

XD-AAZ-712-A

62274

MIDTERM EVALUATION OF THE RURAL WATER BORNE
DISEASE CONTROL PROJECT EXTENSION
(1896-1989)

SWAZILAND

DECEMBER, 1988

EVALUATION TEAM:

CHARLES G. CHANDLER
CARLOS E. CROWE
ANITA HENWOOD
RICHARD M. MAMBA

THE PRIMA
CORPORATION

16 EAST BROAD STREET
FALLS CHURCH, VA 22046

TABLE OF CONTENTS

	<u>PAGE</u>
LIST OF ACRONYMS.....	ii
EXECUTIVE SUMMARY.....	1
1. INTRODUCTION.....	2
2. PROJECT OBJECTIVES.....	3
3. PROJECT INPUTS.....	3
4. PLANNED PROJECT OUTPUTS.....	5
5. MAJOR FINDINGS.....	5
6. RECOMMENDATIONS.....	20
ANNEXES.....	23

LIST OF ACRONYMS

A.I.D.	Agency for International Development
BC	Bilharzia Control
BCU	Bilharzia Control Unit
CDO	Community Development Officer
CEP	Community Education and Participation
CCCD	Combatting Childhood Communicable Diseases
CSC	Council of Swaziland Churches
CTA	Central Transport Administration
DDC	Diarrheal Disease Control
EE	Emanti Esive
EEC	European Economic Community
EH	Environmental Health
GOS	Government of Swaziland
GSM	Geological Survey and Mines
HEU	Health Education Unit
HI	Health Inspectorate
IBRD	International Bank for Reconstruction and Development (World Bank)
ID	Institutional Development
IDM	Institute of Development Management
MIS	Management Information System
MNRLUE	Ministry of Natural Resources, Land Utilization and Energy
MOH	Ministry of Health
MOU	Memorandum of Understanding
MP	Malaria Program

NGO	Nongovernmental Organization
O&M	Operations and Maintenance
OPG	Operations Program Grant
PACD	Project Assistance Completion Date
PHC	Primary Health Care
PHE	Public Health Engineer
PHEA	Public Health Engineering Advisor
PHEO	Public Health Engineering Office
REDSO	Regional Economic Development Services Office/ USAID/Nairobi
RWSB	Rural Water Supply Board
RWBDCP	Rural Water Borne Disease Control Project
TA	Technical Assistance
TSG	Technical Sub Group
UNDP	United Nations Development Program
USAID	Country Mission of the United States Agency for International Development
WASH	Water and Sanitation for Health
WSB	Water and Sewerage Board

EXECUTIVE SUMMARY

The Rural Water Borne Disease Control Project (RWBDCP), begun in 1979, originally focused primarily on bilharzia control efforts. By 1986, when the current three-year extension began, the Project concentrated almost exclusively on improvements in the rural water supply and sanitation subsector. The focus of this evaluation is only upon the Project's activities since approval of the extension in 1986.

||| The Project's efforts in rural water supply and sanitation were not primarily aimed at building more systems, although resources for construction efforts were present. Instead, the Project sought more qualitative goals such as institutional strengthening and the development and testing of basic concepts for the water and sanitation sector.

Major Findings

1. The Project has been a catalyst for sector concepts, but results lag in the field (Section 5.1).
2. Nongovernmental Organizations (NGO) differ from the Rural Water Supply Board (RWSB), both in concepts and field work (Section 5.2).
3. The Health Education Unit's (HEU) concept is not in line with project assumptions, and gives the Project minimal support (Section 5.3).
4. Both for implementation and follow-up, the Project relies upon the continued availability of a few key people (Section 5.4).
5. More flexibility is needed in the Ministry of Health (MOH) to achieve full partnership in the sector (Section 5.5).
6. To achieve health impact, the sector must move beyond "coverage" to achieve "functioning" and "utilization" by opening up the decision making process to communities (Section 5.6).
7. More emphasis is needed on programs which provide support to communities after Project construction (Section 5.7).

Certain key activities are recommended for emphasis in the remaining months of the Project (Section 5.8). The 14 recommendations of Section 6 are an outgrowth of the evaluation as a whole.

1. INTRODUCTION

1.1. Evaluation Team and Methodology

The mid-term evaluation for the Rural Water Borne Disease Control Project (Extension) was conducted by a four-member evaluation team. Dr. Charles G. Chandler, the team leader, was supplied by The Pragma Corporation (USA) under an IQC contract with the United States Agency for International Development (USAID); Mr. Carlos E. Crowe from Regional Economic Development Services Office (REDSO)/Nairobi served as the engineering specialist; Mr. Richard M. Mamba was provided by the MOH to serve as the health and sanitation specialist; and Ms. Anita Henwood from USAID/Swaziland served as the health education/community development specialist.

The evaluation team worked three weeks in Swaziland, from October 31 to November 19, 1988, to accomplish its mission. Prior to arrival, the team leader spent three days in Washington reviewing project documents, meeting with A.I.D./Washington staff, and visiting the Water and Sanitation for Health (WASH) Project. The team accomplished its mission in Swaziland by reviewing relevant documents, conducting field visits at selected sites in the four regions of Swaziland, and interviewing personnel from host country implementing agencies, USAID, and beneficiaries from selected communities (see Annex I for persons contacted and sites visited). The ideas expressed in the report were developed by the evaluation team as a whole, and reflect comments made by other individuals from government, USAID, and NGOs which reviewed the draft report.

1.2. The Project

When it was begun in 1979, the Rural Water Borne Disease Control Project focused primarily on bilharzia control efforts. However, as a result of the cholera outbreak of 1982, and the Government of Swaziland's (GOS) subsequent elevation of diarrheal disease control efforts to a high priority, Project activities were re-oriented. By 1986, when the current three-year extension began, the Project was concentrating almost exclusively on improvements in the rural water supply and sanitation subsector. The focus of this evaluation is only upon the Project's efforts since approval of the extension in 1986.

Although it is sometimes unclear to outsiders, the Project's efforts in rural water supply and sanitation were not primarily designed as an attempt to build more systems, although resources were present for construction efforts. Instead, the Project sought more qualitative goals such as institutional strengthening and the development and testing of basic concepts for the water and sanitation sector. When compared with the remaining resource needs for rural water supply and sanitation in

Swaziland, the construction inputs were relatively small. The Project was a timely effort to strengthen sector institutions responsible for rural water supply and sanitation.

2. PROJECT OBJECTIVES

The Project objectives were stated in the 1986 Project Paper Amendment as follows:

- 1) To assist the GOS in attaining full capacity of the RWSB activities
- 2) To strengthen the linkages between RWSB and the MOH in coordinating water supply construction, community development, health education and sanitation efforts
- 3) To assist the GOS in long-range planning of all activities in the water and sanitation sector.

The Project can best be understood, together with its various components, in light of the sector context. The sector planning activities facilitated by WASH consultants in 1986, provided a framework concept that the Project could help implement. The subsequent two-year Action Plan was a GOS initiative for which the Project could supply inputs. At the beginning of the Project extension (1986), and for the first time, GOS could boast of a sectoral development plan for water supply and sanitation. The sector context, in fact, provided strong building blocks for the Project's success.

In 1986, a small grant of \$200,000 was given to RWSB to demonstrate its construction capabilities. The implementation of eight water systems within a short time frame near the end of the previous phase proved that a deadline could be met. In addition, experiences from these activities highlighted the need for linkages with other agencies, particularly Health Inspectorate (HI), that were subsequently designed into the Project extension.

Based upon this initial success, \$2,000,000 became available for absorption within the Project in 1986. The mission chose to extend the RWBDCP with a new focus in rural water supply and sanitation. Thus the Project was given only three years to implement sector development objectives before facing the USAID 10-year life of project limitation. This limit is now less than one year away. The option of designing a new project to utilize these monies was not available.

3. PROJECT INPUTS

The inputs of USAID and the host country included:

- 1) Funds for the construction and rehabilitation of water systems and latrines
- 2) Long- and short-term technical assistance
- 3) Support for limited training and educational materials
- 4) The provision of some equipment and vehicles for the RWSB.

Generally, USAID and GOS inputs were appropriate, timely, and of high quality; however, the Project was hampered by pre-existing conditions, which were either not overcome or were overcome only after some delay.

Indicative of these pre-existing conditions were:

- 1) Cumbersome GOS administrative procedures that delayed Project activities (e.g., the process by which purchase order books are issued from the Ministry of Finance to GOS implementing agencies impedes the timely delivery of outputs).
- 2) Lack of transport at the HI regional level for construction activities.
- 3) Central Transport Administration's (CTA) inefficient system for maintenance and repair of vehicles contributed to transportation difficulties at HI; in addition, CTA's time-consuming procurement and delivery procedures for new vehicles funded under the Project contributed to construction delays at RWSB.
- 4) Personnel shortages and management problems at HI (e.g., latrine construction efforts began one year late, thus resulting in the necessity of constructing 3,000 latrines in two years rather than three years).
- 5) Low morale evident at the HI, since the proposal for official reorganization through the Civil Service Board has not been approved (thus the HI staff remain "acting" in their new positions at previous salary levels, having a direct effect on supervisory relationships).
- 6) Only after the first year of the project was an actual linkage implemented between MOH and RWSB for the well-timed construction of latrines prior to the implementation of a water supply scheme.
- 7) USAID's purchasing regulations and the cumbersome GOS procurement procedures resulted in a delay of

approximately one year in the actual usage of equipment and vehicle inputs for construction of water supply systems.

- 8) The inclusion of a formal working relationship with NGOs for the first time in an attempt to support additional actors in the sector has been, and continues to be, a learning experience for GOS, USAID and the NGOs.

4. PLANNED PROJECT OUTPUTS

Planned Project outputs, as described in the Project Paper, included the construction or rehabilitation of up to 78 water systems, the construction of up to 3,000 latrines, motivation and organization of communities through health education and community participation, the production of health education materials, limited training of personnel, and improved planning in the sector. The evaluation team felt that the Project Paper placed too great an emphasis on the quantitative outputs, although the Project's objectives (as noted above) focused more on qualitative measures such as institutional strengthening and sector planning. A reordering of the list of Project outputs (listing sector planning first, and construction activities last) would have brought the outputs more in line with the Project's objectives, thus emphasizing the need for long-term sustainability in the sector.

5. MAJOR FINDINGS

- 5.1. The Project has been a catalyst for sector concepts, but results lag in the field.

The outputs from the Project are most evident in terms of the further development and application of concepts and procedures for the sector. Sector concepts encompass the working relationships between agencies in support of local institutional development, operation and maintenance, community education and participation, human resources development and training, standards for appropriate technology and spare parts backup. At this time the conceptual framework for institutional development is more advanced than quantitative achievements in the field, such as the number of water systems and latrines completed. Institutional development takes time, and important benefits result from a focus in this area.

Future projects (such as the European Economic Community (EEC) Project which begins in 1989/90) will take advantage of the procedures and policies developed at RWSB and HI with support from this Project. Experience indicated, for example, that spare parts for all equipment being specified

needed to be locally available. This observation led to the development of construction standards to ease the maintenance burden.

With support from this Project, linkages envisaged among sector agencies by the 1986 Two-Year Action Plan have improved significantly. The Project strengthened the Public Health Engineering Office (PHEO) through training, technical and managerial support to the rural water quality laboratory. It established procedures for the unit, set up access to information, and linked units of government and the NGOs. Progress towards integration of environmental health into the overall Primary Health Care (PHC) program has been made through workshops aimed at generation of new ideas for coordination, although implementation of these concepts has lagged behind. The Bilharzia Control Unit (BCU) worked with the PHEO and the HI during 1987-88 to produce the first Schistosomiasis Control Strategy for each region of the country and a work plan for carrying it out. The Bilharzia Control Strategy and work plan have benefitted from a number of coordinated inputs from other ongoing projects such as PHC.

A unique working relationship was achieved by close coordination between RWSB and the Geological Surveys and Mines (GSM) so that test holes drilled by GSM could frequently serve as well sites for RWSB. In addition, wells drilled with Project support serve as additional test holes for GSM. The Project's drilling program was designed to run ahead of other activities in order to ascertain the reliability of the sources prior to community organization efforts and to check ground water sources against necessary quantity and quality standards. In the past, communities had been disappointed when well sources proved to be inadequate to meet their demands. It was anticipated that some proven well sites might remain unused at the end of the Project because test drilling was ahead of other activities. But follow-on projects (from other external support organizations or GOS) could take advantage of these.

Some additional positive signs have emerged in the sector as a result of the Project. These have included 1) More effective involvement of Community Development Officers (CDO) within RWSB in community mobilization; 2) The emergence of policies and standards for rural facilities; and 3) The development of rural water supply in tandem with sanitation through interagency coordination. RWSB has been successful in meeting the E100/per capita average cost for service as estimated in the Project Paper. In addition, the Project provided a stimulus for development of GOS's current three-year rolling planning process.

Rural water supply can be looked upon as a rare example of development in rural areas, as compared with a conspicuous number of projects benefitting urban residents. The RWSB believes that it has achieved considerable success in the last three years in rural water supply with USAID's support through the Project. In the Lowveld, for example, where traditional water sources are poor in terms of quantity and quality, community members seem to prefer water from the new facilities over their traditional sources. Water systems have been initiated in high risk Bilharzia areas because of the coordination and linkage between the BCU and the HI and Public Health Engineer (PHE).

Despite the qualitative successes mentioned above, quantitative outputs have lagged behind. Only 17 water systems were completed as of the end of October, 1988, although there were an additional 26 under construction and 43 for which designs have been completed. In latrine construction, 315 are complete with superstructures, while a total of 2,123 are in various stages of construction. Progress achieved toward meeting quantified Project outputs thus far is detailed in Annex II.

Annex III illustrates the potential payback of \$178,506 in unused funds at the end of the Project based upon an estimated number of system completions. However, if all planned activities are carried out (including the full drilling program of 100 boreholes), the Project will have \$76,024 remaining at the Project Assistance Completion Date (PACD), much of which results from favorable exchange rate adjustments since 1986. RWSB has indicated an awareness of this issue and is moving to ensure timely implementation of its work plan in order to utilize the remaining funds before the PACD.

5.2. NGOs differ from RWSB, both in concepts and field work.

Since the formal working relationship between NGOs, USAID, and GOS is a new venture, certain initial difficulties are to be expected. Some progress has been made in developing coordinated relationships; however, additional progress is needed. Some observed difficulties may have been avoided if consensus had been developed initially between the NGOs, RWSB and HI on the objectives, procedures and standards to be followed for work in the field. These differences can still be overcome through communication among the implementing agencies.

In general, NGO construction procedures have been lax compared to those of RWSB. Although Emanti Esive (EE) agreed to follow the standards set forth by RWSB for the

construction of water projects, evidence in the field indicates that they have not been rigidly followed. For example, standard accessories such as valve boxes, reservoir ladders, water level indicators and security gates with locks have often been lacking in completed systems. The Council of Swaziland Churches (CSC) has often had inadequate supervision in their construction process, as evidenced by the inability or unwillingness of some of their personnel to follow simple minimal standards specified by RWSB.

A strong conceptual base in tune with that of RWSB must be instilled in NGOs. The definition of community participation should not be viewed as only inputs of labor and money. The Project implementing organizations need to broaden their concept of community participation beyond a narrow one involving only inputs of labor and money. EE's concept of the construction process is at odds with RWSB's concept, since it (1) involves the use of a minimum amount of skilled labor and a maximum of unpaid community input (thus slowing the process) and (2) often lacks the provision of standard fittings and accessories as specified by RWSB, thus adversely influencing durability and serviceability (and RWSB's willingness to provide backup for major maintenance).

For the first time, and as a result of the Project, tripartite agreements for Project implementation were drawn up between USAID, GOS, and NGOs in order to insure that previously adopted guidelines and policies were carried out and to help to further the NGOs role in contributing to national development goals. Tripartite agreements attempted to ensure implementation of agreed policies. Experience in this Project would indicate that these agreements were not fully successful in achieving this end.

Without proper concepts, NGOs will not succeed. Without proper training or experience, NGOs such as CSC and EE have not been equipped to implement projects utilizing proper concepts. For RWSB to effectively work with the NGOs, communication must involve a two-way dialogue in order to arrive at agreement on procedures for working with communities and construction standards to be used. Recommendation 6.1 suggests corrective actions to ensure a strong conceptual base.

It is unlikely that the CSC will complete the original eight water schemes which were called for in the USAID Operations Program Grant (OPG). It is unlikely that the current rate of construction of systems by EE will allow completion of up to four by the PACD (as scheduled), since within the last nine months they have constructed only one and a half

schemes. The original determination by USAID that the CSC was qualified to carry out water systems of this type has been called into serious question based upon experience in the Project.

At CSC, a new project manager could facilitate CSC coordination. CSC has sometimes been reluctant to coordinate with government agencies, as demonstrated by past experience. In the absence of a qualified project manager at CSC to head this project, there is no one to ensure that proper concepts and procedures are followed and that staff supervision takes place as envisioned in the Memorandum of Understanding (MOU). Recommendations 6.1 and 6.4 suggest corrective action to strengthen CSC's capabilities in the construction of water systems.

- 5.3. HEU's concept is not in line with Project assumptions, and gives the Project minimal support.

The Project Paper assumed that the HEU would have prime responsibility for the development of health education materials in support of the subsector and for the training of field workers in their use. The Project's design can be faulted in this regard, since the HEU (under its present leadership) itself does not view its role in this way.

The HEU believes that agencies should formulate and then present their needs to the unit for collaborative action, since the unit is a "support unit" which uses three elements for implementation: Health Education materials, training, and mass media (radio). The support unit concept is generally in conflict with the Project's assumption that the HEU would take the lead in health education, instead of waiting for the Project to ask (or tell) them what to do. In recent years, the Project has received minimal support from the HEU. This is evident in the unit's lack of a workplan for utilization of the \$20,000 health education component which was part of the extension. Project-specific materials have not yet been produced.

The institutionalization of health education is just starting in this sector, although it was scheduled to be initiated at the start of this extension. The production of health materials in support of water and sanitation has not yet occurred. The demands placed upon the HEU have exceeded the ability of the unit to meet them, due to staffing constraints and the unit's perceived role as a support unit rather than an active and integrated part of the MOH.

Flip charts and other visual aids developed at the recent Health Education and Communication Support Workshop for

Water Supply and Sanitation (November, 1988) will serve an immediate need of field workers for support materials to use in community meetings. It is important that these materials be produced and distributed to the field level as soon as possible. Recommendation 6.6 focuses on this issue.

- 5.4. Both for implementation and follow-up, the Project relies upon the continued availability of a few key people.

The Project relies upon a few key people to carry on the concepts and procedures developed. This is not unusual in Swaziland, as most government agencies are small and are short of trained manpower. This is particularly evident at RWSB, HI, BCU, HEU, EE, and CSC, since current staffing arrangements are often strained by normal attrition and long-term staff training.

The effectiveness of the technical inputs of the Public Health Engineering Advisor (PHEA) has been excellent, and he has been a driving force for coordination, linkage, and planning among the various agencies involved. The expected training outputs noted in the Project Paper (its Annex B) from the PHEO have occurred as scheduled. The PHEA has stimulated these activities by maintaining continued dialogue. The conceptual framework advocated by the PHEA has been a stimulus for certain changes. However, there is an unavoidable gap between the return of the Public Health Engineer (PHE) (away for training) and the departure of the PHEA, whether or not he is extended past the current March 31, 1989 termination of his contract. Upon the departure of the experienced incumbent (funded under the Project), the same intensity of effort may not continue initially, since time may be required upon arrival of the newly trained PHE to regain the momentum currently enjoyed.

The PHEO is a collaborative effort between the MOH and the Ministry of Natural Resources, Land Utilization and Energy (MNRLUE), comprised of a PHE from RWSB and two health inspectors from HI. Currently, the PHE is away on long-term training, scheduled to return in November, 1989. The PHEA is now filling this position. Without the PHEA there is no available public health engineer from RWSB to fulfill the job requirements of this position. The two health inspectors seconded to the unit do not have the supervisory authority nor the public health engineering skills required to undertake all of the activities of the PHEO. Thus, without the extension of the PHEA for the last six months of the Project, this position will not be filled and the unit will falter. Only in the two years since the Project extension has the PHEA been charged with institutionalizing the role of the PHEO within the sector. The PHEA has made

As a result of the above considerations, it will be necessary for the MOH to implement more flexible policies if it is to achieve full partnership in the sector. A seminar for policy makers and directors of implementing units would be useful in order to explore the recommendations of this evaluation.

- 5.6. To achieve health impact the sector must move beyond "coverage" to achieve "functioning" and "utilization" by opening up the decision making process to communities.

In water supply and sanitation projects, success may be categorized into four stages--coverage, functioning, utilization, and impact. Although coverage is achieved when people have access to improved facilities, coverage does not imply that these facilities will function and be utilized after project completion. To move beyond coverage, a mixture of proper hardware (i.e., pumps, pipes, etc.) and software (i.e., training, community motivation, local institutional development, etc.) is required.

CDOs and HI have been critical to community involvement and understanding, as evidenced by the following observations:

- 1) Real health education in the field comes from CDOs and HI instead of the HEU.
- 2) The recruitment by EE of a qualified CDO has recently increased the effectiveness of community participation efforts in their on-going projects.
- 3) CDOs and HI personnel are having a positive effect in target villages by changing some people's attitudes towards disease transmission, as evidenced by their changed behavior (e.g., more boiling of water reported where sources are polluted, and an increase in latrine construction).
- 4) Lack of a CDO during construction of the Matfuntini system resulted in some misunderstanding regarding the intended use of the water from the new system (i.e., women believed it was not to be used for clothes washing).

The current training undertaken by Institute of Development Management (IDM) for CDOs and HI focuses on techniques for communication, management, project planning and finance management. This training is to strengthen the skills of the trainees in community motivation. But as it is in the initial stages, no assessment of its effectiveness can be made.

The quality of the final water system seems to be directly related to the openness of the decision making process with the community. Projects fail when they are perceived as belonging to government. To succeed, projects must be perceived as belonging to all. Thus the implementing agencies need to broaden their concept of community participation beyond a narrow one involving only inputs of labor and money. Instead, community participation is primarily concerned with the decision making process.

To achieve health benefits, rural water supply facilities (e.g., community taps, washing facilities etc.) must be viewed by community members as superior in some way to their traditional water sources, thus insuring the continued use of the new facilities. In rural water supply, there is a continuous competition for the loyalty of the people between the new facilities and the traditional sources. If the aim is to improve the quality of life at the village level, then communities must be brought into the decision making process to define the needs as they see them, and to help formulate ways to meet them. In other words, the decision making process should be opened up to the choices of beneficiaries. The Project Paper did not acknowledge the conceptual gap commonly found between planners and communities, and did not envisage the development of strategies and procedures to overcome this problem. The evaluation team felt that this was an oversight, and should still be of high priority. In order to satisfy the above need, specifically with relation to the rural cultural context of Swaziland, technical assistance (TA) is required to design and field test (with input from sociologists and anthropologists) procedures for working with communities in the initial stages of project identification. Once developed, TA will train CDOs and other field personnel in the use of these procedures. Recommendation 6.14 addresses this issue.

Current problems exist, as illustrated below:

- 1) Community members prefer latrines that are not offered by the HI (for example, many want seats).
- 2) Communities exhibit the need for clothes washing facilities by washing clothes near the standpipes (e.g., heavy utilization was found in Sicatfula where washing basins had been provided near community taps).

It is necessary to develop an improved process for negotiating the number of latrines started (or completed) prior to beginning the supply of water. This should be done at an early stage along with the community. Additionally, more emphasis should be placed upon developing genuine demand for latrines. RWSB should consider the incorporation

of washing basins near community taps in new or existing systems where the water source can meet or exceed that demand. Recommendation 6.13 focuses upon this issue.

A process is needed to check utilization and satisfaction of latrine recipients. This is illustrated by the following observations:

- 1) The promising effort at Ngcina to use removable tap handles and manage their use under the direction of the public tap caretaker needs continued follow-up in order to document the experience.
- 2) Follow-up assessments at the homestead level (particularly of the first eight systems constructed) would be a valuable source of information for both this and future projects.
- 3) There may be a need for a homestead sample analysis of the proper use of water in comparison with health criteria to determine if more water use should be encouraged in order to achieve the health objectives of the Project.
- 4) Women indicated a strong preference for incorporating clothes washing facilities (e.g., wash basins) into the schemes, and for them to be located near community water taps.
- 5) The adequacy of storage containers in the home depends upon the ingenuity of homeowners to locate suitable containers in the local market, some of which may have been used previously for other purposes (e.g., toxic chemicals).
- 6) In some communities, latrines complete with superstructures were not being used because owners had yet to construct seats (which they felt were needed).

In communities where water system construction began prior to full latrine construction, the percentage of latrines completed with superstructures was low. The Project should consider using incentives such as latrine seats or water storage containers for the home to encourage community members to complete their latrine superstructures. Recommendation 6.13 suggests corrective action.

In essence, rural water supply and sanitation facilities are competing with traditional sources and habits for the allegiance of the community. To impact health, and move beyond coverage to achieve functioning and utilization of facilities, there is a need to instill a sense of pride and

ownership of new facilities by communities. Recommendation 6.13 focuses upon the need for implementing agencies to begin to plan and design system accessories (e.g., community taps, washing facilities, latrines, etc.) with the community members in an effort to give them wider choices.

- 5.7. More emphasis is needed on programs to provide support to communities after Project construction.

Many problems experienced in rural water supply projects are not primarily of a technical nature. Rural water supply is fundamentally different from urban water supply, because in rural areas the new facilities must compete with traditional sources. Thus there is currently a need to concentrate more on programs to provide support to communities after Project construction (e.g., support to local institutional development, operation and maintenance, community education and participation, human resources development and training, and programs for appropriate technology and spare parts backup).

A recurring issue is the need for proper procedures for operation and maintenance. Initiatives in this area have just begun. RWSB has taken steps to improve its maintenance operations by decentralizing its central maintenance unit to the regional level, and at the same time increasing the number of personnel and vehicles (purchased through the Project).

During field visits, the evaluation team noted the following examples which demonstrate the need for further support to communities:

- 1) Recently-completed water supply systems under Project direction show evidence of a lack of preventive maintenance.
- 2) Some local water committee members reported the need for training in routine maintenance and system management skills.
- 3) There is an urgent need for RWSB to organize and implement relevant training for community maintenance personnel at systems already completed (possibly at the regional depots).
- 4) There is no organized program for maintenance of rural water systems being carried out from RWSB's regional depots, yet this is one of their functions.
- 5) For the long-term sustainability of the slow sand

filter at Matfuntini, extensive and periodic training of community maintenance personnel is necessary.

- 6) At Matfuntini, erosion of the road leading to the treatment and storage site is severe; it requires motivation and training of the community to repair it and provide proper drainage.

To achieve success in management, operation and maintenance of rural systems, a process controlled by the community itself must be developed. It is envisaged that a Community Support Program will be required to provide backup support to communities following Project construction (see Annex IV), particularly for training of community personnel in various aspects of system operation and maintenance. Although some aspects of this program are taking place in an informal manner, the proposed program envisions these informal relationships being formalized as part of the Community Support Program. Such a program can coordinate inputs from the national to the local level and delineate the needs for overall support to communities. Within such a framework, external support organizations can be asked to find their place of service toward the integrated effort. Recommendation 6.2 focuses upon this issue.

Specific features of the Community Support Program may include:

- 1) At the national level:

- Training of trainers for:

- o Mobile operation and maintenance (O&M) teams
- o Mobile major maintenance teams
- o Mobile community education and participation (CEP) teams
- o Mobile institutional development (ID) teams.

- Training of mobile teams for:

- o O&M training
- o Major maintenance (where special equipment and skills are required)
- o CEP to involve people in needs assessment and project planning
- o Local institutional development.

- 2) At the regional level:

- Orientation training for leaders of local institutions
- Skills training for various personnel from local

institutions (for management, O&M, accounting, health education)

3) At the community level:

- On-the-job training of O&M personnel by mobile O&M teams
- On-the-job follow-up and support by mobile CEP, ID and HE teams in support of local ID.

RWSB has recognized that the burden for the recurring costs of operation and maintenance must be shifted to community organizations, since GOS resources are best utilized for capital expenditures and major rehabilitation efforts. To ensure long-term sustainability, communities in which new systems have been proposed have been required since 1986 to establish funds to meet the recurring costs of operation and maintenance.

5.8. A few critical activities need to be accomplished next year.

The following priority activities (in addition to ongoing construction efforts) are suggested for the remaining months of the Project prior to the PACD:

1) Formalize the Community Support Program

The Community Support Program can coordinate inputs from the national to the local level and delineate the needs for overall support to communities. While some aspects of this program are already in place, there is a need to bring these efforts into a unified framework, possibly under the Technical Sub Group (TSG). Recommendation 6.2 focuses upon this issue.

2) Master planning in the sector

It was recommended in the two-year Action Plan completed in 1986 that a Master Plan be developed for the sector. This is scheduled to occur in February, 1989, funded from other sources. It would be useful if proposals for a Community Support Program could be examined prior to the master planning exercise so that integration of the former into the latter may take place.

3) Develop procedures for working with communities

A viable procedure needs to be developed for planners (CDOs and engineers from RWSB and personnel from HI and

NGO) to work with communities in the initial stages of system identification and design in order to ensure a sense of local ownership and future functioning and utilization of facilities. Facilitators may be required to develop procedures specifically for Swaziland in consultation with relevant agencies and to begin implementation within the remaining months of the Project. Recommendation 6.14 addresses this issue.

- 4) Adapt and simplify the Management Information System (MIS)

The institutionalization of the proposed MIS (as described in "Evaluation Plan for the Rural Water Supply Board," (WASH Working Paper No. 56) has not yet taken place. A variety of bottlenecks, including the resulting demand to compile and tabulate large amounts of data which would require additional manpower, have prevented this system from being utilized.

If RWSB were to institutionalize the MIS, it would require a significant increase in manpower. Specialized surveys have been implemented thus far in an attempt to explore this process. In general, the MIS must be adapted and simplified in light of the proposed Community Support Program for communities as well as to be consistent with the proposed procedures for working with communities during project identification and design (above). For the latter use, the current questionnaires represent an overly mechanized approach; instead, an approach more involved with participant observation techniques may be required for success.¹

- 5) Locate future funding for Praziquantal tablets

Under the Project, support to the BCU has focused upon purchase of Praziquantal Biltricide for treatment of diagnosed bilharzia cases as called for in the recently developed BCU work plan. Following PACD it will be the responsibility of the MOH to locate additional sources of funding to provide treatment drugs for the BCU, since USAID support will cease. An additional activity

¹ The World Bank International Bank for Reconstruction and Development (IERD)/United Nations Development Programs (UNDP). "Methods for Gathering Socio-cultural Data for Water Supply and Sanitation Projects," TAG Technical Note No. 1, Washington, D.C.: 1983.

that BCU could undertake next year is the training of teachers in school screening and treatment for BC, utilizing a teacher training program developed earlier.

Current staff at BCU need additional training in order for the unit to fulfill its potential role in the MOH. Further investigation of this matter is required by the concerned parties.

- 6) Implement the drilling program in its entirety

The drilling program should be carried out in its entirety as scheduled because of benefits mentioned earlier (Section 5.1). The drilling contractor has not begun his work under the current 100 holes drilling contract because the specially ordered casing has not arrived. However, following the rainy season, the period from January to July will provide ample time for these efforts, based on past drilling performance by the contractor.

6. RECOMMENDATIONS

Although the evaluation team attempted to list the recommendations in order of priority, this was not totally successful because each recommendation is important to the success of the Project as a whole in the next 10 months. However, for individual agencies, one or more recommendations may take priority. The team recommends that:

- 6.1 A workshop be held with NGOs, RWSB, HI and PHEO to discuss concepts, procedures and standards for working on water and sanitation in the field. This workshop is critical to the success of the NGO component of the Project, and is to be started as soon as possible. On the one hand, the workshop should attempt to ensure that EE and CSC adhere to viable construction procedures, materials specifications and construction standards. This consensus development process is to ensure service of all systems under construction so that the RWSB will be able to provide major maintenance in the future. On the other hand, flexible procedures for designing system accessories with community members should emerge from this process. This workshop should be funded by the Project.
- 6.2 The Planning Office of RWSB, in coordination with PHEO, develop a Swaziland Community Support Program for assistance to communities after Project construction (in cooperation with RWSB and HI). It could be adapted from the model illustrated in Annex IV. This could be reviewed by relevant agencies during the master planning process (scheduled in

February, 1989) and include components in operation and maintenance, training, etc. Any outside technical assistance necessary should be paid for by the Project.

- 6.3 RWSB improve the scheduling of the work load at the regional level to avoid not being able to complete planned systems as called for in the 1988-1989 workplan.
- 6.4 For the two systems already constructed (KaLanga and KaNdzangu), USAID should reimburse CSC when they meet standards as specified by the USAID Contract Engineer. In addition, CSC should discontinue the start of new systems under the Project until a qualified project coordinator is hired, the above discussed workshop is held, and qualified crews and supervision are available. CSC should continue to concentrate on completion of systems already begun until the above conditions are met. USAID support should concentrate upon strengthening and increasing CSC's capabilities in the remaining months of the Project.
- 6.5 GOS & USAID favorably consider the extension of the PHEA until the Project PACD in order to carry out critical activities noted in Section 5.8 and further detailed in Section 5.4.
- 6.6 Outputs from the Health Education and Communication Support Workshop for the Water and Sanitation Sector be produced and utilized in the form of posters, flip charts, radio messages, etc. to utilize the remaining funds in the health education component. These materials should be distributed at the field level as soon as possible.
- 6.7 USAID play a role in securing purchase order books exclusively for the Project for the purchase of construction materials for RWSB water systems. Without these books, the Project's construction targets will not be met.
- 6.8 USAID review, together with MOH and Ministry of Finance, the advance account for the purchase of latrine construction materials. This is required, since the present system has been unable to provide payment to suppliers without long delay.
- 6.9 TSG coordinate the development and implementation of a training program for water committee members and community maintenance personnel based upon RWSB's planned efforts. This would be field tested and utilized to provide hands-on training in systems already completed under the Project. It is recommended that a facilitator assist in a review of this program as soon as possible.

- 6.10 The MIS system be simplified and adapted for easy implementation in order to meet immediate needs for gathering information from the field.
- 6.11 GOS locate future funding for Praziquantal tablets for the BCU to ensure continuity in this program.
- 6.12 Although the Project was reorganized in 1982 to focus on DDC instead of its original efforts in BC, the need for further efforts from external agencies in BC remains.
- 6.13 A concerted effort be made to begin to plan and design any remaining systems under the Project (e.g., latrines, community taps, and washing facilities) with the community members in order to ensure satisfaction.
- 6.14 TA be contracted to assess present procedures and to help develop improved procedures for planners (CDOs, RWSB engineers, HI, NGOs and HEU) to work effectively with communities in Swaziland in the early stages of project identification and rural water system design, so that improvements in this area may begin to take place within the remaining months of the Project.

ANNEXES

ANNEX I

PERSONS CONTACTED IN SWAZILAND

Ms. Mary Pat Selvaggio, Project Manager, USAID/Swaziland
Mr. Roger Carlson, Director, USAID/Swaziland
Mr. Tony Potter, USAID Contract Engineer/Swaziland
Mr. Harry Johnson, Deputy Director, USAID/Swaziland
Mr. Allan Reed, Program & Project Development Officer,
USAID/Swaziland
Mr. Alan Foose, Regional Health Population Officer,
USAID/Swaziland
Ms. Joan Johnson, Mission Evaluation Officer, USAID/Swaziland
Mr. Leslie Mthethwa, Senior Health Inspector, MOH
Dr. Bill Hoadley, Public Health Engineering Advisor, RWSB
Mr. Chris Mkonta, Principal Secretary, Ministry of Health
Dr. Qhing Qhing Dlamini, Deputy Director of Health Services
Mr. Sandile Ceko, Principal Secretary, Ministry of Natural
Resources
Mr. A.N.N. Maseko, Under Secretary, Ministry of Natural Resources
Ms. Sibongile Myeni, Assistant Senior Planning Officer, MNL RUE
Mrs. June Richards, Senior Planning Officer, MNRLUE
Mr. Napoleon Ntezinde, Senior Engineer, RWSB
Mr. Pat Mbhamali, Director, Water and Sewerage Board
Mrs. Lombuso Nxumalo, Nutritionist, HEU
Mrs. Patricia Simelane, Health Educator, HEU
Ms. Polly McLean, Development Communications Specialist
Mr. Issac Ngwenya, Design Engineer, RWSB
Mr. Melvin Mayisela, Construction & Planning Engineer, RWSB
Mr. Richard Solloway, Regional Controller, USAID
Mr. Max Gonson, Financial Analyst, USAID
Mr. Henry Zikalala, Community Development Officer, RWSB
Mr. Philip Mtinkulu, CDO, RWSB
Ms. Bess Ngwenya, Lecturer, IDM
Mr. Gabriel Manana, Assistant Registrar, IDM
Mrs. Sibongile Mthupha, Health Inspector, BCU
Ms. Ellen Matsenjwa, Health Inspector, BCE
Mrs. Eunice Sowazi, General Secretary, Council of Swaziland
Churches
Mr. David Taylor, Emanit Esive
Ms. Khanyisile Dlamini, CDO, Emanti Esive
Mr. Philip Mamba, Clerk of Works, RWSB
Mr. Lenjo Dlamini, Clerk of Works, RWSB
Mr. Mnisi, Site Agent, RWSB
Mr. Ronald Dlamini, Health Inspector, MOH
Mr. A.B. Nxumalo, Health Assistant, MOH
Mr. Henry Mavuso, Health Assistant, MOH
Mr. Ntuli, RWSB
Mr. Isaiah Khumalo, RWSB
Mrs. Precious Dlamini, Health Inspector, MOH
Mr. Ginindza, Head Community Development Officer, RWSB
and beneficiaries from selected communities

FIELD SITES VISITED

Manzini Region - Ensuka, and the Water Quality Laboratory
(Matsapa)
Lubombo Region - Mphosi, Phonjwane, Ncgina, kaShoba, kaLanga,
kaNdzangu and Sicatfula
Shiselweni Region - Endzingeni, Nkhungwini, Chibidze
Hhohho Region - Entabinezimpisi

ANNEX II

LATRINE CONSTRUCTION STATUS AS OF OCTOBER 31, 1988

RURAL WATER BORNE DISEASE CONTROL PROJECT 645-0087

<u>District</u>	<u>Designed</u>	<u>Under Constr.</u>	<u>Completed</u>	<u>Type</u>
Manzini	3	2	1	Macro
	6	4	2	Micro
	-	-	-	Rehab
Shiselweni	2	1	1	Macro
	-	-	-	Micro
	-	-	-	Rehab
Lubombo	2	2	-	Macro
	14	2	12	Micro
	1	1	-	Rehab
Hhohho	4	4	-	Macro
	2	2	-	Micro
	-	-	-	Rehab
Emanti Esive	2	1	1	Macro
Council of Churches (NGO)	7(2)*	7(2)*	-	Micro
TOTALS	43	26	17+	

Planned Outputs:

	RWSB	NGO's	TOTAL
Micros	38	21	59
Macros	11	0	11
Rehab	8	0	8

* Figures in parenthesis as stated in the OPG with thee NGO's, indicates groups of handpumps rather than individual units.

+ USAID/Swaziland reimbursed the cost of seven completed projects. Others are pending formal approvals before submitting payment requests to USAID/Swaziland.

34'

LATRINE CONSTRUCTION

ACTIVITY	JULY 1988	AUGUST 1988
Pits Dug	1,881	2,065
Slabs Constructed	1,885	2,123
Superstructure Starts	550	750
Superstructure Complete	233	315

35

ANNEX III

USAID / SWAZILAND
SUMMARY PROJECT FINANCIAL REPORT BY PROJECT ELEMENT
AS OF 09/30/88

DATE : 10/09/88
REPORT PAGE NO.: 15
MISSION PAGE NO.: 5

OFFICE NAME: REGIONAL HEALTH DEVELOPMENT

PROJECT TITLE/ ELEMENT DESCRIPTION	FUND TYPE	START DT/ PACD	LIFE OF PROJ. FUND	OBLIGATIONS TO DATE	EARMARKS TO DATE	COMMITMENTS TO DATE	EXPENDITURES TO DATE*	PIPELINE +
RURAL WATER BORNE DISEASE	G	08/30/79	5,296,800	5,296,801	5,065,707	5,065,707	3,894,616	1,402,185
TECHNICAL ASSISTANCE		09/30/89		3,234,216	2,861,933	2,861,933	2,782,338	451,878
PARTICIPANT TRAINING				38,483	67,761	67,761	67,761	29,278
COMMODITIES				419,589	432,077	432,077	326,077	93,512
OTHER COSTS				139,550	113,550	113,550	55,659	83,891
CONSTRUCTION				1,464,963	1,590,386	1,590,386	662,781	802,182
TO BE DETERMINED				0	0	0	0	0

- * Expenditures to date include accruals (activities completed but not yet billed)
- + For additional breakdown of pipeline analysis see attached summary sheet from memorandum dated Oct. 21, '88, specific purpose Financial Analysis by Mr. Max H. Gonson, PPD/PA.

ANNEX III

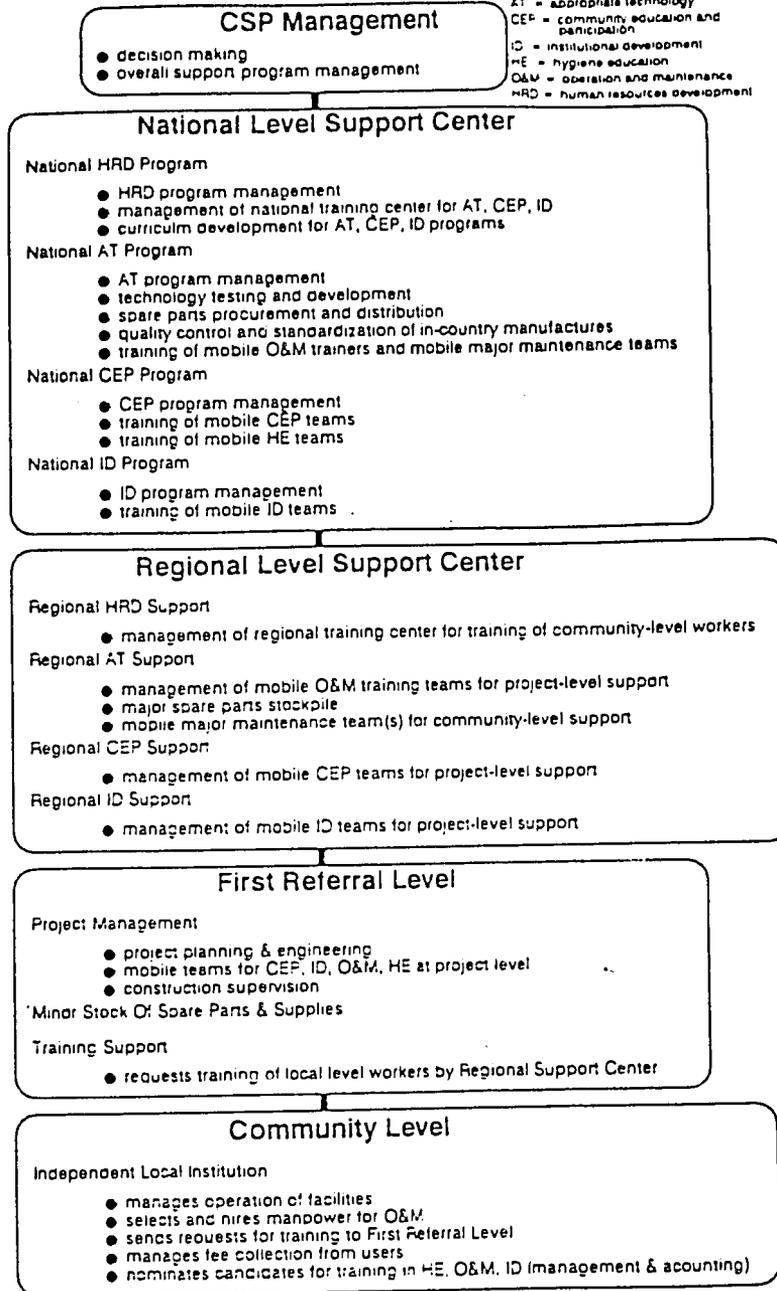
SUMMARY--RWBDGP FINANCIAL ANALYSIS @
OCTOBER 17, 1988

Excess funds to be released from existing commitments/earmarks for project activities previously funded.....	\$431,712
Project funds obligated but unearmarked.....	\$231,094
TOTAL FUNDS AVAILABLE.....	<u>\$662,806</u>
TOTAL FUNDS USED.....	\$484,300
(for project activities not yet earmarked or committed on MACS)	<u> </u>
TOTAL AVAILABLE MINUS TOTAL USED.....	\$178,506

**Annex IV. Model Community Support Program (CSP)
for water supply and sanitation projects**

Abbreviations:

- AT = appropriate technology
- CEP = community education and participation
- ID = institutional development
- HE = hygiene education
- O&M = operation and maintenance
- HRD = human resources development



13