

PROJECT EVALUATION SUMMARY (PES) - PART I

1. PROJECT TITLE RURAL WATER SUPPLY AND SANITATION			2. PROJECT NUMBER 632-0088	3. MISSION/AID/W OFFICE USAID/LESOTHO
5. KEY PROJECT IMPLEMENTATION DATES			4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Center, Fiscal Year, Serial No. beginning with No. 1 each FY) 32-82-4	
A. First PRO-AG or Equivalent FY 79	B. Final Obligation Expected FY 85	C. Final Inout Delivery FY 87	<input checked="" type="checkbox"/> REGULAR EVALUATION <input type="checkbox"/> SPECIAL EVALUATION	
6. ESTIMATED PROJECT FUNDING			7. PERIOD COVERED BY EVALUATION	
A. Total \$ 14,003,500			From (month/yr.) July 1981	
B. U.S. \$ 12,142,100			To (month/yr.) May 1982	
			Date of Evaluation Review May 14, 1982	

B. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
1. Establish positions and select the required counterpart personnel, in cooperation with the VWSS and project team.	GOL/Contractor	Immediate
2. Take immediate steps to improve the financial management control system of both the GOL and VWSS to reflect adequately project expenditures, including the establishment of proper inventory controls, purchasing, requisitioning and distribution procedures, and the establishment by VWSS of a Project Control Account to adequately reflect all project expenditures.	GOL/VWSS	Immediate
3. Take steps to permit the establishment, hiring and promoting of qualified/trained personnel to key positions such as masons, storekeepers, foremen, STOs, and other pertinent operating personnel.	GOL/Contractor	Immediate
4. Implement a stronger budgeting system for the purpose of reflecting the complete budgetary picture with particular emphasis on recurrent costs.	GOL/VWSS	Jan. 1, 1983
5. Implement a system whereby village contribution can be channelled to VWSS to off-set rural water supply maintenance costs.	GOL/VWSS	Jan. 1, 1983

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS	10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT
<input type="checkbox"/> Project Paper <input type="checkbox"/> Implementation Plan, e.g., CPI Network <input type="checkbox"/> Other (Specify) _____ <input type="checkbox"/> Financial Plan <input type="checkbox"/> PIO/T _____ <input type="checkbox"/> Logical Framework <input type="checkbox"/> PIO/C <input type="checkbox"/> Other (Specify) _____ <input type="checkbox"/> Project Agreement <input type="checkbox"/> PIO/P _____	A. <input checked="" type="checkbox"/> Continue Project Without Change B. <input type="checkbox"/> Change Project Design and/or <input type="checkbox"/> Change Implementation Plan C. <input type="checkbox"/> Discontinue Project

11. PROJECT OFFICER AND HOST COUNTRY OR OTHER BANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)	12. Mission/AID/W Office Director Approval
Thomas G. Putscher, Project Officer/Team Leader, AID/W Willis J. Wetstein, Senior Vice-President, Morrison-Maierle, Inc. Mulugeta Yohannes, Engineer, USAID/Lesotho	Signature: <i>Byron H. Bahl</i> Typed Name: Byron H. Bahl, Acting Director Date: July 1, 1982

TABLE OF CONTENTS

	Page
13. Summary	1 1
14. Evaluation Methodology	4
15. External Factors	5
16. Inputs	8
17. Outputs	17
18. Purpose	25
19. Goal/Sub-Goal	26
20. Beneficiaries	27
21. Unplanned Effects	27
22. Lessons Learned	28
23. Special Comments or Remarks	29
Attachment 1	32
Attachment 2	33

13. Summary

The Lesotho Rural Water Supply/Sanitation Project is aimed at satisfying one of Lesotho's most basic needs, that is, the provision of rural water supply systems which will ultimately improve the health and basic living standards of Lesotho's rural poor, which comprise approximately 94 percent of the population. Accordingly, this project conforms with the Mission's long-term assistance strategy as presented in the CDSS as well as the agency's recent directive relevant to Domestic Water and Sanitation Policies.

The Lesotho Rural Water Supply/Sanitation Project was approved on August 23, 1979 for a period of nine years with a total life-of-project funding of \$12,142,000. On August 30, 1979, a Grant Agreement was signed between the Government of Lesotho and AID. Subsequently, USAID/Lesotho issued a PIO/T on December 27, 1979 for the technical assistance contract. However, AID/W did not finalize the technical assistance contract until March 6, 1981, a period of 15 months. Obviously, this inordinate contracting delay on the part of AID/W has caused the project to suffer unnecessary implementation delays. As a result, the project is now approximately one year behind schedule, which will undoubtedly necessitate extending the project's PACD. Additionally, the extensive contracting delays delayed the technical assistance team's (Morrison-Maierle, Inc.) arrival by eleven months. A detailed review of project files in both AID/W and USAID/Lesotho seems to indicate that one major delay in the contracting process was attributable to AID/W's Office of Contract Management's insistence that this procurement be set aside for small business concerns. While this decision significantly contributed to the overall contracting delays, it does not adequately explain the overall extensive contracting phase, i.e., from the time the Evaluation Board recommend the firm of Morrison-Maierle, Inc., July 1980, to the signing of the TA contract, March 1981, a period of eight months.

The project is now in its tenth full month of implementation and is progressing extremely well in attaining project goals and objectives. Of particular interest is the strong cooperative efforts and coordination displayed within the Village Water Supply System (VWSS), the GOL implementing agency. The project TA team, together with the Helvetas (Swiss) team, is integrated within the VWSS, and their strong coordination and cooperative efforts have had the effect of strengthening the VWSS, one of the main objectives of this project. Since the arrival of the U.S. technical assistance team only ten months ago, VWSS has significantly improved their overall organizational structure. By integrating the project with the VWSS, the TA team is in effect pooling their resources with the Swiss team, increasing both the effectiveness and efficiency of the VWSS.

A nationwide Selection Criteria Priority Plan has been developed and adopted and is now being utilized by the VWSS. Based on their selection criteria, a village requesting a water supply system must raise a certain amount of funds to be utilized for future maintenance activities. The village must also agree to supply free labor during the construction of the system, i.e., rock cutting, trench digging, cement mixing, etc. The results have been excellent. The evaluation team visited four villages in the process of constructing water

supply systems. In each village, the local voluntary labor was supplied and actively working. The project is actually a bottom-up project, highly dependent on community participation. It is refreshing to see actual results in a relatively short period of time. The project is welcomed, especially at the village level, and is fully supported by the villages, who, in essence, participate immensely in the construction of their water supply system. The results are strong acceptance, active community participation and a sense of pride and ownership.

The cooperative efforts achieved in this project have resulted in the development of a unified country-wide project providing efficient, well constructed rural water supply systems to those with the utmost need. Currently, nine gravity flow water supply systems are under construction, with two nearing completion. Three additional systems are in the design stage. Six hand pump systems have been completed and are operational, with an additional four currently under construction. Each system consists of several bore holes and pumps. In addition, the Rural Water Supply/Sanitation Project was instrumental in supervising and managing the hand pump test program funded by UNDP and the World Bank. Under this test program, four various types of hand pumps were installed in 18 locations in the Mafeteng and Maseru districts of Lesotho, and are now fully operational. These pumps will be monitored and tested for a period of one year and the results obtained will serve as the basis for selecting the best hand pump (which initial observations indicate the U.S. manufactured Moyno) to be utilized by VWSS in future hand pump water supply systems.

Other significant accomplishments include the implementation of a procurement plan, purchasing of project vehicles and commodities, development of a two-year work plan, completion of the one regional and three district maintenance centers, and the construction of one junior and six senior staff houses. Training programs are underway and include the training of 18 masons, nine foremen, with an additional nine currently in training, and the placement of three long-term training candidates (engineers) at Montana State University. As previously mentioned, rural water supply system construction activities are underway and will be proceeding at higher rate in the coming year. The Health Education component, although not fully operational, has made progress in coordinating VWSS activities with the MOH, with several Health Education seminars and training sessions planned for selected districts in Lesotho. As these initial planning and development activities have taken somewhat longer than originally anticipated, the extension of this TA position for an additional one-year term may be warranted.

Finally, and of utmost importance, the Maintenance Support Program has been developed and implemented. This system has been organized to integrate with the regional and district maintenance centers constructed under this project. In addition, manpower requirements have been developed, transport and scheduling procedures have been established and a maintenance reporting procedure has been implemented for both vehicle and water supply systems maintenance.

While overall project performance by all parties is impressive, the evaluation team has identified several major problem areas, centering on institutionalization of project activities. If not corrected they could severely impair the GOL's ability to continue rural water activities at the end of the project period.

These areas are as follows:

- (1) The failure so far of the Government of Lesotho (GOL) to appoint the appropriate qualified counterparts;
- (2) Overall weakness in the GOL's Financial Management capabilities;
- (3) Government-wide hiring freeze, which has severely hindered the project's ability to place trained foremen and other essential personnel in key operating positions;
- (4) Recurrent Costs - GOL's ability to assess accurately the true costs of maintaining systems and institutionalization once the U.S. project is completed; and
- (5) Utilization of village contributions for maintenance costs.

During the course of this evaluation, the aforementioned issues were discussed at length with both project personnel and GOL officials. Although many of the issues are currently being addressed, as evidenced by AID's funding of both a newly established Controller position, together with a Head Planner position within the MORD, the evaluation team must stress the importance of rectifying these problems at an early stage in order not to jeopardize the success of this project. To that end, the evaluation team strongly recommends the following actions:

- (1) The GOL, in cooperation with the VWSS and project team, establish and select the required counterpart personnel;
- (2) The GOL and VWSS take immediate steps to improve their financial management control systems to reflect adequately project expenditures, including the establishment of proper inventory controls, purchasing, requisitioning and distribution procedures, and the establishment by VWSS of a Project Control Account to reflect all project expenditures. In this connection an expatriate financial manager is being assigned to the MORD and will pay substantial attention to making management improvements of benefit to the project;
- (3) The GOL, in conjunction with VWSS project personnel, take immediate steps to permit the establishment, hiring and promoting of qualified/trained personnel to key positions such as masons, storekeepers, foremen, STOs and other pertinent operating personnel;
- (4) The GOL implement a stronger budgeting system for the purpose of reflecting the complete budgetary picture with particular emphasis on recurrent costs; and
- (5) The VWSS implement a system whereby village contributions can be channeled to VWSS to off-set rural water supply maintenance costs.

In conclusion, the evaluation team believes the project has made substantial progress in the ten months since implementation began. Especially, we are impressed with the cooperation and coordination displayed within the VWSS. Similar AID projects would do well to observe the results that strong coordina-

tion and cooperation can yield. Not only is this project making substantial progress in achieving the basic goals and objectives as set forth in the Project Paper, but it is generating substantial additional donor assistance. Although the true test of performance will come in the following year with the arrival of the project's first shipment of major water supply system commodities, i.e., piping, pumps and related fittings and components, the basic foundation has been laid. With the foundation now in place, substantial progress should occur in the coming months, when the TA team can concentrate their efforts on designing and constructing AID-financed rural water supply systems in order to improve the basic standards of Lesotho's rural poor. The project is progressing towards attaining the major goals and objectives set forth in the Project Paper, and is on its way to building a strong institutional base from which an array of development activities may be generated.

14. Evaluation Methodology

This internal evaluation was conducted in accordance with and in response to the Evaluation Plan, whose need was recognized and set forth in the Project Paper and the Project Grant Agreement, signed on August 30, 1979. This evaluation is the first evaluation of the Rural Water Supply/Sanitation Project since the Grant Agreement was signed and is being called for now, near the end of the first year of arrival of the Project's technical assistance team, in order to insure, at the outset, that project activities are being met and directed towards the achievement of project purposes and outputs. Such an early evaluation, by its nature, focuses primarily on the input component of the project. However, this evaluation has also given due emphasis to all aspects of the project such as goal, purpose, outputs, unplanned effects and other special comments or remarks. Specifically, this evaluation exercise has attempted to identify key problems, recommend appropriate corrective actions, determine attainment of project objectives, check the collection of data to permit measurement of progress, verify that inputs are realistic and can be achieved, and modify/alter, as appropriate and necessary, the project design and/or implementation plan.

Per the authority accorded to the AID Mission by the Grant Agreement, the Mission selected the members of the evaluation team and prepared and delivered the required Statement of Work to the evaluation team.

The evaluation was conducted between May 4 and May 19, 1982, under the direction of Mr. Thomas Putscher, AID/Washington (AFR/DR/SA), with the assistance of Mr. Willis Wetstein of Morrison-Maierle and Mulugeta Yohannes, USAID/Lesotho.

As an initial step of the evaluation exercise, the evaluation team held introductory meetings, first with the AID Director, Program Officer, and Project Officer, and later with the Permanent Secretary of MORD, Senior Engineer of VWSS and the team leader of the TA contractor, Morrison-Maierle. During these meetings, the purpose, type and method of the intended evaluation, as well as other general policy issues concerning the project, were discussed and highlighted. Following this, and with the Statement of Work as a term of reference and guide,

the evaluation team reviewed project files, project documents, monthly and quarterly reports and conducted individual and group interviews with project staff in AID, GOL, TA team and with people in other branches of the GOL, as well as with individuals associated with other donors. A complete list of all persons interviewed/contacted is being included as Attachment No. 1. The length and rigour of such interviews depended on the complexity of the subject issue under discussion and the duration and degree of project involvement of the individual being interviewed. Typically, such interviews lasted for one to four hours.

Additionally, the evaluation report of the Rural Health Project was reviewed for ascertaining and gauging the interdependence and linkage that should exist between the Health project and the sanitation component of the Rural Water and Sanitation Project.

All the above evaluation methods were further supplemented with actual field visits by the evaluation team members to the regional centers, district centers and villages for a first hand physical observation of project activities and project beneficiaries.

The ensuing draft evaluation paper was submitted to concerned senior AID, GOL and TA contractor staff for reviews and comments. All such reviews and comments were objectively addressed and discussed, and any corrections/revisions were incorporated, as found appropriate, into a final evaluation document.

15. External Factors

The evaluation team has identified four major external factors which, if not corrected, will adversely affect successful implementation of this project. These areas of major concern, we believe, require immediate attention and resolution. As this project is relatively early on in the implementation stage (10 months), now is the appropriate time to address and hopefully rectify these problems.

1. Counterpart Position Allocation

Currently, only one of the six counterpart positions has been identified and allotted. This is the Team Leader, or Development Engineer position. The remaining five, which are critical to the success of this project, are the Financial Manager, Maintenance Engineer, Construction Engineer, Training Officer/Construction Engineer and the Health Education Coordinator. It must be stressed, in no uncertain terms, that both the establishment and assignment of the position as well as the appointment of qualified personnel is imperative. The fulfillment of this obligation, agreed to by the GOL per the Project Agreement, forms the basis of building a cohesive institutional framework, which is the major objective of this project. Constructing a series of nationwide rural water supply systems will prove valueless if the proper institutional base is not left behind to carry out both maintenance and further expansion when the TA team departs upon project completion.

Recognizing the importance of both establishing the required counterpart positions and the recruitment of qualified personnel, the evaluation team strongly recommends that the GOL initiate the required actions to immediately fill the five remaining counterpart positions.

2. Financial Management

The GOL's Financial Management Control System is still to be developed. Until very recently, the Ministry of Rural Development (MORD) could not ascertain its overall funding levels, did not have a complete budgeting process and achieved only limited controls relevant to fund appropriation levels, expenditures and reporting procedures. As part of its efforts to develop a complete financial system, the MORD has recently appointed an expatriate within the MORD's Planning and Management Division. His responsibilities include the coordination of all donor aid and projects under the jurisdiction of the MORD. Additionally, he has assumed the responsibility for developing and presenting a more detailed budget, which will identify overall funding requirements of the MORD. Furthermore, a refined reporting system is currently being designed by MORD and will be implemented upon the arrival of an additional expatriate who will function as the MORD's controller, a new position recently established, at the end of May 1982. The evaluation team feels this is a major improvement and, although much more is required, believes the action taken will strengthen the MORD's financial management capabilities.

With respect to VWSS financial management controls, the evaluation team found them to be generally acceptable; however, we believe a control account, detailing all project allotments and expenditures, should be established. Also, a detailed expenditure reporting system needs to be implemented to assure the accurate accounting of USAID funds transmitted directly to VWSS. This system is currently in the development process and is expected to be implemented shortly.

The evaluation team believes that both the MORD and VWSS are on the right track in attempting to improve their overall financial management control systems. Therefore, the evaluation team can only recommend that the MORD move forward with their current endeavors in improving their financial controls, particularly in the area of payments, budgeting and reporting systems. With respect to the VWSS, the evaluation team recommends the establishment of a Project Control Account which will more adequately reflect total project appropriations and expenditures. Accordingly, VWSS should coordinate this process with both the USAID/Lesotho Controller, as well as with the newly established Controller at the MORD.

3. GOL Hiring Freeze

Severe strains upon the GOL budget have necessitated a government-wide hiring freeze. Unfortunately, this freeze has had the effect of retarding project implementation, as well as creating morale problems. For example, the project has trained nine foremen or technical officers (TOs) as of May 1982, with an additional nine now in training. Currently, as a result of the freeze, the

trained foremen cannot be placed in the foremen positions. They are being paid at the same rate as masons or Technical Assistant Officers (TAOs), who the TOs supervise. This is not only causing severe morale problems, but also increases the probability of losing the considerable investment in training these individuals if the project cannot place them in the appropriate TO positions. This situation is of utmost concern to project personnel. Although the evaluation team can empathize with the strains imposed by budget limitations, we recommend that the MORD move as expeditiously as possible and fill the TO (foremen) positions. Additionally, the evaluation team, considering the strong governmental support accorded this project, recommends immediate action be taken by the MORD to fill those operating positions, i.e., masons, maintenance, storekeepers, as well as any other pertinent key positions, which effect the project's ability to implement major project activities and attain overall project objectives.

4. Recurrent Budget

As indicated in the Project Paper, meeting recurrent costs is a severe problem throughout the GOL. This problem is of special concern in a project as large and as committed as this one. The intense, widespread demand for providing adequate rural water supply systems is recognized as a top priority by the GOL. Consequently, this Project has generated intense interest from the highest levels of the GOL, which stated that all recurrent costs would be met even if it resulted in cuts in other areas. This commitment, although well-intentioned, will not be easy to meet in light of current and projected budget problems. According to the recently approved two-year work plan, the estimate for the GOL contribution in the Project Paper will be \$500,000 to \$1,000,000 short of actual requirements. This deficit results primarily from unanticipated salary increases as well as high inflation. Although this evaluation covers only the first ten months of project implementation, the evaluation team strongly believes the severe GOL recurrent cost problem should be addressed. As the intent of this project is to build an institutional base from which rural water supply systems can be provided, the institutional structure established as a result of this project must be maintained and operated by the GOL when the project is completed. If the GOL cannot assume this responsibility, the project will fail in meeting its primary objective.

The purpose and principal focus of this project is to assist the GOL in developing the institutional capacity of the VWSS to design, construct and maintain new and existing rural water supply systems. As designed, the project calls for the completion of 142 new rural water supply systems, and the reconstruction of an additional 68 systems, for a total of 210 rural water systems. Currently, the VWSS has over 1,120 requests for rural water supply systems. As this project is designed to complete only 210 systems over a seven-year period, who will complete the remaining 900, which discounts any new requests for rural water systems during the next seven years? If the GOL cannot assume the responsibility of supporting, operating and maintaining the institutionalization established by this project, the entire effort will have been nullified. Accordingly, the evaluation team strongly

recommends that the GOL recurrent cost problem be thoroughly addressed and analyzed. Hopefully, future resources can be identified or appropriate projects designed specifically to address the recurrent cost problem.

5. Utilization of Village Contributions for Maintenance Costs

Funds contributed by the local villagers, in accordance with the village selection criteria, are to be utilized for maintaining associated village water supply systems. However, as of this evaluation, a procedure has not yet been developed whereby these funds can be tapped for maintenance purposes. Currently, these funds are maintained in an account controlled by the local village water committee. The evaluation team, therefore, suggests that a billing system, perhaps utilizing the current system developed by the maintenance supply section, be employed for use in billing local villages for maintenance costs associated with the repair of their water supply systems. This would not only encourage proper care and preventive maintenance measures be exercised by the local villagers, but would also assist in defraying future maintenance costs now borne by the GOL, which significantly contribute to the overall recurrent costs problem confronting them. The billing system developed should insure that funds received for maintenance costs be channelled directly to the WSS. An accounts receivable account could easily be set up for this purpose, and would insure proper accountability of all funds received. The evaluation team believes that, under no circumstances, should these funds be channelled to the GOL's general treasury. In other words, they should be used to off-set direct maintenance costs incurred by the WSS in repairing local rural water supply systems, as specified in the Project Paper.

16. Inputs

I. USAID

A. Financial Summary

The Grant Agreement estimates the value of USAID contributions over the life of the project at \$12,142,000. The two-year work plan has modified these projections to \$12,486,300, about \$344,000 over the Grant Agreement. However, this does not mean a budget deficit or that necessary programs will be underfunded. The financial plan extends for a seven-year period and is useful for long-term planning, and will be reviewed and updated annually, in order to revise future projections.

Following is a summary of the financial input by AID as presented in the Grant Agreement and compared to those projected in the two-year work plan:

	<u>Grant Agreement</u>	<u>Two-Year Work Plan Projection</u>
1. Technical Assistance	\$ 2,202,700	\$ 3,185,500*
2. Construction	476,100	969,000
3. Other Costs (Maintenance)	1,474,800	1,295,100
4. Training	387,200	385,500
5. Commodities	<u>7,602,200</u>	<u>6,651,200</u>
TOTAL	\$12,142,000	\$12,486,300

*Funds Obligated for TA Contract is \$2,886,400 for a five year period. This projection is based on the seven year TA contract in accordance with the Project Paper.

The two-year work plan developed by the TA team has been approved and accepted by both ASAIID/Lesotho and the GOL. The evaluation team has reviewed the two-year work plan extensively, and concurs in its acceptance.

B. Technical Assistance

The PP calls for the provision of the following Technical Assistance positions for this project:

Position	<u>80</u>	<u>81</u>	<u>82</u>	<u>83</u>	<u>84</u>	<u>85</u>	<u>86</u>	<u>Total PY's</u>
Team Leader, Engineer	x	x	x	x	x	x	x	7
Construction Engineer	x	x	x	x	x			5
Maintenance Engineer	x	x	x	x				4
Training Officer/Construction Engineer	x	x						2
Health/Education Coordinator	x	x						2
Financial Management Specialist	x	x						2
Short Term Consultants								
- Drilling Engineer		x						$\frac{1}{2}$
- Hydrologist		x	x					$\frac{1}{2}$
- Miscellaneous								$\frac{1}{2}$
TOTAL								<u>25</u>

The TA contractor is Morrison-Maierle, Inc. of Helena, Montana with Sheladia Associates, Inc. of Riverdale, Md. as subcontractor. The Team Leader arrived on the project in early May 1981, with the balance of the field team arriving during the next 2½ months, providing a complete team by the end of July 1981. As can be seen, the arrival of the TA team was behind the schedule anticipated in the PP. The following table illustrates the proposed dates and actual occurrence of events leading up to the arrival of the TA team in Lesotho.

<u>Action</u>	<u>Scheduled Date in PP</u>	<u>Actual Implementation Date</u>	<u>Responsibility</u>
PP Submitted	June 1979	June 1979	Mission
PP Approved	July 1979	August 1979	AID/Washington
PIO/T Issued	Aug 1979	December 1979	Mission
RFP Issued	----	January 1980	AID/Washington
TA Contractor Interviews	----	March 1980	AID/Washington
Contract Signed	----	March 1981	AID/Washington
TA Leader Arrives	June 1980	May 1981	Contractor
Balance of TA Team Arrives	Aug 1980	May, June, July 1981	Contractor

Due to delays in selecting the TA contractor and signing the TA contract by AID/Washington, the Contractor's TA team arrived approximately one year later than scheduled in the PP. This delay in actual project implementation caused numerous problems to the project and inconveniences to the Mission, the GOL, and the Contractor, as well as increasing project costs.

The TA field team on this project should be recognized as one of the Mission's strongest contractor teams. The qualifications, experience and background of the team members are very good, and the entire team is performing their respective responsibilities in professional manner. The team leader is especially strong and has established excellent working relationships with his team, VWSS staff, GOL personnel and expatriates from other donor countries. The strong team and excellent leadership has resulted in achieving good progress during the initial year of project implementation.

Project housing constructed for the TA team by GOL was just getting underway when the team arrived in country. The Mission did a good job in placing team members in other available AID sponsored housing. Only one team member had an extended stay of about 4½ months in a hotel until his permanent housing was available.

Elimination of the large rotary drilling rig from the project has resulted in the recommendation by the team leader and Mission to modify the involvement of the Drilling Advisor on the TA team. The evaluation team concurs with the recommendation that the Drilling Advisor's 9-month requirement be eliminated and replaced by annual 30-day visitations to the project by a drilling consultant.

Projected costs of the project presented in the PP have been updated in the two-year work plan completed by the TA team in January of 1982. Technical assistance costs are projected in the two-year work plan to amount to \$3,185,500 compared to \$2,202,700 in the PP. The increase is attributable to both underestimated costs in the PP and higher inflation. However, substantial cost savings in the procurement component of the project will off-set this projected increase in the technical assistance category. Consequently, this will not affect overall AID contribution.

C. Construction

The PP provided funds in the amount of \$476,100 for the construction of TA staff housing, field staff housing, a regional maintenance center and three district maintenance centers. The Mission entered into a Fixed Amount Reimbursable (FAR) contract with the GOL in the amount of \$969,000 for the construction of six (6) Senior Technician Houses, one (1) Field Staff House, one (1) Regional Maintenance Center and three (3) District Centers. As a result of cost under-runs and the increased value of the dollar, it is estimated that approximately \$200,000 will remain unexpended in the \$969,000 allocation. It is recommended that the balance of this funding be utilized to construct the much needed expansion of the maintenance facilities, stores, and offices of the VWSS facility in Maseru.

D. Maintenance

The intent of this component of the project is to aid the GOL in improving and supporting a maintenance program that can reasonably meet the needs of the system maintenance nationwide. The Project Grant Agreement calls for USAID funding in the amount of \$1,473,800 over the life of the Project. The following table shows the breakdown of costs for this component as established by the PP and those recommended in the two-year plan.

	<u>Projected Costs in PP</u>	<u>Projected Costs in 2-Yr Work Plan</u>
Maintenance Program Support	\$ 287,700	\$ 591,500
Temporary Wage Labor	879,500	639,600
Vehicle Operation & Maintenance	170,000	64,000
Inflation	85,600	---
Contingency	51,100	---
TOTAL	\$1,473,800	\$1,295,100

The increase in cost for the Maintenance Program Support reflects a redefinition of this item to include construction workers as well as maintenance staff. The reduction in the temporary wage labor and vehicle operation and maintenance categories reflects revised up-to-date estimates based on increased participation in these areas by the GOL.

E. Training

A budget of \$387,200 was included in the PP for AID's contribution to the training plan. This includes the training of 3 engineers at the B.S. level in the U.S., 20 senior technical officers (60 study years) for long-term training at Lesotho Technical Schools and short-term in-service training for 156 masons, foremen and supervisors and 547 waterminders. The 2-year work plan projects a cost of \$385,500 for this item, including a cost of \$48,000 for Health Education Training which was not included in the PP budget. Costs for the training of the 3 engineers in the U.S. are higher than anticipated and there is some concern that this item may go over budget if the three students do not complete the training on schedule.

F. Health Education

Outside of furnishing a TA Health Education Coordinator, the PP does not identify any other input to the project by AID for health education. Without some funding for training of health education facilitators at the village and district level, the level of output under the Health Education segment will be seriously retarded. In line with recommendations in the 2-year work plan \$48,000 in AID project funds is now budgeted for training in the next 2-year period as follows:

Support for District Workshops	\$35,000
Training Aids	11,000
K.A.P. Surveys	<u>12,000</u>
Total	\$48,000

The evaluation team concurs in this adjustment.

G. Commodities

The commodities to be financed by AID in this project as identified in the PP include well drilling equipment, casing and supplies, hand pumps, diesel engines, windmill parts, power water pumps, vehicles, tools and power equipment (for waterminders and maintenance centers), water testing equipment, pipe, fittings, valves, cement, steel storage tanks, reinforcing steel and other miscellaneous construction items. Several changes in the procurement of commodities are recommended in the two-year work plan and are discussed below.

1. Drilling Equipment

The rotary drilling rig proposed in the PP is not recommended for this project. Reasons are the extreme high cost, too high a degree of sophistication of the equipment and lack of desired mobility to locate it in the rough terrain of Lesotho. In lieu of the large rotary rig, 4 trailer mounted cable tool rigs and 3 small trailer mounted rotary rigs are recommended. The cable tool rigs have been procured.

2. Hand Pumps

The number of hand pumps is unchanged from the 400 units in the PP, but costs in the PP were understated.

3. Vehicles

The two-year work plan proposes a total of 28 new vehicles compared with 27 in the PP. The vehicle requirements were also modified to include 3 medium and 3 heavy-duty trucks. All vehicles are being purchased in South Africa. Again, costs were understated in the PP.

4. Pipe and Fittings

Recommendations are to utilize only galvanized steel pipes for the project. The PP included PVC plastic pipe which has proven to be troublesome during construction and maintenance, and therefore not appropriate for use in Lesotho.

The total budget for commodities in the PP was estimated at \$7,602,200 over the life of the project. This compares to \$6,651,200 recommended in the 2-year work plan. It is difficult to make an item by item comparison of costs between the PP and 2-year work plan as the PP separated shipping, inflation and contingency costs from each item, while these factors are included in each individual item in the 2-year work plan. However, the following table will best illustrate the line item costs proposed in the 2-year work plan as compared to the PP.

<u>Item</u>	<u>Projected Costs in PP</u>	<u>Projected Costs in 2-Yr Work Plan</u>
(1) Drilling equipment, spare parts, and support	\$ 637,200	\$ 421,000
(2) Well drilling supplies, & casings	109,000	149,400
(3) Hand pumps	200,000	581,100
(4) Diesel engines, windmill parts & pumps	68,000	83,100
(5) Vehicles	174,400	429,900
(6) Tools & power equipment	68,300	(124,500)*
(7) Water testing equipment	2,900	19,900
(8) Pipe, Fittings & materials	2,648,000	4,858,800
(9) Cement, rebar & steel tanks	108,000	108,000
(10) Shipping & transport	1,466,100	---
(11) Inflation Allowance	688,500	---
(12) Contingency	1,431,800	---
TOTAL	\$ 7,602,200	\$ 6,651,200

*Cost included in TA Contract budget

As illustrated by the above table, a savings of \$951,000 is estimated in the procurement of project commodities.

II. Government of Lesotho

A. Financial Summary

GOL contributions over the life of this project are summarized below. The summary shows the estimated costs in the Grant Agreement and those projected in the two-year work plan.

	<u>Grant Agreement</u>	<u>Two-Yr WorkPlan Projection</u>
1. Systems Maintenance Support Programs	R 760,900	R1,328,700
2. Administrative Support	373,600	254,700
3. Land, Utilities, Access Roads, etc.	(70,800)	(70,800)
4. Center & Housing Furnishings	24,100	28,700
5. Village Self-Help Labor	(368,000)	(368,000)
Total (including In-Kind)	R1,597,400	R2,050,900
Less In-kind contribution	438,800	438,800
Net Cash Contributions	R1,158,600	R1,612,100

Figures in () indicate in-kind contributions.

The following sections review the GOL input into the project in further detail. The above shortfall projected for the GOL's contribution is a major concern of the evaluation team, and should be addressed in future project planning.

B. Systems Maintenance Support Program

Under the Grant Agreement, the GOL is to provide funding, on an increasing percentage scale, to cover the salary and materials costs for the systems maintenance support program. The percentage of costs by the GOL is to be 20 percent in the initial year of the project and increase by 15 percent each year until the sixth year, when GOL will be responsible for all costs of this program. The GOL budget for its share of this item was projected at R760,900 in the PP.

The Grant Agreement stipulates that the GOL is to furnish one (1) senior engineer, three (3) engineers, nine (9) senior technical officers (STO), seven (7) technical officers (TO) and 26 technical assistants (TA) in both the headquarters and field operations component of this program. The two-year work plan projects the following personnel needs and associated GOL costs over the life of the program. The costs are projected on the assumption that all positions will be filled in 1982 or 1983. This will probably not happen, especially in the categories of supervisors and engineers, but will serve as a basis in analyzing program needs and costs.

TWO-YEAR WORK PLAN PROJECTIONS

Maintenance Support

<u>Position</u>	<u>Number</u>	<u>Project Share</u>	<u>GOL Share</u>
Engineer	1	\$ 17,800	R 35,100
STO	1	16,000	31,200
TO	4	43,900	86,300
TA	8	54,700	107,800
System Repair Parts	-	73,900	163,100
Vehicle Maintenance (Spare Parts)	-	64,000	148,000
Sub-total	14	\$ 270,300	R 571,500

System Construction Support

Sr. Engineer	1	\$ 24,700	R 48,700
Engineers	4	71,300	140,300
STO	6	95,500	187,800
TO	12	131,900	259,000
Sub-total	23	\$ 323,400	R 635,800

Borehole Construction Support

TO	5	\$ 54,900	R 107,800
TA	1	6,900	13,600
Sub-total	6	\$ 61,800	R 121,400

PROGRAM TOTAL	<u>43</u>	<u>\$ 665,500</u>	<u>R1,328,700</u>
---------------	-----------	-------------------	-------------------

The 43 positions recommended in the two-year work plan compares favorably to the 46 positions called for in the PP. However, it can be seen that the PP grossly underestimated the costs of these positions over the life of the project. The additional cost burden to the GOL must be recognized and planned for accordingly.

Of major concern to the Evaluation Team relevant to the GOL's participation in the maintenance support program is the fact that the GOL has not yet established the above positions as called for in the Grant Agreement; consequently, they are not being filled with qualified people. Those being trained for the maintenance program can only be hired on a temporary daily-paid basis. Also, the current GOL hiring freeze prevents the people trained by the TA team and VWSS from being both placed in the proper position and receiving the proper salary. This is causing severe morale problems in the VWSS maintenance staff and VWSS stands to lose these trained people unless the situation is corrected. It appears that the GOL does not realize the seriousness of this problem, as it has been discussed in detail with various GOL officials on numerous occasions.

C. Administrative Support

The Grant Agreement requires the GOL to provide administrative support to the project consisting of four typists, seven clerical assistants, five assistant storekeepers and five store assistants at an estimated cost of R373,600 over the life of the project. The number of personnel to be furnished by GOL for administrative support is based on more realistic needs, and has been reduced in the two-year work plan. The estimated GOL cost over the life of the project has consequently been reduced to R254,700.

D. Land and Furnishings

All land, utilities, access roads, etc., required for the construction component of the project (housing and maintenance centers) is to be provided by the GOL. In addition, the Grant Agreement requires the GOL to provide basic furnishings for all facilities constructed under the project. The estimated costs for land, utilities and roads in the Grant Agreement was identified as R70,800 and R24,100 for furnishings for a total of £94,900. The GOL has honored this commitment and has provided all land, utilities, access roads, site preparation, etc., and furnishings as agreed. However, no present cost analysis has been made pertaining to the value of this contribution.

E. Village Self-Help Labor

As a part of the selection criteria and subsequent agreement to construct a water system in a village, the villages are required to provide volunteer labor to dig trenches, carry piping, cut stones, build reservoirs, etc. This self-help labor contribution was estimated at £368,000 in the Grant Agreement. Again, no accounting is being made to determine the actual value of this labor.

With a few exceptions, the self-help labor program appears to be working quite well. The Evaluation Team had the opportunity to visit several villages in order to observe village self-help labor working on projects. It was enlightening to see the extent of villagers volunteering their labor, and enthusiasm shown in their work.

F. Other Contributions

A major expense not included in the GOL contribution schedule, and one that should qualify as in-kind support credited to GOL, is that of vehicle operation. Assuming 100 percent GOL support for petrol, oils and lubricants for project funded vehicles, the two-year work plan projects the value of this contribution to be \$642,400 over the life of the project.

III. Other

A. Financial

At the present time there are numerous other donors providing assistance for developing and constructing water supply systems in Lesotho. Those identified by the Evaluation Team included UNDP, UNICEF, CIDA, CRS, EEC, and British, Danish, Dutch and Swiss aid programs.

It should be noted that there appears to be very good cooperation and integration of other donor funds into the VWSS organizational structure, which is being strengthened by the TA contractor under the AID project. Donor funds are being integrated into the VWSS program and, consequently, the project administration is providing for the continuity and coordination of other donor assistance to insure that current VWSS standards are maintained.

B. Technical Assistance

Prior to the start of this project by AID, the Swiss Helvetas team provided 4½ years technical assistance to the VWSS. Indications are that the Swiss team will continue this level of technical input for several years to come. The integration of the Swiss technical assistance team with the AID project's TA team has been excellent, and is working towards the goal of strengthening the VWSS organizational, management and operational standards. At the present time the Swiss Helvetas team consists of seven technicians.

Additional technical assistance is presently being provided to VWSS by two Peace Corps, two British IVS and one Danish VS volunteers. The contribution of these volunteers is most valuable to the VWSS organization and administration since the GOL has been unable to provide qualified people in critical operational areas.

Emphasis is also being placed on the recruitment of additional volunteers for VWSS which will increase the potential for success of the AID project. The TA contractor is presently making efforts in the U.S. to assist recruitment of Peace Corps volunteers specifically for this project. It should be understood by the GOL that these volunteers are only filling positions in VWSS until such time as the Government can fill the positions with trained personnel as specified in the Grant Agreement.

17. Outputs

I. Project Implementation Status

Below is the project implementation schedule reflecting progress attained following arrival of the TA team and also a projected schedule of activities through the end of this calendar year, based on the approved two-year work plan.

<u>Date</u>	<u>Activity</u>
July 1981	Procurement Schedule No. 1
July 1981 - May 1982	Project Vehicles, Phased Procurement
August 1981	VWSS Organizational Structure
September 1981	1st L.T. Training Participants Depart for U.S.A.
September 1981	1st PIO/C Issued for U.S. Commodities.
September 1981	System Maintenance Support Program Approved
September 1981	B/H Construction Begins
October 1981	Temporary Wage Labor Program Approved
October 1981	1st Mason Training Program
December 1981	2nd Mason Training Program
January 1982	2-Year Work Plan Approved
January 1982	System Construction Begins
January 1982	1st Vist, Drilling Consultant
January 1982	1st Foremen Training Class
January 1982	1st TTS Graduates Hired
February 1982	T/A Commodities Shipped
February 1982	1st USAID Transfer of Local Procurement Funds
April 1982	1st U.S. Commodity Bid Opening
April 1982	1st PIO/C for Hand Pumps
April 1982	Drilling Rigs Ordered
April 1982	Maintenance Centers Opened
May 1982	1st Project Evaluation
June 1982	3rd Mason Training Course
September 1982	1st U.S. Commodities Arrive
September 1982	2nd USAID Transfer for Local Procurement
September 1982	2nd PIO/C for U.S. Commodities

II. Two-Year Work Plan

In accordance with Article 4, Section 4.3 of the Grant Agreement, the GOL was required to submit to AID a detailed two-year work plan prior to the initiation of construction activities for the village water supply systems. This work plan was not initiated by GOL at the time of arrival of the TA team and consequently a large portion of the team's initial months on site were spent in organizing and preparing the two-year work plan. The entire team contributed to the preparation of the work plan under the direction of the team leader, with assistance from Senior Engineer, R. Mosiuoa Mota, Helvetas team leader Armon Hartmann and other VWSS staff.

The plan establishes, in detail, the construction schedule for the next two years with a general plan pertaining to construction activities over the next five years. It includes a financial analysis for all phases of the project, with projections of annual financial obligations for both AID and the GOL.

The two-year work plan was completed in January 1982 and has been reviewed and adopted by both the Mission and the GOL. The evaluation team was impressed with the detail contained in the document, as well as the professional manner of presentation, and concurs in its adoption.

III. Regional and District Maintenance Centers

The construction of one regional maintenance center in Mohale's Hoek and three district centers at Quthing, Mafeteng and Teyateyaneng have been completed under a FAR arrangement contract with the GOL, and as of April 1982, were placed under the jurisdiction of the VWSS.

Also included in the FAR contract was the construction of five senior technician houses in Maseru, one senior technician house in Mohale's Hoek and one field staff house in Mohale's Hoek. These houses have also been completed, except for connection of utilities to the houses in Mohale's Hoek, which is the responsibility of the VWSS, and should be completed as soon as possible, in order to avert further delays.

IV. VWSS Organization

One of the principal outputs expected from this project is the improvement of the VWSS's organizational and operational capabilities.

After the first ten months of participation in the project by the TA contractor team, vast improvements were evidenced in the VWSS organization and its management and operational procedures. However, there are many obstacles to overcome and many more improvements to be made before the VWSS organization can be strengthened to the point expected at the end of the project.

The two-year work plan contains the proposed national organizational structure of the VWSS (Attachment 2). It was the intent of the PP that the TA contractor team would fill certain slots in the VWSS organization with Basotho counterparts assigned by the GOL for actual training in these positions. At this time, all TA team members are functioning in VWSS positions, but only one counterpart (VWSS Senior Engineer) has been provided by GOL. Many other positions in the VWSS organization are being filled by the Swiss technical team and Peace Corps or similar volunteers. Consequently, this output is not on target relevant to the GOL's participation.

The failure of the GOL to assign counterparts to the TA team, to establish the required positions for the VWSS organization and to fill the positions with qualified personnel, are all presenting serious drawbacks in meeting the goals of this output. To achieve the purpose of this output, the GOL must meet their obligations as stipulated in Section 5.3 - Establishment of Positions and Section 5.4 - Project Personnel, of the Grant Agreement.

V. Training

Under the direction of the TA team's Training Engineer, VWSS has developed a long-term training program. The major elements of the VWSS training strategy are summarized by the following three objectives:

- (1) Establish or support, where feasible, in-country training programs;
- (2) Direct project resources towards training manpower required to meet project construction goals in the next five to seven years; and
- (3) Support training programs to meet longer term VWSS manpower requirements.

The following table from the two-year work plan presents a summary of the goals for training personnel in the next seven years.

<u>Position</u>	<u>81/82</u>	<u>82/83</u>	<u>83/84</u>	<u>84/85</u>	<u>85/86</u>	<u>86/87</u>	<u>87/88</u>	<u>TOTAL</u>	<u>Total Proposed By PP</u>
Masons (TAO)	18	15	12	12	12	12	12	93	68
Foreman (TO)	10		10		10		10	40	7
Supervisors		3		7		7		17	--
Engineers					3			3	3
Senior Technical Officers (STO)	5	5	5	5	5	5	5	35	20
Water Minders	260	440	100	100	120	120	140	1280	547

At the time of this evaluation, a total of 43 masons have been trained with nine more scheduled in next three months; a total of nine foremen have been trained with nine more scheduled next year; three drivers have been trained to operate large trucks, four mechanics have been trained in the repair and maintenance of diesel engines with four more scheduled for this year; the training of 45 waterminders, bringing the total trained to 220. The project has hired five STOs last year and has an additional five enrolled in the Technical Training School on scholarships financed by the project.

Three students entered Montana State University in 1981 for long-term training at the B.S. level in Civil Engineering. These students are expected to finish their degree work in 1985. The three students have expressed to the TA contractor their desire to return on home leave in the fall of 1983. This was discussed with the Mission by the Evaluation Team and was dismissed for consideration due to Mission and GOL policies governing this issue.

The TA team's Training Engineer expressed what he felt was unsatisfactory performance by Phelps-Stokes in monitoring the three students at Montana State University. Phelps-Stokes is not reporting on the status of the students promptly to VWSS, nor are they responsive to requests for information by VWSS. The evaluation team recommends that the Mission communicate these concerns to Phelps-Stokes personnel.

VI. New and Reconstructed Rural Water Supply Systems

A. Water Systems

The output in the PP for this component calls for the construction of 142 new rural water supply systems and the reconstruction of 68 systems over the seven-year life of the project.

The two-year work plan projects the completion of 172 new systems and the reconstruction of 45 systems in the next five years of the project. For the next two-year period, 45 new systems and 12 reconstructed systems are scheduled for completion. All systems scheduled for construction in the next two years are slated for the Mafeteng, Mohale's Hoek and Quthing Districts in the Southern Region. Due to access problems, which are currently being addressed by AID's involvement in constructing the Southern Perimeter Road, construction of water systems will not begin in the Qacha's Nek District until after this initial two-year period.

As of this evaluation, nine gravity systems are under construction, (8 new and 1 reconstruction) with two nearing completion. Three additional gravity systems are under design. Also, 6 handpump systems have been completed and four more are under construction.

Borehole production has seen a substantial increase in the past year. This is due primarily to the addition of support vehicles and improvements in the management of mechanical repairs, which has previously caused a severe amount of drilling rig down time in the past. Also aiding in the increased productivity of the drilling crews was the consultation in January 1982 provided by a Drilling Consultant provided by the TA contractor. The Drilling Consultant offered numerous recommendations in improving drilling crew output and productivity as well as introducing improved methods for testing completed boreholes. A report relevant to the consultant's findings should be submitted at the earliest possible date, in accordance with the consultant's contract.

B. Hand Pump Testing Program

Lesotho was selected by the UNDP and the World Bank to undertake a Global Field Trial to field test hand pumps. The TA team supervised the construction of the boreholes and hand pump installations for 18 different sites, utilizing four different types or manufacturers of hand pumps. The hand pumps will be monitored by the TA team and periodically checked over a period of one year for mechanical reliability and social acceptance. The hand pump test program has given the TA team an opportunity to analyze the effectiveness of the current drilling program. This experience has aided in formulating recommendations for expanding the drilling program and for improving productivity required to meet the Project goals.

C. Appropriate Technology and Design Standards

The design methodology and standards currently being employed by VWSS have been updated and expanded by both the Swiss and U.S. TA teams. In addition, a manual has been developed and adopted by the VWSS. The manual includes design standards, standard drawings and construction details to be employed on all rural water supply systems.

D. Village Selection Methodology and National Priority Plan

Meetings by the TA team have been held with District Coordinators and officials of the MORD for purposes of identifying villages that may qualify for water systems. The criteria used in selecting villages to receive water supply systems has received the approval of AID, VWSS and the Ministry of Health (MOH). A National Priority Plan is being developed under the auspices of the Swiss and the U.S. TA teams. The priority plan includes selection criteria such as disease history, accessibility, presence of clinics and schools, subjection to drought, pollution of existing water supplies, distance to water source, population and availability of a water source. This National Priority Plan is the first of its kind in Lesotho and will be updated each year.

E. Handbook for Donor Assistance

A handbook has been prepared by the TA team for the purpose of presenting information on Lesotho and VWSS water supply activities for use by other donors for assistance in the construction of rural water supplies. The handbook contains background data on Lesotho, including organization and operations of VWSS, training, water quality and health education, system maintenance, standards of design, International Drinking Water Supply and Sanitation Decade (IDWSSD) Plan for Lesotho, donor aid categories, priority construction schedule, manual of standard structural plans, manual of building construction methods, manual of survey, design and construction and similar information of interest to other donors.

VII. Maintenance

Maintenance is a very important output required of this project to achieve the project purpose. Since the arrival of the TA Maintenance Engineer it is estimated that the maintenance capability of VWSS has increased by more than 100 percent. The program, as presented in the two-year work plan, is projected to increase the maintenance capability of VWSS by more than 400 percent over the life of the project, and focuses on improving the capability of VWSS in transport, maintenance and stores facilities and systems maintenance.

Transportation requirements are projected to be met with the purchase of 28 vehicles over the first three years of the project. Presently 24 vehicles have been purchased including three medium-duty and three heavy-duty trucks. Prior to the AID project, VWSS had only 12 vehicles (exclusive of Swiss Team Vehicles) and in most cases over half of these vehicles were inoperable due to lack of repairs. The TA Maintenance Engineer was appointed transport officer of VWSS in August 1981 and has responsibilities and authority over all transport. Preventive maintenance has been inadequate in the past. The lack of personnel, training, transport, facilities and financial resources were all contributing factors. Under the Project's support, personnel will be trained and materials and tools made available to properly service vehicles on a routine recurring basis. In addition, a maintenance team consisting of a mechanic and a welder has also been designated to service and repair well drilling equipment in the field; which has increased borehole capacity substantially.

Project funding has provided for the construction of District Maintenance Centers and Stores in Quthing, Mafeteng, Teyateyaneng and a Regional Maintenance Center and Store in Mohale's Hoek. These Maintenance Centers will be stocked with spare parts, and maintenance activities will be performed at each Center. However, the stores and workshop buildings in Maseru are very inadequate and the Evaluation Team recommends that expansion of these facilities be accomplished with surplus funds remaining in the FAR contract executed for the construction of the aforementioned maintenance centers.

Before the inception of this project, there was virtually no in-house inventory of spare parts and supplies. The TA team introduced a spare parts inventory and check out system which is being adopted by VWSS.

Systems maintenance teams are being structured and personnel trained for each region, with a national preventive maintenance team planned. System maintenance includes repairs and maintenance on village water supplies utilizing spring gravity systems, boreholes utilizing windmills, diesel engines, electric motors, hand pumps or combination of several types.

In general, the improvement in the VWSS maintenance capability since the start of this project has been substantial.

VIII. Health Education

A. Coordination Between MORD and MOH

Improved coordination between MORD and MOH was identified in the PP as an essential output of this project. Through the TA team's Health Education Coordinator, it appears that the coordination between the two Ministries has improved since the beginning of the project. Programs are being developed to educate villagers on the relationship between unsanitary practices and disease and to motivate them to change attitudes and practices involving water collection, storage and use. To implement these programs, a coordinated effort is needed of the Health Education Unit (MOH), District Public Health Nurses (MOH), Health Inspectors and Assistants (MOH), District Hospital Nurses (MOH), Nurse Clinicians (MOH), Private Health Association of Lesotho, Community Development Unit (MORD), Village Health Workers and others.

The spirit of cooperation between MORD and MOH is also shown by the efforts placed by both ministries in revising the village selection criteria. MOH suggested criteria from a public health point of view and final selection criteria now reflects the priorities of both ministries.

B. Health Education Plan

A Health Education Plan was prepared by the TA Coordinator to achieve the Project goal of improving the quality of rural life in Lesotho by improving the health and basic living standards of the rural poor. The objectives of the Health Plan are to:

- (1) Focus on specific negative practices and behaviors of individuals and the community which may influence health status and disease patterns;
- (2) To motivate and sustain community participation in the proper use of water and sanitation facilities;
- (3) To establish and maintain a system of testing and monitoring water quality; and
- (4) To establish and maintain avenues of mutual cooperation and coordination between MORD and MOH so as to effectively utilize existing resources.

C. Health Education Implementation Strategy

A strategy has been developed by the Health Education Coordinator for implementing health education at the village level. This strategy involves utilizing the resources of the Health Education Unit (MOH), District Workshops, village volunteer workers, community organization of the Community Development Unit (MORD) and utilizing village self-help concepts.

D. Sanitation - Latrine Construction

The PP suggested an experimental latrine construction output whereby this project would provide materials to the villagers for the construction of individual latrines with labor provided by individual village families. This program has not been initiated by the TA team and has been delayed until such time that an assessment can be made on economic factors, village social preceptions and supervision requirements. The Evaluation Team concurs in delaying the start of this program, as the TA team presently does not have the necessary format developed to make the proper assessments. Also, the Evaluation Team learned of a UNDP-UNICEF funded Rural Sanitation Pilot Project which is scheduled to start in January 1983. The project will conduct the necessary assessments required, and is planning the construction of some demonstration latrines in selected rural villages. The Evaluation Team recommends that the AID project delay any involvement in latrine construction until the Rural Sanitation Project is underway; then possible contributions to latrine demonstration projects by furnishing construction materials, transport and technical assistance, could be coordinated with the construction of rural water systems in a particular village in order that both projects undergo constructions at the sametime, utilizing combined efforts and resources.

E. Health Education Coordinator

The counterpart position to the Health Education Coordinator has not been established by GOL. During interviews by the Evaluation Team, many advantages and disadvantages were discussed as the location of this position, i.e., the MORD or MOH. It is the Evaluation Team's opinion that this counterpart position be located in MOH only if the project is assured that coordination activities between the ministries not be jeopardized. Otherwise, the position should remain within the MORD.

The Health Education Coordinator's initial year has been devoted basically to preparing the Health Education Plan, implementation strategies, organizing and other preparatory duties. Consequently, implementation of the Health Education Program is now just getting underway. Concerns have been expressed by both MORD and MOH that the remaining one year AID funding of the Health Education Coordinator position may not be sufficient to properly implement the program. This concern, and due to the fact that the counterpart position has not been filled, the Evaluation Team recommends that consideration be given to the extension of the TA Health Education Coordinator for at least one more year.

IX. Procurement

Procurement for this project is being accomplished by the following methods:

A. Commodities in TA Contractor Contract

A budget item of \$130,268 was included in the TA contractor's contract for the purchase of tools, supplies, water testing equipment and other miscellaneous materials for the project from the United States. At the time of this evaluation, approximately \$90,000 of this procurement has been completed. The balance will be procured as needed for the project over the next 2-3 years. All procured items have been shipped, with a major shipment now in Durban, RSA and scheduled to arrive on the project site in the near future.

B. PIO/C Issued to the TA Contractor for Procurement of Pipe, Fittings, and Valves

PIO/C No. 632-0088-4-10074 in the amount of \$1,370,000 was issued to the TA contractor in October 1981 for the procurement of 3,150 lineal feet of well casting pipe, 900,00 lineal feet of ½" through 2" galvanized steel pipe, pipe fittings and 2,950 valves. The TA contractor prepared the specifications and bid documents and the IFB was then advertised for receipt of bids. The CIF price to Mohale's Hoek was estimated at \$1,300,000 for the total procurement. Bids were opened in the AID offices in Maseru on May 4, 1982. The total of the low bids amounted to \$683,307.96, reflecting a savings of approximately \$686,692. The pipe and fittings, which make up the major portion of these materials, will be supplied from South Korea. A bid from a supplier in Zimbabwe exceed \$1,400,000, and was therefore discounted. Approvals are now being sought to award the contracts to the low bidders, with delivery of materials to Lesotho scheduled prior to September 30, 1982.

C. PIO/Cs Issued by USAID/Lesotho

PIO/Cs have been issued by Mission for direct purchase of the following items of equipment for the project:

24 vehicles	approx.	\$324,000
4 trailer mounted drill rigs		90,000
diesel engines and parts		11,700
200 Moyno hand pumps		250,000

The TA contractor provided the Mission with specifications, recommendations, and other assistance in the procurement of these items.

D. Procurement Through AID Funds Transferred to the GOL

PIL No. 14 issued to the GOL in the amount of \$211,600 contained a budget amount of \$39,900 for the procurement of diesel engines, wind-mill parts, repair parts, pipe, fittings, cement, rebar, steel tanks and other miscellaneous construction items. The TA contractor purchases these items as needed for VWSS, and has demonstrated good capabilities in their involvement in the procurement process.

18. Purpose

The purpose and principal focus of the project is to assist the GOL in developing the institutional capacity of the VWSS to design, construct and maintain new and existing rural water supply systems which adequately reflect health and sanitary conditions.

The End of Project Status (EOPS) calls for the following:

- (1) Establishment of a fully operational VWSS maintenance unit staffed with trained Basotho personnel;
- (2) Significant improvement of organizational and operational procedures within the VWSS and institutionalization of same;
- (3) Effective coordination between the MOH and MORD as it concerns health and sanitary measures utilized in rural areas with water supply systems; and
- (4) The ability of the MORD/VWSS to assume all recurrent costs.

Although the Project is only in its tenth month of implementation, progress has been made in several areas.

First, the basic foundation has been laid for the establishment of an effective maintenance system. The system has been reorganized into three regional teams, and corresponding manpower requirements have been developed. In addition, one regional and three district maintenance centers have been constructed and are expected to be operational by July 1982.

Second, the arrival of the TA team and the corresponding integration of the team within the VWSS organization has significantly strengthened and improved the efficiency of VWSS' operational activities. Prior to the arrival of the U.S. team, there was limited long-term planning, little maintenance capability, limited manpower and a very weak organizational structure. Today, there are 18 expatriates within the VWSS. They include the six U.S. TA team members, two Peace Corps Volunteers, two IVS volunteers, seven Swiss advisors and one Danish volunteer, all working together for the purpose of achieving the same objective--to bring adequate water supply systems to the rural poor of Lesotho.

Third, progress has been made to coordinate VWSS activities with the MOH. Although progress in this area has been slow due to limited resources and cross working relationships within the MOH, plans are now underway to conduct

a series of Health Education Workshops in selected villages aimed at upgrading health education skills of the related health personnel operating in the field, i.e., health inspectors, health assistants, etc. Also, a Village Profile Analysis has been developed. This will be utilized in surveying each village for the purpose of obtaining information to assist the MOH in focusing on specific problems in planning and executing public health activities.

Fourth, and perhaps most importantly, the ability of the MORD/VWSS to assume the project's recurrent costs is uncertain, at best. Although the GOL has shown intense interest in this project, their ability to assume the recurrent costs of maintaining this project is limited. Currently, the GOL has imposed hiring and vehicle operation freezes. They have not provided the appropriate counterparts called for in this project and their billing and payment system, relevant to the payment of bills incurred by VWSS for parts, petrol, temporary labor, etc., requires drastic improvement. For example, during a field trip, the evaluation team, traveling in government vehicles supplied by USAID, were not able to obtain petrol at a GOL supply point because the government had not paid their previous bills and the private supplier had refused delivery. Also, VWSS maintenance personnel were unable to obtain the required spare parts from a vendor to repair both USAID and GOL funded vehicles because the GOL had not paid their bills for the past three years. This obviously raises great concerns as to the GOL's ability to assume full operational responsibilities once this project is completed. One solution, at least in the short-term, would be for GOL to allow establishment of a payment function in VWSS so as to have a more responsive and direct line of payment to suppliers.

19. Goal/Sub-Goal

The goal of the project is to assist the GOL in improving the health and basic living standards of Lesotho's rural poor who comprise the approximately 94 percent of the total population.

Although the GOL and MOH continue to support the program of providing improved health services to the rural areas of Lesotho, through the initiation of such projects as Rural Health. Substantial achievement of goal, as a direct result of the Rural Water and Sanitation Project, has not been realized, since this project, as well as the contributing Rural Health Project, are in their infancy stage of implementation. These implementation lags do not, however, effect the basic tenets of the project's goal, and the relationships that exist between the project goal and project purpose are still harmonious and sound.

20. Beneficiaries

The improved rural water supply systems being provided under the Rural Water and Sanitation Project is directly benefitting rural women in Lesotho, who, as dictated by tradition and other circumstances, are burdened with the responsibility of collecting water from distant sources located in rugged terrain. The entire rural population is also a potential beneficiary of improved rural water systems, and the health benefits, such as the reduction of water-borne and water-related diseases, that result from the use of such improved water. In addition, the rural poor of Lesotho will benefit from the health education component of the project.

The benefits that are being realized by women in this regard are the saving of time and energy expended on water collection. Although the benefits are hard to quantify, the MORD is currently developing a cost-benefit ratio method for the application of time saved by rural women in using improved water. So far, ratios of 1:12 have been noted as a ten-village average.

The provision of construction labor and the cash contribution from the rural population that is now underway in the various villages is promoting social benefits, such as self-help and community participation. These activities are positive and useful ingredients to other rural development efforts.

Overall, the 210 new and rehabilitated rural water supply systems envisaged for construction under the project will benefit some 100,000 rural people. The distribution of the benefits among the rural population is uniform and egalitarian, in that children, women, men, the young and the aged have all been observed using the improved rural water systems. Hence, the target group selection criteria contained in Section 102 (d) of the FAA is being satisfied since the Project is reaching the rural poor majority.

Indirect beneficiaries from the Rural Water Supply and Sanitation Project are the three long-term trainees in the U.S., the twenty long-term trainees in Lesotho, numerous short-term in-service trainees within the VWSS employees and some 1280 waterminders who will be given short-term training in the villages. Additionally, various local counterparts and employees of the VWSS will have the opportunity to learn and improve their skills through working together with the six-man TA team funded under this project.

21. Unplanned Effects

The integration of the TA team into the VWSS organizational structure has had the effect of combining resources and strengthening the units operational ability, and is attributed to the strong coordination of effort among the U.S. TA team with that of the Helvatis (Swiss) TA team. The two TA teams have worked well with each other, taking advantage of one another's resources and expertise. For example, the Helvatis team has provided considerable assistance in the field of training. The AID project's TA team has been able to take full advantage of the Swiss team's years of training programs and construction techniques already in place upon their arrival, and also construction standards developed specifically for Lesotho. This has saved considerable time and money in implementing the project. At the same time,

the Swiss have been able to utilize the U.S. TA team's management and planning expertise for improvement of staff support services as well as utilizing the TA team's technical expertise to supplement their own. Consequently, most construction projects to date have concentrated on rehabilitating and redesigning previous projects so as to allow the TA team time to familiarize themselves with conditions in Lesotho and to prepare the logistics and ground work for embarking on construction activities with full force upon the arrival of construction commodities funded with the USAID project.

In essence, both teams have pooled their resources, which has worked extremely well. Rather than concentrating on an independent project, both teams have worked as one. The effect has been to construct rural water systems as joint effort, thereby accomplishing overall project objectives. These results could not have been achieved without strong coordination and cooperation on the part of both teams. As a result, this effort has produced considerable interest at the highest levels of the GOL, and considerable amounts of new donor aid have been realized from such sources as the UNDP, British, private contributions and increased local village support. Overall, the effects have been highly advantageous and should be encouraged.

22. Lessons Learned

A. Even at such an early implementation stage of the Rural Water Supply Sanitation Project, genuine enthusiasm and project participation by the rural populace in the various villages has been noticed to exist and prevail. This is true, mainly due to the fact that the rural water systems being introduced, such as the simple hand pumps and gravity systems, are utilizing simple technology and design, and as such show a definite improvement over the existing old traditional water sources. The use of local materials for the construction of the water systems, to the extent possible, also simplifies design and implementation and minimizes maintenance and repair problems.

B. Early community participation, as exists now in this project, enhances the future involvement and participation required from local rural people in maintaining and managing their water supply systems after the completion of donor projects. Hence, the need for community participation should always be realized and encouraged in similar projects.

C. Even with the application of simple and appropriate technology and design of rural water systems, VWSS supervision and support of maintenance activities will still be required. It is naive to think that the rural people themselves can construct and maintain water systems without outside assistance, although such support and assistance can be minimized through the introduction of relevant training to the rural community in the field construction and maintenance and use of very simple rural water supply systems. Whatever the case, any rural water supply system, however simple in design or inexpensive in cost, can never materialize or function without the concerted efforts of both the rural populace and other local or supplementary donor assistance.

D. If any development assistance is to be effective and efficient, there must be full integration of donors and donor projects. Coordination of donor projects under one umbrella institution, such as the VWSS, avoids duplication of efforts, and strengthens the local institution's ability to design, construct and maintain improved rural water systems in order to reach the needs of the greater rural populace. Due to some of the cultural differences and competitive tendencies for excellence and recognition of efforts amongst donors, disruptive elements may sometimes surface that confuse and ultimately jeopardize the entire development process within the country. This can only be averted through the coordination of donor projects, the cooperation of donors to work and strive towards the achievement of a common goal in an efficient and effective manner, and through pooling their diverse knowledge and experience. The existence of such an effective and harmonious development assistance transfer mechanism encourages other donors to contribute whatever assistance they may have available, with the knowledge that their share of assistance will be effectively utilized and managed within the viable institution established.

E. In a project where the primary purpose is to provide improved water, efforts to link health benefits to water supply prove difficult and pose immense problems, especially when the health component has not been adequately funded. Assuming that the health linkage would be realized through coordination with other projects or other government ministries, rather than through the main implementing agency, it is futile and subject to many uncertainties. This linkage must be properly identified and fully supported and funded within the main project, and over-reliance should not be placed on other agencies not directly involved in the implementation process.

F. It is essential that donors ascertain, even more clearly and forcefully than is now the case, that recurrent project costs are thoroughly analyzed prior to project inception. Commitments or interests on the part of the Host Government, although essential and necessary, do not by themselves guarantee local funding of post-project operations. The capabilities and problems of the aid recipient to bear recurrent costs should be well-explored and addressed candidly, with definite funding sources identified during the project's early design stages.

23. Special Comments or Remarks

A. Overview

The evaluation has determined that this project is meeting the basic goals and objectives of the project and has strengthened the institutional capacity of the VWSS. The TA team has coordinated overall VWSS activities and has developed and implemented improved management concepts which have increased both the efficiency and effectiveness of the VWSS to plan, develop and manage the design, construction and maintenance of rural water supply systems.

With respect to the project's ability to obtain and manage additional donor assistance, the evaluation team feels the TA team has performed this task in a superior manner. Not only has the TA team coordinated other donor assistance, but they have also generated additional donor participation. The concept of multi-donor participation, together with a strong coordinated and well managed effort, is encouraged, especially in a project which is supported by the host government and well received by the people it is intended to benefit. The project exemplifies the success which can be achieved when strong coordination among donors is achieved, and direct community participation, in this case, the villagers, is encouraged.

B. Financial Status

1. Financial Inputs - USAID

Presently, a total of \$7.3 million has been allocated to the project, with total obligations of \$5.0 million. Of this amount, approximately 2.1 million has been expended leaving a total pipeline balance of 5.2 million. However, it should be noted that the present pipeline does not reflect the true implementation picture of the project. Early obligations in FY 1978 and 1979 coupled with the inordinate AID/W contracting delays, led to the early buildup of the pipeline. As the TA team did not arrive until July 1981, the large pipeline remained. However, this situation is changing. In the following year, drawdowns against the pipeline will be significant. For example, the TA contract will receive a funding increment in August 1982 of approximately \$1.3 million. The project is currently in the process of awarding its first procurement of pipe, with another procurement scheduled during the ensuing months, estimated at \$1.7 million. The first shipment of hand pumps is scheduled to arrive in June 1982, and additional \$250,000 expenditure. In addition, other commodities such as drill rigs, vehicles, spare parts, and transfers of funds for VWSS operating costs totalling 1.2 million are anticipated in the following year. Total drawdowns against the present pipeline during the following year are therefore approximately \$4.5 million, which reduces the current pipeline considerably (to \$700,000) and more appropriately reflects the project's true expenditure and implementation picture. One cannot always simply view a project's pipeline in order to determine a project's true picture. This project experienced severe and unnecessary delays, which consequently directly contributed to the magnitude of the pipeline. As illustrated above, this problem has now been alleviated.

2. Financial Management - GOL

The GOL needs desperately to improve their overall financial management capabilities. Major weaknesses presently exist in budgeting, payments, reporting, stores, distribution and inventory control. Although this project has made major contributions towards improving this problem, much more needs to be done. The GOL must institute the necessary financial controls to properly control overall expenditures. Special attention is needed in the areas of stores and inventory control. Additionally, an improved budgeting system must be developed in order to adequately reflect the GOL's true budgetary requirements and properly identify all sources of additional donor aid. Additionally, an improved reporting system is

required in order to control expenditures and maintain budgetary forecasts. Hopefully, more stringent controls, coupled with an improved budgeting process, will lead to alleviating the magnitude of the present GOL recurrent cost problem. As indicated in the recently approved two-year plan, a deficit of between \$500,000 and \$1 million is projected relevant to total GOL life-of-project funding requirements.

Lesotho Rural Water/Sanitation Project
Persons Inverviewed by the Evaluation Team

Morrison-Maierle, Inc. (Contractor)

David Wadsworth - Team Leader
William Arnold - Maintenance Engineer
Al Tudor - Training Engineer
Phil Howard - Health Education Coordinator
Robert Johnson - Financial Advisor
Joginder Bhutani - Construction Engineer

Government of Lesotho/MORD

Vincent Mokhele - Minister of Rural Development
S.T. Mota, Permanent Secretary, MORD
R.M. Mota - VWSS Senior Engineer
Per Ryden - Rural Development Advisor
Ms Mosae - Projects Director
Joel Cochenour - Head Planner

Government of Lesotho/MOH

M. Petlane - Chief Health Educator
N.T. Borotho - Health Education Unit
K. Ntoampe - Health Education Unit
F.T. Juraşoang - Health Education Unit

Helvatis (Swiss)

Armon Hartman - Team Leader
Rudolf Stark - Chief Training Officer

Other

Barry Jackson - World Bank
Ian Freilyng - IVS
Ron Rabella - Peace Corps Volunteer

USAID/Lesotho

Frank D. Correl - Mission Director
Fred Zobrist - Project Manager
Joseph Carney, Human Resources Development Officer

MINISTRY OF CO-OPS AND RURAL DEVELOPMENT

VILLAGE WATER SUPPLY SECTION

NATIONAL ORGANIZATIONAL STRUCTURE

ATTACHMENT 2

