaborative working relationship with government, with the current political structure and with RENAMO.
5. Getting settled in Chibabava and selecting Goonda as the center of operations.
6. Meeting with local stakeholders and with the communities so as to facilitate the upcoming project activities.
7. Selection of project assistant with a great deal of initiative

as well as the needed skills.
8. Making of blocks and the supervision of the house and rehabilitation of the warehouse.
9. In Beira, teaming with Arminda, and assisting in the survey, its analysis, and in meetings with government. In Manga-Mascarenhas, peri-urban neighborhood of Beira, organized a representative committee following extensive meetings with community people.
10. Submitted requests for the equipping of the health posts so as to ensure government contributions to Chibabava health posts.
Addition from the rest of the team:
11. Redesigned-- expanded and clarified scope of work for Chibabava activities.

David:
1. Provides the needed assistance where ever there is a gap in the project: translations from Portuguese, graphics, design of public exhibits, "scribe" of all meetings and the reporting of the meetings.
From the team:
4. A great troubleshooter, especially with government legal and bureaucratic issues. A real problem solver.
5. Adviser to the team on culture and language skills in all contexts - work and other areas.
6. David has been here for a long time. He has had to overcome many personal constraints in redefining his role. He has succeeded in making transition from his previous activities in Africare to his current role.
7. Formal documentalist of the HWS project.

Arminda:
Phase I Nov- Dec 93:
1. Made contacts with Beira government, specifically with those in water health and sanitaion.
2. Identified a team from government (decision makers) with whom to work on a daily basis.

3. Established the IEC component and shared scope of work with decision making team from the government.
4. Developed a sufficient level of trust with the government that it provided a group to become TOT (trainers of trainers) for the project.
5. Trained enumerators for the baseline survey.
6. Implemented baseline, analyzed results and reviewed baseline results with decision makers.
Phase II:Jan 94.
7. Identified team to work at the community level, including the executive city council president (mayor).
8. Nominated by executive city council president (mayor) to act as chair of all the city's sanitation activities.
9. Developed a second work plan to form water committees, health committees and sanitation committees. This was done following the identification of specific site in which to begin project activities.
10. With TOT team, organized work sites.
11. Local level committees nominated local extension agents.
12. Completed TOT training for core team who are now ready to train extension agents.
13. Ensured that extension agents include local women- mothers and traditional birth attendents.
14. Developed materials for training.
From team members:
15. Worked with entire team to develop and budget IEC component.
16. Uses her abilities to communicate and inspire people from all walks of life.
17. Provides an important role model for women, especially at community level.

John:
Phase 1 - Feb 93 to Nov. 93.
1. Designed, wrote and submitted HWS project including budget, materials etc.

2. Adjusted project to USAID's requests.
3. Secured housing, office space and warehouses.
4. Conducted procurement and bid analysis for procurement.
5. Followed up and finalized procurement process.
6. Conducted surveys of over 300 wells with more in progress.
7. Set up vehicles maintenance system.
8. Interviewed/hired construction crews and an assistant "real star".
9. Oriented three government agencies (C&A, ADB, and LM) to obtain their approval and define their roles in the project.
10. Toured and met with six school directors and teachers to inform and define latrine component of HWS project.
11. Learned technical words for construction techniques, methods and materials.
12. Redesigned water component for Chibabava.
13. Monitored and supervised the warehouse and office renovations.
14. Constructed a water tank for office.
15. Conducted procurement for the project (still in progress).
16. Oriented Manga Mascharenhas water and sanitation committees : assisted them in defining their roles.

Team additions:

17. Helped introduce Africare to Beira. Presence and personality helped pave the way. Did homework in orienting team members.
18. Took on role of solving technical problems for the team.
19. Has taken on tasks that are beyond job description to help facilitate/meet overall project objectives.

Overall comments and observations from the team:

1. Team members would like to continue this reflective process on a regular basis.
2. The World Water Day was a clear recognition that Africare is recognized as a key player in the water sector of Beira. While various donners emphasized the high tech aspects of their projects, Africare's clearly centered around people and the utilization of the infrastructure by people so as to improve their health. David's efforts in this exhibit clearly showed his role as an integral member of the HWS team.

MAPA DA CIDADE DA BEIRA