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ISN 30781

L E S O T H O

Land Conservation and Range Development
(632-0215)

Project Review/Evaluation

December 1982

13. SUMMARY

The Lesotho Land Conservation and Range Development (LCRD) project (632-0215) was authorized in fourth quarter 1980 as a seven year USAID input through a $12,000,000 grant to the Government of Lesotho (GOL). This project is a logical outgrowth of earlier AID assistance to the GOL in conservation programs begun in 1973, having a similar goal of increasing both the productivity and incomes of the rural poor engaged in crop and livestock production. The purpose is to strengthen the capability of the Ministry of Agriculture MOA to plan and implement programs which will increase the productivity of Lesotho's crop and rangeland, while conserving the land base. The project consists of two components: land conservation and range management. The first component involves construction of conservation structures and the preparation and implementation of on-farm plans by MOA planning teams. Similarly, the staff of the range management component will work directly with farmers to help them organize Grazing Associations and to apply sound management practices to both rangeland and livestock production.

It is the opinion of the review team that the project is largely on track according to the original design and that only minor adjustments are necessary. Objectives should be reached if implementation continues as scheduled. Many of the problems and concerns which came to our attention can be resolved in adjustments and change in emphasis that should come out of the recommended financial review to be held by USAID/Lesotho, GOL/MOA and contractor management.

The evaluation team found that progress is being made in each of the output areas although in some areas achievement is slower than what was originally targeted. A capable and energetic technical assistance team is on-board and functioning well. We have recommended that the job descriptions and duties be reviewed to consider the concerns and change in emphasis that this review has suggested. Decentralization policies, hiring freeze and staff on long term training has produced some gaps in the staffing of the Conservation and Range Management Divisions, thereby leaving some counterpart positions open. Participant training component of project is progressing well and on schedule. Plans for in-service training are written. Commodity lists need to be reviewed in light of current GOL financial situation.

The current financial difficulties faced by the GOL has resulted in reduction of some GOL inputs. This will undoubtedy have a large negative impact on reaching project objectives unless it is resolved. Also, the decentralization of Divisional staff to District level requirus adjustment in project activities if projected outputs are to be met.

14. EVALUATION METHODOLOGY

The project paper calls for two external evaluations to be scheduled during the life of the project; one planned for after the 3rd year and one at the end of project. Internal reviews are scheduled intermittently at the discretion of the project officer. The purpose of this first internal evaluation/review is to verify project hypotheses and to assess progress to date in relation to Project Paper (PP) design and implementation schedule. Also, it is to examine and appraise project inputs and outputs as to their relevance toward reaching desired project purpose and goal. In addition, this review may be of value in evaluating the AID input into the development of conservation and range management divisional capability to carry out their functions on a national level.

This evaluation was conducted by Curtis R. Nissly, Agriculturalist, REDSO/ESA and Jim Tiedeman, Range Ecologist from the Lesotho Farming Systems Research Project, assisted by Jim Dunn, AID/Lesotho Agriculture Officer. All staff inputs were provided at no additional costs to the Mission.

This review followed a logical procedure that emphasized information gathering through interviews and field trips, discussion, feedback and re-evaluation of ideas and points of view as they developed. Information sources included Mission staff and project documentation, reports and workplans by contractor, evaluation reports from previous AID supported conservation projects, discussions with MOA staff including expatriates and field observations. Key individuals contributing information to the evaluation were the technical assistance team and counterpart staff, heads of MOA Conservation, Range, Crops, as well as the Directors of Technical Services and Extension Divisions, and the Permanent Secretary of Agriculture.

15. EXTERNAL FACTORS

Lesotho's large investment in conservation activities has played a major role in the development and design of the project and dictated the major assumptions accepted. AID assistance to the GOL in the area of soil and water conservation began with the Thaba Bosiu Rural Development Project (632-0031) which was carried out from 1973-1979. Programs initiated continued with the Land and Water Resource Development Project (632-0048) which began in 1975 and was completed in 1982. The subject project under review was seen as a logical outgrowth of these earlier projects. Conclusions from the 1980 external evaluations of these two projects were important considerations in the design of the conservation component of the subject project. The institutional capability established, technical and managerial experience developed, and implementation methodology tested in the Thaba Bosiu and Land and Water Resource Development projects form the foundation for the conservation activities of this project.

In response to GOL continued emphasis on conservation and the realization of the impact of overgrazing on erosion, two related Project Identification Documents were submitted by USAID/Lesotho-i.e.-Accelerated Land Protection (632-0204) and Grazing Lands Management (632-0208). It was determined by GOL and AID/W that these efforts should be combined. This project is the product of that consolidation.

Based on the evidenced historical commitment to conservation and recognition of the serious problems caused by livestock mismanagement the project design was based on the following assumptions. These assumptions as stated in the logical framework were presumably correct at the time the project was designed.

However, the current validity is questionable and is subject to discussion. Discussion will follow the logical framework.

Assumption: The GOL will retain the high priority accorded soil and water conservation and range management. This will be evidenced by timely and adequate budget allocation by the GOL and assignment of appropriately trained staff to the Range Management and Conservation Divisions when required for successful implementation of the project.

Discussion: It is very clear to the evaluation team from discussions with technical assistance (TA) and Basotho national staff that recently there have been significant decreases in capital and recurrent funds allocated to both the Conservation and Range Divisions. This does not necessarily mean a change in priorities but rather reflects current GOL financial difficulties which are affecting most ministries. For example, according to our information Division Chiefs were instructed to reduce recurrent budgets for next year by about one-third which

means the Divisions can do little more than pay salaries. Also to date, support staff for the newly organized Range Division has not been supplied by GOL. Several TA experts have not been provided counterparts. In brief, the situation is very serious. It is the opinion of the review team that unless the constraint of reduced GOL proposed support is corrected it could well result in project outputs falling short of the stated objectives.

Another far-reaching change in GOL policies has been the decentralization of MOA staff from Division headquarters to District offices. Staff from the Divisions have been transferred to the Districts having gaps in the Division. For example, the planning section of the Conservation Division has lost 5 out of a total of 7 national professional staff which were trained to B.Sc. level. It should be noted that the Conservation Division was specially hard hit with these transfers because there was a cadre of trained persons. In many cases these were AID trained persons. The soils section lost their senior technical person to administration. MOA has not refilled positions left vacant by transfers. Although it is recognized that emphasis on the District is good, the Divisions have been weakened as a result. As a result of this situation there are no nationals with a B.Sc. degrees presently in the Range Division and only 2 in the Conservation Division. With the current GOL freeze on hiring several TA are without counterpart staff thereby lessening their effectiveness and in-service training opportunity.

These events, along with the fact that many officers are out of country on long term training has brought on a situation where some divisional activities are being curtailed due to shortage of staff..

<u>Assumption</u>: Adequate numbers of qualified candidates for both degree and non-degree training will be available.

<u>Discussion</u>: The evaluation team is led to believe that this assumption is largely valid considering the number of participants already in training and those projected to begin training in 1983. However, given the moratorium on the hiring of recent graduates by MOA and the long term training abroad of key section individuals within the Conservation and Range Development Divisions, gaps are apparant in the counterpart training element of the project. This is leaving interim counterpart personnel, or in some cases no counterpart to work with expatriate technical staff. The negative element is that those individuals that will hold key section positions upon their return from advanced degree training are not benefitting from the presence of the resident technical staff.

<u>Assumption</u>: Effective implementation of the 1979 Land Act will be carried out.

Discussion: This assumption is still valid although the rate of implementation of the Land Act will be much slower than originally expected. Currently negotiations between the Ministry of Agriculture and the Ministry of Interior on choice of Selected Agricultural Areas is underway. The eventual implementation is very necessary for Lesotho livestock grazers to shift from a subsistance to a productive livestock economy.

Assumption: Funds will be available by GOL for funding of counterpart activities.

Discussion: As already mentioned under the previous assumption, the financial resources of GOL are being severely strained resulting in cutbacks. One very visual reduction is in the allocation of fuel for project vehicles. Once readily available, fuel is now restricted to 200 litres per month per vehicle. Critical items such as horses for transport in the mountains for range activities have not been met. Also, telephones are locked, with each division chief responsible for any outgoing calls making communication difficult. To our knowledge no capital monies have been released this year for the project although recurrent expenses are largely being honored.

While it is easily apparent that GOL finances are scarce and limited and the restrictions are reasonable in light of the crisis, there is evidence that those limited resources are being allocated to some new activities. A recent GOL initiative is the Technical Operations Unit (TOU), known as the Food Self-Sufficiency Program. This is a large capital-intensive sharecropping program using advanced mechanical high-input technology. Although this is not an MOA program, large numbers of staff and equipment are being diverted into this program, thereby apparently magnifying the current fiscal crunch.

The validity of this assumption now appears to be highly questionable. Since the project was designed with many activities completely or partially funded by GOL; the lack of these funds will no doubt impact on many areas of project output. The review team is of the opinion that workable and satisfactory solution must be reached as soon as possible. High level discussions between MOA, USAID and contractor management should be initiated immediately.

16. INPUTS

Technical Services: The project has provided for a total of 36 person years of technical assistance (TA) during the seven year life of the project. In addition to the nine technical assistance positions, there are provisions for 19 person months of short-term consultant time to be used in support of the LCRD project. Additional provisions have been made to employ a project Administrative Assistant and Secretary.

The prime contractor is Frederiksen, Kamine and Associates, Inc. (FK) who are supplying most of the TA through an agreement with American Ag-International. It is the judgment of the review team that the present LCRD team is of a high quality and have the ability to function competently in their respective positions. Table 16-1 lists the staff currently in place with the schedule of commitment.

The team is under the capable and experienced leadership of Barry Freeman, the Senior Range Management Specialist who also is acting as Chief of the Range Division. The review team was impressed with the forward thinking of USAID/Lesotho in procurring the services of consultant Tom Helseth who had previous recent experience in Lesotho with MOA and Conservation Division, to assist the team leader in initial contacts within the Conservation and Range Management Divisions. Also a short term consulting hydrologist has assisted the Engineering section. To date about 3 person months of short-term consultant time have been used.

The technical assistance job descriptions described in Annex IV of PP were reviewed with each staff member. The review team found that without exception the qualifications of TA staff is very high and each individual has a fairly good grasp on their respective duties and responsibilities as outlined in the PP. However, in a few cases the job descriptions do not adequately reflect the workload of the expert. It is suggested that all job descriptions be reviewed in light of current situation and workload and adjusted as needed.

Participant Training: The project paper includes plans for 14 person years of long term academic training at the M.Sc. level and 36 person years at the B.Sc. level. Long term training in Africa is also planned to include 18 person years at the Diploma level and 28 person years at the Certificate level. Short term technical training includes 44 person months in the U.S. Funds are available for 14 short courses of 25 participants each in Lesotho. Thirty-six study tours are also planned.

The project is presently well ahead of schedule in long term training with 12 individuals already placed at U.S. universities and one selected to depart in 1983. (See Table 16-2). Only three more individuals need to be selected to complete placement of all long term U.S. training participants.

TABLE 16-1

TECHNICAL ASSISTANCE TEAM - SCHEDULE OF POSITIONS COMMITMENT - LCRD PROJECT

POSITION	NAME	DATE OF ARRIVAL	TERM OF POSITION PERSON YEARS
1. Senior Range Management Specialist /Team Coordinator	Barry N. Freeman	September 1981	6 Years
2. Range Management Specialist - Planning/Inventory	Niels L. Martin	January 1982	5 Years
3. Range Management Specialist - Range Development	Terence O. Wheeler	January 1982	4 Years
4. Range Management Specialist - Field Operations	Larrye C. Weaver	January 1982	5 Years
5. Range Management Specialist - Grazing Management	R.O. Buffington	April 1982	2 Years
6. Agricultural Engineer-Conservation	Leroy Scherer	April 1981-1982	1 Year
7. Agricultural Engineer-Conservation	W.T W Welchert	June 1982	2 3 Years
8. Conservation Information Specialist	Eric Schwennesen	October 1981	4 Years
9. Conservation Soil Specialistner	P. Matthew Cauley	September 1982	3 Years
10. Conservation Agronomist/Planner	H. Wally Fausch	March 1981	4 Years
Support Staff - Local Hire			
Administrative Assistant	Sam.T. Lesole	December 1981	5 Years
Project Secretary	Mamokhele Mohatla	January 1982	5 Years

Annex 1 - Training Inputs

One participant has been sent to the U.S. for short term (10 weeks) training in pasture and forages. Three more should have been sent for short term training by this time for the project to be on schedule. However, they have been identified for training in early 1983.

Table 16-2
SCHEDULE OF PARTICIPANT TRAINING

LEVEL TRAINING	No. of Participants Range Division		No. of Participants Conservation Division	
	Planned	In-Place	Planned	In-Place
M.Sc.	4	1	3	3
B.S.	6	5	3	4 1/
Diploma	3	3	3	3
Certificate	7	-	7	-
Short term - USA	12	1	10	-
Short term-Lesotho	50	40	50	40
Study Tours	20	1	16	-

1/ One participant returned but was transferred to the Research Division.

Three short courses (workshops) have been held in Lesotho; one in forestry with 30 participants, one in range with 30 participants and one in management with 20 participants. One study tour has been held which included 25 participants. Ten more short courses and eight more study tours have been scheduled (See Annex 1). It was clear to the review team that in-service training needs to be emphasized and highlighted. This type of training will assist the Divisional and District staff to become more settled in their current positions in light of the frequent staff changes. Also it is the opinion of the review team that management training should be arranged for as many long-term trainees as possible because of the significant members of USAID trained Basotho who are placed in administrative roles. This training could also be offered as a special workshop in country.

Commodities: The vehicles purchased for use by the Range Management and Conservation Divisions prior to December 1981 included eight 4-wheel drive (4WD) pickups; one 4WD stationwagon and two sedans at a total cost of $88,691.42. The vehicles, as purchased and their Division assignments are as follows:

Division	Make	Model and Body Style	Registration Number
Conservation	Toyota	Hi-Lux 2000 4WD w/canopy	Y6132
Conservation	Toyota	Hi-Lux 2000 4WD w/canopy	Y6133
Conservation	Toyota	Hi-Lux 2000 4WD w/canopy	Y6134
Conservation	Toyota	Hi-Lux 2000 4WD w/canopy	Y6135
Conservation	Toyota	Hi-Lux 2000 4WD w/canopy	Y6147
Conservation	Chevrolet	Chevair 1.6 Sedan 4 door	Y9973
Range Mgt.	Landrover	Pickup PUP4,4WD w/canopy	Y6090
Range Mgt.	Landrover	Pickup PUP4,4WD w/canopy	Y6091
Range Mgt.	Landrover	Stawgn BUP4,4WD w/canopy	Y6089
Range Mgt.	Toyota	Hi-Lux 4WD Double Cab	Y6181
Range Mgt.	Chevrolet	Chevair 1.6 Sedan 4 door	Y6054

(Note: The Conservation vehicle (Y6132) was heavily damaged in a collision. Repair bids to determine the feasibility of rebuilding the vehicle are being received).
(Source: LCRM Project Report, November 1982)

The Conservation Division has purchased the following equipment prior to April 1982 at the cost of $189,204.59.

Item	Number
Caterpiller D4 Tractors	2
Farm Tractors	7
Caravans	12

(Source: LCRM Project Report. November 1982).

Furnishings for the new Range Division Headquarters building were purchased for $7,980.19.

Orders PIO/C's) for total of $89,319 have been written to purchase trailers, John Deere tractor and work shop mannuals.

The review team was informed that, as interpreted by the project TA team, the Range Management Division commodity list from the original PP does not reflect the needs of the project. A revised list for both divisions is in the process of being finalized. It is regarded that the finalization of this list is a priority activity for AID/Lesotho and contractor project management. We concur with the recommendation by the Land and Water Resource Development project evaluation team (see PES April 1980, page 16-1) that a complete physical inventory of all non-expendable property of the Conservation Division be undertaken in the near future. This task might well be accomplished by one member of the TA team possibly the Agricultural Engineer along with the Project Administrative Assistant. Along with the inventory, an assessment of equipment and vehicles as to their usefulness, repair costs, and credibility in light of the GOL financial constraints is necessary.

Construction: The Range Division headquarters staff moved into the newly constructed building in September 1982. This is a very adequate facility costing about $125,000 located on the same site as the Conservation Division Headquarters which facilitates coordination of these divisions. A contract with Phillips Telecommunications (Pty.) Ltd. of Bloemfontein, RSA to provide equipment for telecommunication system for the new office building has been signed for about $20,000. Installation will be provided by Lesotho Telecommunications Corporation. The telephone was scheduled originally as a GOL contribution but due to current constraints this item is being picked up by project funds.

Construction of the 6 senior houses (townhouses) on the site adjacent to the National Teachers Training College is moving toward completion (estimated December 1982). GOL is scheduled to provide the furnishings for these houses. The team was pleased to note that housing was available from AID pool for most TA staff upon their arrival in Lesotho hence, long accommodation in hotels was not necessary

Construction on housing and support facilities for the range management area (RMA) at Sehlabathebe should begin early in 1983. This was originally scheduled for completion by April 1982. Specific design is now receiving input from the project agriculture engineer, AID engineer and other team members.

Budgetary Support: The project has been providing funds on a 50-50 basis for cash payment to temporary laborers employed under the labor intensive construction program engaged in building conservation structures. Also, support is provided for some headquarters staff, field staff and transportation on the same basis. Amounts spent to date are $6424.02. This item will need to be considered in the GOL counterpart funding review to determine the size of future programs in light of available resources.

GOL INPUTS

The GOL contribution of $4,211,000 as detailed in Annex V-A in PP ($179,600 in foreign exchange; $4,031,400 in local currency) represents 26% of total project costs. These monies represent significant investments in personnel, training, construction, building maintenance and utilities, commodities and labour intensive construction.

As stated earlier in this review there are strong indications that GOL will not be able to fully meet their commitments toward funding this project. According to our information GOL has released very little funds for the capital expenditures to date. Recurrent expenses have been paid (at times late) although with increasing restrictions on staffing and fuel allocation relating to project activities. In light of the current serious situation, it is recommended that USAID/Lesotho and Project management assess the situation and explore the viable options to reduce this constraint. Project outputs will be severely curtailed unless an adequate solution is reached.

17. OUTPUTS

Expected project outputs and magnitude of outputs will be discussed as presented in the logical framework plan of the Project Paper (PP). Each output is prefaced with a description from the PP.

A. Trained Basotho Staff

There will be increased numbers of Basotho trained and assigned to the Conservation and Range Management Division and complementary positions elsewhere in the MOA, which will strengthen the institutional capability to plan, implement and manage expanded field conservation and range development programs. By the end of the project, the following training will have been completed.

Type of Training	Number Trained Range	Number Trained Conservation
Long-Term U.S.		
A Master Degree (2 year)	4	3
Bachelor Degree (4 yr.)	6	3
Long-Term Africa		
Diploma (3 yr.)	3	3
Certificate (2 yr)	7	7
Short-Term - U.S.(2 mo.)	12	10
In-Country-Lesotho (2 mo.)	50	50
Study Tours	20	16

Upon completion of training, long-term trainees will be assigned to positions that are assisted by advisory expatriate personnel to enable the returned trainees to gain on-the-job experience and knowledge from the expatriates to the maximum extent possible. All training, including informal on-the-job, will strongly emphasize the experience of practical field operations and training-by-doing concepts.

The project is well ahead of schedule with the placement of long-term trainees as discussed under Inputs section and in Table 16-2. Only one trainee to date has returned but was transferred to Research Division. Annex 2 lists the individuals and expected date of return of long and short term training participants.

The TA team has been involved in teaching in the local training institutions and plan for a limited continued involvement during the coming year. A four credit hour senior course on Range and Farmland Ecology was taught at the National University of Lesotho by the Team Leader. The entire team shared the responsibility of teaching a course in Range Management at the Lesotho Agriculture College.

The TA team recognizes the importance of counterpart training. Most of the TA have one and in a few cases 2 counterpart or interim counterparts who receive on-the-job training. However, the level of formal education of most of these counterparts is no higher than a Certificate in Agriculture which reduces the potential benefits, but these people are gaining valuable practical experience. It was observed that some individuals holding degrees lacked motivation. An increased involvement in the field or the assignment of specific projects for which the individual has full responsibility may improve the situation.

The review team note the lack of a national assigned to act in Chief Range Officer's position while the incumbent is in long term training. As a result an important opportunity for a national permanently assigned to the Range Division to gain on-the-job training with the LCRD team leader is being wasted. This is a substantial loss to the MOA, especially the Range Division.

The review team complements the TA staff on their willingness to be actively involved in teaching, in-service and counterpart training. We believe it imperative that vacant positions be filled and that each TA expert continue to work actively at inservice training in the Division context. Also of importance is the involvement of Divisional staff in training of District staff and we suggests that more effort be directed to that activity.

B Conservation Outputs

The Technical Assistance team has described the following process for conservation planning:

> The conservation planning effort is an interdependent system requiring input on a coordinated basis from all technical elements of the Conservation, Crops, Range Management and Livestock Divisions. No single discipline of an effective conservation effort can stand alone -- each is important to the success of the total conservation effort. The conservation effort is basically conducted under the auspices of the village level Conservation Committee which is duly elected and represents the planning unit. During the planning process, the Conservation Division planners work with the committee. Problems are identified, discussed and alternative solutions considered. With the concensus commitment of the committee persons, the conceptual plan becomes theirs, not the GOL's. Following detailed area analysis and planning, the Engineering Section and Soils Section makes the needed surveys, prepares designs, etc. and the local Division representative lays out the work. Operations Section then initiates the on-site action program of planned work and

installation of structures and measures. Project involvement in this effort includes TA to the soil section, engineering section, planning/information section and operations/workshop section.

The measured outputs as outlined in the PP are delineated into (1) Conservation Plans, (2) on-farm plans, (3) Conservation measures and (4) Employment generation. These will be discussed separately in the above order, with an introductory paragraph taken directly from the PP.

1. Conservation Plans.- The program of conservation planning initiated under earlier AID-supported projects is to be continued and expanded. By the end of the project, an additional 150,000 hectares will have a soil survey and mapping - two-thirds of the area will be rangeland and one-third cropland, and 25 additional area conservation plans will have been prepared covering 50,000 hectares.

According to our information seven area plans have been completed to date totalling about 9,700 hectares (See Table 17.1). In addition there are a number of plans in various stages of progress with input from the soils, engineering and planning sections. The area involved in-progress would exceed 5,500 hectares. Progress toward meeting the targets set by the PP appears to be adequate although the recent staff transfers and budget restrictions for fuel may become a serious constraint. Soils surveys conducted by the soils section are prerequisite to the completion of the area plans and could become a limitation on the entire process. Also the various section received requests for assistance from outside their division which at times further limits their time to work on conservation plans.

TABLE 17.1

CONSERVATION PLANNING UNITS

A. Completed

NAME	LOCATION	DATE	HECTARES
1. Morija West	Matsieng Morija (Maseru Dist.)	September 1980	1533
2. Ha Fako	Thaba Bosiu (Maseru Dist.)	January 1981	773
3. Sehlabeng	Thaba Bosiu (Maseru Dist.)	October 1981	3500
4. Beres Montins	Burea Area II (Berga Dist.)	March 1982	1757
5. Hololo Valley	Hololo (Buths Buthe Dist.)	February 1982	298
6. Mphasa-Malimong	Tsoaing Project (Mafeteng Dist.)	May 1982	970
7. Hankhabu	Kolonyama (Leribe Dist.)	November 1982	850
		Total	9651

B. In progress

1. Kolonyama	Leribe District	500
2. Ha Mosalla	Maseru District	1000
3. Phuthiatsona	Maseru District	4000

The Soils Section has the following current workload pending:

1. Upper Phuthiatsana Catchment.....	36,500 Ha
2. Rakhoiti River Valley.....	5,400 Ha
3. BASP Research Plots and Field Trial Areas.....	400 Ha
4. Kolo Labor Intensive Area.....	2,000 Ha
5. Range Management Area No.1.....	34,000 Ha
Total.....	78,300 Ha

The review team was asked to note that the potential workload capacity for soil surveys and mapping is related to current staff and available transportation and therefore is not keeping up to the pending work. About 12,000 hectares have been mapped in period January through June 1982. Current staffing is less than adequate following the transfer of one professional to administration and end of contract for two Peace Corps technicians. Also a major constraint has been periodic institution of austerity programs

which 'ground' vehicles due to budget limitations for fuel and subsistence for field personnel." The Soils Section is also dependant upon inputs from the Research Division Soils Laboratory. (AID Funds are being used to equip this lab). For more than 1-1/2 years the Research lab has provided very limited services. According to soil section staff, this has seriously hampered the progress of soil survey. It appears that the lab management need improvement. It is clear that these situations can severely hamper the outputs and unless this situation improves, the projections from the project paper for soil survey may not be reached.

Considering these constraints, it may be more beneficial for the soils section to concentrate their activities on soil surveys of arable land. Soil surveys on rangeland are useful in planning but are not really necessary to meet projected outputs, whereas they are necessary to complete conservation plans. It was also suggested that the level of intensity or specificity of the soil surveys could be adjusted if they are found to be more sophisticated than needed by the users.

It is the opinion of the review team that the LCRM project management should review the current situation and establish priorities that would allow the TA and project resources to be used as effectively as possible on project activities while recognizing their wider responsibilities. Special attention for providing adequate conservation input should be given to the Range Management Areas (RMA) now being established by the Range Division. Plans of work completed by each team member and section should prove useful in assessing progress toward reaching project targets. We suggest that perhaps the present in-depth soil surveys are not necessary in all situations and could be adapted to the various uses.

2. <u>On-Farm Plans</u>

> An organized system of conducting comprehensive on-farm planning that integrates land use, cropping and conservation needs will be developed and introduced. By the end of the project 20 Planning Teams will have been organized and they will have carried out 2,400 on-farm plans that will cover 6,100 hectares.

It is clear that this output was considered by the PP design team to be the key element of the conservation activities of the project. The following excerpt from the technical analysis section of the PP emphasizes this point:

> The center piece of the conservation activities in this project will follow the successful program methodology developed under the Thaba Bosiu project and continued under the Land and Water Resources Development Project, but will expand the approach to include integrated on-farm plans which will involve trained conservationists developing land use and cropping plans with farmers. The on-farm plans will include

conservation of water as well as soil, and will emphasize good management and improved production practices for both livestock and crops as they are inextricably linked. The specific details of on-farm planning will be prepared by the Conservation, Range Management and Crops Divisions with the assistance of the expatriate technical assistance team, particularly the Conservation Agronomist and Information Specialist.

An important development since the PP writing which directly impacts on implementation of this activity is the enhanced role of the District level staff due to decentralization policies of MOA. However, while on-farm planning now is done at the district level rather than by division staff, the responsibility from the project viewpoint would still fall on the Conservation Agronomist/Planner and the Information Specialist plus counterpart staff to train and monitor implementation.

The review team was informed that on-farm planning only occurs in those areas where conservation measures have been installed as per area based Conservation Plans and maps. Furthermore, the district conservation assistants are now responsible for development of the plans. According to our information a one-day basic training session was given to district staff on the subject of on-farm plans in January 1981 (about 2 years ago). It is our observation that the on-farm planning preparation and implementation has largely been left to the district conservation assistant since that time although data is being collected from the assistants by project counterpart staff. Annex 3 lists the output of plans as reported by the planning section. A sample farm plan is attached.

Discussion with staff from the Conservation Division about on-farm planning highlighted two main issues. First - responsibility for on-farm planning has been shifted due to decentralized operations of Conservation Division but currently is not adequately addressed by project staff. Second - implementation schedule and on-farm plan output as shown in PP must be adjusted to realistically reflect current levels of resources available to the Division. The PP projected output levels were established prior to July 1980 (date of decentralization) and, therefore, are not now realistic when considering present staff.

It is the opinion of the review team that the above two issues are valid and adjustments must be made to reflect the current situation. The Conservation Planner/Agronomist and Conservation Information Specialist have suggested the following changes:

(a) On-farm planning goal be reduced from 2440 to 1220 with 10 planning teams instead of 20 operating in the districts (i.e. one per district). Change page 8, 17 and 18 in LCRD PP document accordingly.

(b) Since the implementation schedule on page 46 of PP shows on-farm planning to begin about October 1981 (i.e., D+15), this should be reflected on page 18. On-farm plans are to begin in 2nd project year (i.e, June 1981 - June 1982). According to information listed in Annex 3132 on-farm plans have been completed which is well above the projected number. However, while the review team recognized these accomplishments, there is a concern that greater involvement and follow-up by appropriate project staff in the implementation of the on-farm plans is necessary to adequately assess their ultimate utility to the farmer. The PP refers to a 12% increase in productivity by farmers following on-farm recommendations. Enough data must be collected to insure that increased production can be measured.

The key for the success of on-farm planning appears to be in the planning teams at the district level composed of officers from conservation, livestock, range, crops and extension working together at implementation. The training and monitoring of these officers in on-farm planning would seem to be a major responsibility of the Conservation Division project staff. In addition, the concept of a "planning team" doesn't seem to fit the current district level organization. In each district the District Agricultural Officer (DAO) is responsible for all planned activities. He is assisted by Subject Matter Specialists and Extension personnel. To set up an "on-farm planning team" may confuse responsibility for the activity. In reality the DAO plus his staff are a team. Since the Distict staff have not had much experience in working together, we believe that discussion and training should be initiated by the Conservation Division planning section in order to come up with a workable solution.

3 Conservation Measures - The building of conservation structures is to be continued and expanded. By the end of the project, an additional 4,000 hectares will be protected by terraces and 60,000 hectares by diversions, waterways and other structures.

The building and construction of the conservation measures and structures called for by the conservation plans is the responsibility of the Operations Section which works out of the conservation workshop. This project has provided heavy equipment to upgrade and expand their capacity to construct these structures (see item 16 - commodity inputs). The review team visited the workshop plus several sites to observe actual construction. Our observation was that the workshop was well staffed and managed. The majority of the equipment is in good repair, although certain models were obviously out of service more than others. We were informed that workshop staff could benefit from additional training, especially for specialized equipment.

There does appear to be a substantial amount of equipment lying in different locations throughout Lesotho that is not used. The Chief Conservation Officer informed us of plans to sell excess equipment and consolidate the most useful. The review team concurs with this

plan. We suggest that USAID/Lesotho take an inventory of AID purchased equipment, determine their potential use and recommend equipment for sale.[1/] Money from sale of excess equipment could help purchase spares and essential workshop/maintenance tools. The sale would need to be coordinated with the MOA to ensure monies were not lost to the GOL central fund. Possibly a revolving fund could be established. With the increased emphasis on labor-intensive construction, a new look at equipment necessary to meet objectives of operations section is expedient.

The review team was unable to collect quantitative data pertaining to the amount or number of conservation structures constructed. It was observed that the operations section operates quite independantly from the engineering section thereby making coordination of design and operations/construction quite difficult. We were told that in the past the two sections worked very closely. It is our opinion that greater liaison of operations section with engineering section would be beneficial to both sections and possibly should be put under a common head. It would appear that this would be much more efficient and allow facilitation of the conservation outputs which include both design and construction.

4. Employment Generation - Cash payment for intensive construction of conservation structures has been tested and deemed successful. By the end of the project, 100 Basotho each year will have been employed on a temporary basis for a total of 7,800 person months of work on labor intensive construction activities to support building and maintaining conservation structures.

The review team visited the conservation area where waterways and terrace are being constructed by labor intensive methods (hand labor). This activity has been in operation since September 1982 (2 months at time of writing) and appears to be progressing quite satisfactory. The delays in beginning has been attributed to lack of completion of the planning format and engineering design of the conservation practices. Presently about 50 men are employed at R3.00 per day under the supervision of two conservation assistants and an engineering officer from the engineering section. The GOL has provided the funds for these wages, on a cost sharing reimbursement basis. It should be noted that the project was designed to provide funds on the basis of declining amounts annually, but this has been adjusted to a 50/50 basis for life of project. This arrangement needs to be reviewed at the time of the project financial review. With the increased cost of equipment, maintenance and fuel, an economic analysis of costs of equipment/labor constructed structure would be useful information for operations section to determine cost effectiveness of their operations.

1/ Similar recommendation as PES-Land and Water Resource Development Project Evaluation April 1980.

C. RANGE OUTPUTS

1. Range Management Area (RMA) - A rangeland area will be selected, established, and developed based on sound management and operation principles for use of rangelands and related resources. By the end of the project, the rangeland area will be selected and functioning and on the area: (a) a Grazing Association will be organized, (b) a range reconnaissance survey completed, (c) a grazing management plan developed and implemented, (d) an animal health program established and implemented, and (e) a marketing program developed and operating for Grazing Association members. Based upon experience and information acquired from the first RMA a second RMA will be selected and preliminary plans implemented by the end of the project.

The RMA has been selected for the Sehlabethebe dip tank area according to the implementation schedule. However, rural construction has just begun which is behind the schedule completion date of March 1982. Remoteness of the area, delays in the selection of the construction site and facility design contributed to the problem. According to plans, facilities should be completed at Sehlabethebe headquarters site by June 1983. It should be noted that this delay has put considerable strain on field staff in terms of housing. Fortunately an existing facility near Sehlabethebe headquarters site has allowed staff to locate in the area according to schedule but this should not deemphasized the need to speed up the completion of construction. The possibility of changing the design of the senior housing to include more total area or number of rooms for eventual conversion to a duplex should considered. This would serve two junior GOL staff once the project is completed which may be desirable from the standpoint of increasing the ability of the GOL to carry out increased extension activity in the area. A staff house greatly exceeding existing GOL standards would not be desirable. The review team feels that facilities and inputs beyond the capacity of the GOL and the Association to maintain or utilize should be avoided where possible.

A counterpart to the Field Operations Range Specialist is essential. This officer should be assigned and transferred to Sehlabethebe before the present counterpart departs for training which is scheduled for June 1983. A social survey has been conducted for the Sehlabethebe area and is presently being summarized by a consultant from the National University. Valuable data has been collected and efforts need to be made to ensure that this report is completed soon.

(a) Grazing Association The Grazing Association has been organized on schedule and the constitution and by-laws drafted but not yet approved by MOA or Ministry of Cooperatives and Rural Development. The cooperation and enthusiasm of the principal Chief, area chief and villagers included in the Sehlabethebe Association are very encouraging. The LCRD team feels that trespassing by nearby villagers who traditionally use and have established cattle

posts in the area could become a serious problem. A public relations/extension campaign is planned for the area to address this problem but the review team feels that District MOA staff should become more actively involved. No District Extension staff have yet been assigned to the Sehlabethebe area which includes a large population of over 500 households. Under the present GOL plan one extension assistant is to serve up to 600 households. If GOL cannot provide the necessary staff support, the project may need to consider directly hiring an Extension Assistant to work under the DAO in the Sehlabethebe Area. The LCRD team and counterparts should pay particular attention and use the experience of the Grazing Association at Ongeluksnek where the Mphaki Project has been faced with serious problems and failure to control livestock tresspass in its project area. Major physical inputs should be kept to a minimum until stock control in the RMA is assured.

(b) Range Reconnaissance Survey. The project is behind the implementation schedule's October 1981 date for completion of Range Management Survey/Inventory mainly due to the decision to complete a National Range Survey with new color aerial photography. However, initial estimates have been made concerning recommended stocking rates and grazing systems even without the inventory. It is anticipated that the inventory with 1/20,000 scale mapping will be completed soon after color aerial photography is available from the National Range Survey (discussed later).

The 34,000 ha range management area has been estimated to have a carrying capacity of 4,600 Animal Units (AU's) which is almost 8 times the size initially planned (600 AU's) in the Project Paper. The review team believes that although the area is large the choice of this site was a wise decision in that it fits within the present Range Division's program, i.e., to manage dip tank areas or watersheds which fall under the jurisdiction of one chief. However, the project will probably not be able to remain on schedule or meet its goals for the RMA without increased financial and staff support. One option is that a consultant could be hired to conduct the range inventory for the RMA. This would not only speed up the inventory but release time for the Field Operations team member to concentrate on the development of the Grazing Association. Without extra help the development of a working Grazing Association that now involves many more members than originally planned. may be seriously impaired.

(c) Grazing Management Plan on RMA. The grazing management plan was scheduled for completion by April 1982 but has not been done. The reasons for the delay was that this plan is dependent upon completion of the National Rang Inventory and the delay in choice of the RMA. Pastures for summer, fall and winter grazing have been mapped and a rotational grazing system proposed for each pasture.

(d) Animal Health Program. This program as identified in the outputs of the project paper should be expanded to include animal

management and improvement. The program is in the planning p[illegible] which appears to be on schedule. A livestock handling facilit[illegible] being designed by the project engineer and Range Development Specialist. The project should involve the District Livesto[illegible] Specialist in all these programs but at the same time train association members to eventually take over the responsibility [illegible] animal health and management.

(e) Marketing Program. Plans have been made but have not been documented at this time. Livestock buyers in South Africa hav[illegible] been contacted and working relationships established. A succe[illegible]ful tour was carried out where livestock owners, chiefs from each village and district staff were brought to South Africa to lea[illegible] about livestock marketing systems, breeding, fodder productio[illegible] etc.

(f) Second Range Management Area. According to the project pa[illegible] "a second range management area will be selected and prelimina[illegible] plans implemented by the end of the project." The area should [illegible] selected by November 1983 according to the implementation schedule. Decisions concerning the second area should soon be made. In light of current situation, serious discussion about the feasibility of implementing a separate second RMA must take pl[illegible]e. Considering the serious financial constraints faced by the GOL, costly inputs should be kept to a minimum to allow the government to continue the process of establishing grazing associations throughout the country. The possibility of using existing woolsheds, dip tanks, farmers ox-drawn implements and other government facilities should be investigated.

It is in our opinion that LCRD support shou[illegible] continue in the [illegible] area but be reduced over time [illegible] allow the nationa[illegible] staff and association members to [illegible]adua[illegible] assume full management [illegible] responsibility of the area before the project ends. [illegible]-LCRD team members would be able to help in the establishment of the new [illegible]sa and to assist the established association at the first area if problems develop. An option would be to expand the RMA to adj[illegible]ent areas and maintain the original headquarters center. This wou[illegible] also allow the team time to observe if a grazing association [illegible] able to become self-sufficient and cut down costs.

2. Rangeland and Livestock Management Policies - By the end of the third year of the project, a report will be prepared providing an analy[illegible]'s of rangeland and livestock management policies and regulations, such as those affecti[illegible] lan[illegible] use and controlled grazing, with specific proposals a[illegible] recommendations for policy changes or for new policies or regulations. Prior to commencing development of the secon[illegible] range management area, relevant policies and regulations w[illegible]l be the subject of a joint review by the GOL and USAID/Leso[illegible]o.

The team has made substantial progress in this area. The "Ran[illegible] Management and Grazing Control Regulations" of 1980 have been revised under the supervision of the Grazing Management Specia[illegible]st

and submitted to GOL for review. A committee called the "Agricultural Lands Regulations Committee" was appointed by the Permanent Secretary of Agriculture. The TA team plays a key role in the functioning of this Committee which has prepared draft regulations for "Selected Development and Selected Agricultural Areas" under the Land Act of 1979. An outline has also been prepared by the Grazing Management Specialist for the leasing of agricultural lands.

These activities are essential to meet project goals and a necessary first step to bring the nation's rangelands under control and management. Unfortunately this position is budgeted for only two years. Numerous demands by the MOA for this specialist's advice, emphasizes the need that this position be extended, even at a cost to other programs. It should be emphasized that full implementation of the Land Act of 1979 is essential for good range management in Lesotho.

3. Other Outputs - Only two major range outputs, the development of range management areas and rangeland policies are identified in the project paper (i.e. items 1 and 2). However, these do not fully cover the range outputs necessary to meet the project purpose - particularly item 4 of the purpose, "technical procedures for development and management of rangelands will be prepared and demonstrated." The LCRD team has indicated that a "National Range Inventory" is necessary to meet project purpose. Existing aerial black and white photography was determined insufficient to carry out the inventory. The review team supports the decision by the project to acquire 1/20,000 scale color aerial photography for the entire country. These photographs will also improve the quality and ability of the Conservation Division to conduct soil surveys and conservation plans. The review team suggests that the following item be added to the project outputs:

> "National Range Inventory"
>
> All major range ecological units in Lesotho classified and described according to species composition, forage productivity, soils and other physical features. These units would be described sufficiently to enable Range Assistants to identify them within the dip tank or other grazing area. Estimate proper stocking rates for each area and monitor range condition trend."

Detailed range mapping of the entire country is presently being planned but does not appear feasible considering the government's financial and manpower constraints. The level of management of Lesotho's rangeland cannot be expected to become any more intensive than to establish proper stocking rates and simple rotational grazing systems within the next 10-20 years. Reconnaissance mapping was originally planned in the project paper to include only the range management areas.

A general map using land-sat imagery, which is being prepared, would be useful for general planning. A map of the boundaries with acreages of all dip tank or grazing areas in the country with an estimation of: (a) the percentage of the major ecological units that occur within each area, and, (b) the recommended stocking rate for each grazing area, are essential for the district staff to make stocking rate recommendations to the Chief. Detailed mapping may not be necessary to make these recommendations. General or reconnaissance mapping with ground truth data on less than 10% of the area and mapping delineations no smaller than 150 acres may be acceptable considering staff constraints.

18. PURPOSE

The project purpose is to conserve and develop national cropland and rangeland resources by carrying out appropriate conservation measures, crop and land use planning, land management practices, and strengthening the institutional capability of the MOA to implement these activities.

(a) End of Project Status (EOPS) - The MOA Conservation Division will be fully staffed and the Range Management Division will be 75 percent staffed by trained Basotho personnel.

With the large number of high caliber Basotho nationals now in training or proposed for training and assuming that these trained persons will come back to positions within the two divisions, it is reasonable to expect this EOPS to be met. It should be noted again, however, that continued expansion of district staff at the expense of transfering divisional staff will have a negative impact on meeting the EOPS. Also, loss of specifically trained range management and conservation people to other divisions and/or administration will further frustrate this EOPS.

(b) EOPS - Cooperation and coordination among divisions, particularly at the technical level, within the MOA will be significantly strengthened and institutionalized.

While this is a worthy objective and if met could substantially benefit in meeting the stated purpose, there is little physical evidence that much is being done currently. However, a bright note is the potential for this cooperation and coordination to occur at the district level. Officers linked to the various divisions who are working at the district level under the District Agricultural Officer could and should cooperate in the planning and implementation of the on-farm and range management plans. The project could foster this by appropriate training workshops where these oficers would work together on these common activities. In order to achieve this EOPS, continued efforts must be demonstrated by both project TA and national divisional staff.

(c) EOPS - A system of developing and implementing cropping and conservation plans with farmer involvement will be established.

As discussed in section 17 successful operation of on-farm planning and implementation at the district level is only in the formative stages. This review team concluded that this area has to date not been properly addressed but is vital to the meeting of project purpose.

(d) EOPS- Technical procedures for development and management of rangelands will be prepared and demonstrated.

It has already been noted in section 17 that the review team recommends that an additional output be added to describe the work by the Range Division on the National Range Inventory and range management guidelines.

In our opinion overall the project outputs fit well into the development strategy of this project and have the potential of meeting the stated project purpose. Overall the EOPS are considered a good description of what will exist when the purpose is achieved.

19. GOAL

The project goal is to increase productivity and income of rural poor engaged in crop and livestock production. The goal will have been achieved if income of cooperating farmers has been increased by 12 percent within three years after participating in an on-farm planning program or range development program.

It is premature to measure any change in farmer income because the on-farm planning program and range development program have as yet to be implemented at the farmer level.

The review team believes it is significant that recent evaluations (April 1980) of both the Thaba Bosiu Rural Development Project and the Land and Water Resource Development with almost identical goals as subject project have indicated that their goals were "overly optimistic and unreasonable in the short term." It appears that the goals in these projects were not reached because the main project activities (outputs) were directed only toward protection of the land resource base. These outputs did not have the necessary means - ends linkages to goal accomplishment.

> To quote from the evaluation report - "It should be pointed out that the goal of increasing agricultural production through application of improved systems of land and water utilization was probably unrealistic in the relatively short time frame of this project. It should further be pointed out that while in the short term, application of improved systems of land and water utilization may not result in increased production and per capita income, the long term effect may well be significant. Application of improved systems of land and water utilization will result in a reduction of soil erosion and land resource degradation which are critical problems in Lesotho."1/

It may be true that the time period has been short to see an increase in production, however, this review team believes that the major problem is that there was an unrealistic assumption. To quote again - "The contribution of conservation practices essential as they may be to preservation of the long term productivity of the resource base, are limited unless applied in conjunction with other essential practices such as necessary cropping and agronomic practices and grazing livestock control."2/

An important point to make is that the construction of conservation structures does protect and is critical in maintaining productivity but is not necessarily related to increase in productivity.

1/ April 1980, PES - Land and Water Resource Development Project.
2/ April 1980, PES - Thaba Basic Rural Development Project.

We believe this was recognized in the subject project design, hence the emphasis on on-farm planning and range management. It is the opinion of the review team that this project goal will not be realized unless heavy emphasis and a channeling of significant amounts of project resources be placed on in-service training and implementation in the use of on-farm planning and range management.

20. BENEFICIARIES

The primary beneficiaries are self-selected rural farmers and their families who participate in on-farm conservation programs or grazing associations. An estimated 14,000 rural families will be directly helped and 50,000 additional individuals will be exposed to the concepts through pitsos (village meetings) and other meetings.

It is the judgment of the review team that it is not meaningful at this first evaluation to quantify the number of people who have benefitted from this project. Rather we wish to point out the potential direct and indirect beneficiaries. These include:

(a) Participants who are receiving training;

(b) Counterparts and MOA staff who have contact with project staff and receive in-service training;

(c) Farmers/herders who participate in on-farm planning/grazing associations and those nearby farmers who learn from their neighbor participants;

(d) Labourers in Food for Work and labour-intensive programs directed at conservation;

(e) Village leaders and traditional leaders taking part in pitsos and other meetings;

(f) Members of public and students receiving information via lecture and radio;

(g) Government agencies which benefit in their ability to carry out programs from improved land management regulations;

(h) All people in Lesotho (present generation and future generations) will benefit from the preservation of soil, water and land resources, from the improved capacity to feed the people and from the enhancement of rural life.

21. UNPLANNED EFFECTS

In the judgement of the review team there has not been a serious change in the social, environmental, or technical factors affecting the project that would require a revision in the overall project design.

However, the current economic difficulties facing the GOL has the potential to seriously affect project implementation. As has been noted in other sections of this report, the constraints GOL is now experiencing in meeting their contribution to project inputs must be taken into account as implementation continues. It must be recognized that to ignore these factors could have strong negative effects on the success of the project.

22. LESSONS LEARNED

It is premature to suggest that there are new lessons learned at this early implementation stage of project. One point that could be considered an old lesson is that the best and most qualified design team simply cannot foresee the events and circumstances which will prevail in a country 3 - 4 years down the road. This then necessitates a project design that is rigid enough to give structure and substance but flexible enough to allow necessary shifts demanded by change. Another point the review team would make is the necessity of good project monitoring by USAID project officers and contractor team management. Many potential problems will be averted by early and timely action. The project management by USAID and the contractor has in our opinion been first rate.

The review team made the observation that a significant number of the trained MOA staff in place in the conservation division and other divisions are persons trained under previous AID supported projects. Even though a number of these nationals are not presently in the exact slots for which they were trained, they are greatly contributing to Lesotho agriculture. Added to these are the nationals who are gaining further training under the current project. This would point out the high value of the training component of USAID - Agricultural projects.

23. SPECIAL COMMENTS

The review team has embodied many conne: uggestions of possible changes and improvements in th: The following issues and subsequent recommendations r. in effort to enumerate the major constrains and poter. blems with possible solutions:

1. ISSUE: Financial analysis and projec et of the PP is out of date. Coupled with the current c cial difficulties and changes in emphasis on various outputs, the projected commitments by AID and GOL for various inputs are no longer valid.

RECOMMENDATION: That USAID/Lesotho, GOL ect contractor management conduct at an early date an e financial review of project. The following could dered in the review:

(a) Project outputs of both devision e reduction).

(b) Feasibility of establishing 2nd RMA

(c) Counterpart funding (what if GOL contribution tion less than 25%).

(d) Use of USAID funding for recurren.

(e) GOL commitments:- e.g. transport (fuel), furniture, construction, counterp. clerical staff, and etc.

2. ISSUE: The project goal propo:es an e rural income and productivity of those Basotho farmer which s affected by project outputs. This projected change can only be evaluated provided adequate base-line data and inf is available. The evaluation team is not aware of an e: systematically collect data on the beneficiaries of the y, the impact of the new technology and the effects of in: production on welfare of the family.

RECOMMENDATION: That bench mark studies b cted forthwith in selected RMA and conservation plan ar: owed by monitoring over life of project. The st: ld be based on representative samples so that a clear will be available as to the benefits accruing t: nilies cooperating in the project activities. efore and after data collected or cooperating farmers c: o non-cooperating farmers compared would The total on-going farmer activities and resourc be documented to insure meaningful results. A multi- ry approach would be desirable including input from social and technical sciences. Possible coordinat: xperienced personnel and expertise from Farming S: arch Project is desirable.

3. ISSUE: USAID is allocating considerable resources to several Divisions of MOA through its project support. Increased coordination and cooperation between Divisions should facilitate productive and efficient use of these resources to meet MOA development objectives. U.S. technical staff working in the several MOA Divisions on similar activities have the unique opportunity to formalize and institutionalize linkages between Divisions which should facilitate cooperation on the district level by national staff.

RECOMMENDATION: That real coordinated effort to link similar activities between Divisions be initiated through regular liaison meetings of staff/team leaders plus individual technical contacts. Similar activities in various Divisions should be established and formally coordinated through the individual and Divisional work plans.

AID could help in coordination of commodities and other inputs to ensure their most effective use. The possible shared use of mini-computor for administrative purposes and project monitoring should be investigated.

4. ISSUE: Integrated on-farm plans is a major emphasis in project design. This is the essential second step following protection of land resources by conservation structures. To date there is little evidence that much project resources and technical assistance are being allocated to this activity. It should be noted that this proposed activity follows very closely MOA's own strategy and plan of action for district level outputs involving subject matter specialists and extension personnel. There is indication that district staff and village extension workers are now very receptive.

RECOMMENDATION: To ensure that this activity receives proper attention, specific individuals from the project technical assistance and counterpart staff should include on-farm planning, implementation and in-service training pertaining to this activity in their workplans. With increased emphasis by MOA on district level activities; coordination of conservation, crops, livestock, range and extension district staff in this activity will require substantial training and monitoring of implementation. Coordination of training for and implementation of on-farm planning would appear to fall directly within the job description of the Conservation Planner/Agronomist and Conservation Information Specialist. The Extension Division is willing to work closely with other Divisions to ensure success.

5. ISSUE: USAID has allocated many resources (i.e., training, buildings, vehicles, equipment and tools) to build up and maintain the Conservation Workshop and the Division. According to our information and observations, the Workshop needs renewed attention to ensure the efficient use of these resources. This review team concurs with the Chief Conservation Officer in his concern to streamline the Operations Section and Workshop and review the relevance of the kinds and types of equipment maintained and used. There is also a concern that project outputs may be hampered due to restriction on vehicle usage/fuel allocation.

RECOMMENDATION:

(a) That USAID/Lesotho take an inventory of project commodities to determine their present and potential use with the view of possible exchange between projects to meet all needs.

(b) That USAID/Lesotho assist the Conservation Division in assessing all equipment for current usefulness and ease of

maintenance with the view of the reducing the inventory to a manageable level. This should include a review of current commodity requests. Sale/disposal of under utilized equipment should allow the division to realize funds which could be used for further training or purchase of spares and tools. The feasibility of setting up of a revolving fund with these monies could also be investigated.

(c) This assessment should include conservation stores which is holding many USAID purchased tools and spares. It appears that control of spares purchases should be given back to workshop management.

(d) That equipment beyond the ability of the Divisions to maintain not be purchased and a freeze placed commodity purchase until assessment is completed.

(e) That the question of security at workshop and equipment/vehicle depot be investigated and improved measures initiated.

(f) That a cash-benefit study of machine vs. labour intensive methods of construction of conservation structures be conducted.

(g) That the control usage and maintenance of project vehicles be reviewed with the view of establishing more satisfactory procedures.

6. ISSUE: Proper and efficient administrative placement of project technical assistance staff is vital for good operation of Divisional activities and ultimate success of project. It is the judgement of the review team that within the Conservation and Range Divisions consideration of the following may improve their function and capability.

RECOMMENDATION:

(a) Review job descriptions and duties of technical assistance staff. Consider priority of staff time for formal teaching. Outline in-service training opportunities for each staff member.

(b) Provide administrative support to Chief Conservation Officer (CCO) by assigning one technical assistance person as Deputy CCO.

(c) Bring Operations Section and Engineering Section under single administrative head. Agricultural Engineer should have closer liaison with Operations activities.

(d) Drawing room activities and personnel brought under firm control of engineering section.

(e) Separate clearly Workshop manager responsibilities and duties from that of Chief of Operations Section.

(f) Provide administrative support to Chief Range Officer (CRO) by assigning counterpart staff as Deputy CRO.

(g) Quarterly and annual work plans be required from each technical assistance staff/section. Regular team meetings and reporting to reflect accomplishments measured against work plans.

(h) Range Division should make use of other MOA informational resources besides Conservation Information Specialist. Possible need a national staff person to help in-service training. Assign one of the Range TA primary responsibility.

7. ISSUE: Development of workable and stable grazing associations is critical to the realization of Range Management project objectives. Present legislation and enforcement is insufficient to allow nationwide stock control or improved range management practices. The present situation is that livestock owners have no control over the range resources they use.

RECOMMENDATION:

(a) That the Grazing Management Position be extended two more years with increased responsibility over the development of Grazing Associations or Cooperatives, by-laws/regulations plus increased divisional/project administrative responsibility. Revise job description to include these increased responsibilities.

(b) The establishment of an independent and successful Grazing Association at Sehlabathebe RMA given high priority. Commodity inputs to the RMA should be avoided that cannot be provided by GOL or in particular by the Association. Management systems should be kept simple with emphasis on stock control. The association must be self-sufficient and have control over the rangeland resources in the RMA. Possible use of cooperatives and/or development of private management could be considered.

8. ISSUE: The completion of a National Range Inventory is now considered a priority activity of the Range Division. Considering the staff and financial constraints available it does not appear that a national comprehensive and detailed range ecological unit map with complete descriptions can be completed by the end of the project.

RECOMMENDATION: That the Inventory be completed at increasing levels of specificity. First complete a classification and estimate forage production of all major range ecological units that occur in Lesotho. Then if time allows classify in more specific units. Map boundaries and estimate carrying capacity for each dip-tank/grazing area.

Annex 1 - Training Inputs

PROJECTED WORKSHOPS FOR LAND CONSERVATION AND RANGE DEVELOPMENT PROJECT

NAME	NO. OF PARTICIPANTS/LENGTHS	LOCATION	82/83	83/84	84/85	86/87
R - Aerial Photo Interpretation & Mapping	15/1 week	Maseru	X		X	
C & R-Management Seminar	20/2 weeks	Maseru		X		
R - Range-Livestock Seminar	40/2 weeks	Maseru		X		
C - Conservation Mechanics	6/1-2 weeks	Johannesburg	X	X	X	
C - Basic Soils Interpretation	20/1 week	Maseru	X			
R - Range Improvements	20/1 week	Sehlabathebe		X		X
R & C - Visual Aids	15/1 week	Maseru	X			
R - Grazing Control Supervisors	80/3 days	Thaba-Tseka Leribe Qacha's Nek	X	X	X	X
R - Range Management (General)	25/1 week	Maseru	X	X	X	X
R&C-Principal Chiefs-(Range Matters)	25/3 days	Maseru	X		X	
R - Fire Management	15/5 days	Fort Cox R.S.A.		X		

*C = Conservation Division
R = Range Division

Annex 1 - Training Inputs:

PROJECTED TOURS FOR LAND CONSERVATION AND RANGE DEVELOPMENT PROJECT

NAME	NO. OF PEOPLE/LENGTH	1982/83	83/84	84/85	85/86
Wool & Mohair	15/5 Days	X		X	
Marketing	15/3 Days	X	X	X	X
Feeding & Nutrition	15/5 Days		X		X
Pasture Management	15/3 Days	X		X	
Stud Selection (Annual - Aug-Sept)	5/5 Days	X	X	X	X
Animal Health	15/3 Days		X		X
Drakensberg Ecological Team	5/5 Days	X			
Southern Rural Development August-Swaziland	6/5 Days		X		
Woodlot - Woodlands	15/2 Days		X		X

Annex 2
LCRD PROJECT TRAINING PARTICIPANTS

(a) Range Management

NAME OF PARTICIPANT	FIELD OF STUDY	INSTITUTION	ESTIMATED RETURN
M. T. Damane	B.Sc. Range Mgt.	South Dakota State Univ.	August 85
T. Mahlelabe	B.Sc. Range Mgt.	South Dakota State Univ.	August 85
J. Tlale	B.Sc. Range Mgt.	South Dakota State Univ.	August 85
Dennis Moletsane	B.Sc. Range Mgt.	South Dakota State Univ.	August 85
T. Likate	B.Sc. Range Mgt.	South Dakota State Univ.	August 85
Bore Motsamai*	M.Sc. Range Mgt.	University of Idaho	August 84
T.S. Bolame*	B.Sc. Range Mgt.	Not indicated	

NOTE: Candidates are scheduled for training in 1982.

(b) Conservation

NAME OF PARTICIPANT	FIELD OF STUDY	INSTITUTION	ESTIMATED RETURN
N. Lekena	M.Sc. Agronomy	Univ. of Wisconsin	August 83
David Khalai	M.Sc. Soils	Texas Tech. Univ.	August 83
F.H. Letsie	B.Sc. Agric. Engr.	New Mexico State	August 85
Phillip Mosenene	B.Sc. Agric. Engr.	Kansas State Univ.	August 83
Charles Tenei	B.Sc. Forestry	North Arizona Univ.	August 85
Emmanuel Pomela	B.Sc. Agronomy	Texas Tech. Univ.	August 82
B. Motsamai*	B.Sc. Agric. Engr.	Not indicated	
H. Makohoane*	B.Sc. Agric. Engr.	Not indicated	
Francis Phate*	B.Sc. Agronomy	Not indicated	
M. J. Masilo*	M.Sc. Agric. Res. Mgt.	Univ. of Arizona	

NOTE: Candidates are scheduled for training in 1982.

Annex 2 Cont.

(c) BUDGET PROJECTIONS BY YEAR (THOUSAND OF DOLLARS) FOR INDIVIDUALS IN NON-DEGREE (DIPLOMA/CERTIFICATE) TRAINING

INDIVIDUAL	POSITION	GOAL	SCHOOL	1981	1982	1983	1984	TOTAL TO DATE JUNE(82
B.M. Nisi[illegible]	Range Asst.	Diploma - Range	Egerton - K	6.85	8.0	8.0	-	22.85
N.L. [illegible]	Range Asst.	Diploma - Range	Egerton - K	6.85	8.0	8.0	-	22.85
K. Ntsokoane	Range Asst.	Diploma - Range	Egerton - K	6.85	8.0	8.0	-	22.85
C. Leu	Range Asst.	Diploma - Range	Egerton - K	-	-	8.0	8.0	16.00
E.M. Mabusa	Pasture Asst.	Diploma - Range	Egerton - K	-	-	8.0	8.0	16.00
V. Marake	Cons.Asst.	Diploma - Cons.	CSU - U.S.	-	23.00	-	-	23.00
S.M. Matsoso	Sr. Cons.Asst.	Diploma - Cons.	CSU - U.S.	-	23.0	-	-	23.00
G. [illegible]	Sr. Cons.Asst.	Diploma - Cons.	CSU - U.S.	-	23.0	-	-	23.00
SUB-TOTAL NON-DEGREE TRAINING - VARIOUS LOCATIONS -				20.55	93.0	40.0	16.0	169.55*

*This total is inclusive of budgetted commitment to date. It does not represent assignments of training commitments for personnel beyond those currently committed. As year 1982 progresses, additional training plans for personnel will be made beyond 1984.

Annex 2 Cont.

(d) BUDGET PROJECTIONS BY YEAR (THOUSANDS OF DOLLARS) FOR INDIVIDUALS IN SHORT-TERM TRAINING PROGRAMS

INDIVIDUAL	POSITION	GOAL	TRAINING	1981	1982	1983	TOTAL TO DATE (JUNE 82)
E.T.Hokobocho	Pasture Tech.Off.	Rge.Mgt.& Forage	Short course		8.5		8.5
R.N. Ntsoane	Sr. Range Asst.	Rge.Mgt.& Forage	Short course			8.5	8.5
	Consev. Asst.	Cartography	Short course				
A. Selate		Training				15.0	15.0
B. Motsamai	Chief Rge.Off.	Management	Short course		5.35		5.35
M. J. Masile	Chief Consev.	Management	Short course		5.35		5.35
					19.20	23.5	42.70

TOTAL BUDGET COMMITMENTS FOR ALL TRAINING (CURRENT) - IN THOUSANDS OF DOLLARS

	1981	1982	1983	1984	TOTAL TO DATE (JUNE 1982)
ACADEMIC TRAINING.....	183.4	184.6	240.0	160.0	868.0
NON-DEGREE TRAINING.....	20.55	93.0	40.0	16.0	169.55
SHORT-TERM TRAINING.....	-	19.2	23.5	-	42.7
TOTAL CURRENT BUDGET.....	203.95	396.8	303.5	176.0	1,080.25

Annex 3 - On-farm plans

INDIVIDUAL FARM PLANNING - CONSERVATION PLANNING SECTION - THROUGH JUNE 1982

MONTH	INDIVIDUAL FARM PLANS COMPLETED	DISTRICT LOCATION	HECTARES INVOLVED	ANTICIPATED % PRODUCTION INCREASE	REMARKS
Prior to: January 1982	12	Maseru	231.6	12	Majority of these farm plans are on marginal lands. Seeded to *Eragrostis curvula*
	8	Leribe	16.08	12	
	17	Berea	28.66	12	
	1	Butha-Buthe	1.29	12	
February 1982	(Several of farm plans received, then returned to the field for additional information)				
March 1982	13	Khomokhoana	19.3	12	
April 1982	18	Maseru	29.6	12	
	9	Mafeteng	12.0	12	
	1	Leribe	0.3	12	
	6	Maseru	10.4	12	
			431.3		

NOTE: When the planning goals were established for the LCRD Project, the Planning Section had nine employees that were working on new Conservation Plans, with decentralization. The Planning Section staff has been reduced to 3 now working on development of new Conservation Plans. This reduction of staff should be considered when evaluating progress towards meeting Project goals.

:: MONTH	INDIVIDUAL FARM PLANS COMPLETED	DISTRICT LOCATION	HEACTARES INVOLVED	ANTICIPATED % PRODUCTION INCREASE	REMARKS
or to:					
ebruary, 1982	12	Maseru	231.6	12	The majority of these farm plans are on marginal lands. Seeded to Eragrostis curvula
	8	Leribe	16.00	12	
	17	Berea	20.66	12	
	1	Butha-Buthe	1.29	12	
ebruary, 1982	(Several of farm plans received, then returned to the field for additional information)				
arch, 1982	13	Khomokhoana	19.3	12	
pril, 1982	18	Maseru	29.6	12	
	9	Mafeteng	12.0	12	
	1	Leribe	0.3	12	
	6	Maseru	10.4	12	
ay, 1982	23	Berea	37.0	12	
une, 1982	24	Maseru	63.0	12	
OTAL TO DATE	132		431.3		

OTE: When the planning goals were established for the LCRD Project, the Planning Section had nine employees that were working on new Conservation Plans, with decentralization. The Planning Section staff has been reduced to 3 now working on development of new Conservation Plans. This reduction of staff should be considered when evaluating progress towards meeting Project goals.

LESOTHO

FARM CONSERVATION PLAN

MINISTRY OF AGRICULTURE, CONSERVATION DIVISION

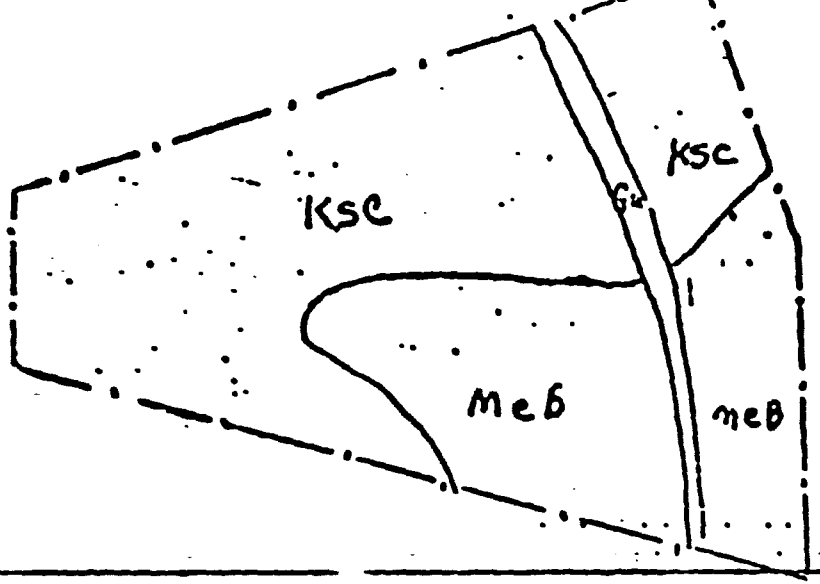
L E S O T H O

NORTH ARROW

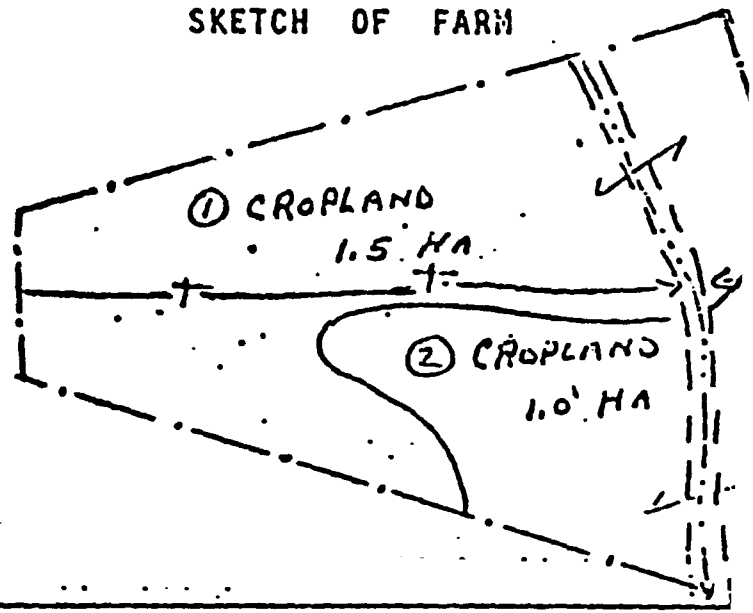
FARMERS NAME J.M. RABOLITSE VILLAGE HA THAMAE DISTRICT MAFETENG DATE 8-7-8

PHOTO NO 021 SCALE 1CM = 20 M HECTARES 2.5 ASSISTED BY H.W. [illegible]

SKETCH OF SOIL SURVEY



SKETCH OF FARM



FARMERS DECISIONS ON LAND USE AND TREATMENT: Field No. 1 is class III CROPLAND.

see "FARMERS CROPPING GUIDELINES" ATTACHED for suitable crops and crop management recommendations.

The Terrace and grassed waterway will be maintained as established.

All farming operations will be performed on the contour.

Field No. 2 is CLASS IV CROPLAND. this Field will be in Grass and Fodder crops most of the time.

EXAMPLE

ASSISTED BY: H. W. FAUSCH

FARMERS CROPPING GUIDELINES

FARMERS NAME: Jm. Ogbuitsed DISTRICT: Mbeere VILLAGE: Ha Tilonge SOIL SERIES: Kiabos SOIL GROUP: B

Crop and Variety	Ha	Dates to Prepare Seedbed	Method of seedbed Preparation	Method of seeding	seed treatment	Date of Seeding	Seeding Spacing	Seeding Rate	Seeding Depth	type of fertilizer & application rate pkts P/Ha	Fertilizer Application Method and dates	Method and dates of weed control	Crop Residue Management	Crop yield per hectare Estimated
MAIZE PNR 8?	1.5	OCTOBER	DISC	PLANTER	HYBRID AGROSAN 200 G PER 100 KG SEED	NOV.	25 TO 35 CM	16 TO 22 KG PER HA	4 TO 6 CM	2:3:2 (22) 5 PKTS LAN 3 PKTS ADD LIME	SIDE BAND BELOW SEED NOV AND JAN.	CULTIVATE OR HAND HOE	LEAVE ALL RESIDUES	17 PKS
GRAIN SORGHUM	1.5	OCTOBER	DISC	PLANTER	AGROSAN 100 G PER 40 KG OF SEED	NOV.	18 TO 25 CM	6 TO 7 KG/HA	3 TO 4 CM	2:3:0 (21) 5 PKTS LAN 1 PKT ADD LIME	SIDE BAND BELOW SEED NOV. AND JAN.	CULTIVATE AND HAND HOE	LEAVE ALL RESIDUES.	15 PKS
										SOIL SERIES, MUISERU — SOIL GROUP, E				
FODDER GROUND TEFF	1.0	OCTOBER	DISC	DRILL	PLANT CLEAN SEED	NOV	18 TO 25 CM	15 TO 20 KG/HA	0.7 TO 1.0 CM	3:2:0 (37) 3 PKTS ADD LIME	BROADCAST OCTOBER	WEEDS SHOULD BE NO PROBLEM	LEAVE STUBBLE AFTER LAST CUTTING	3.5 T P/HA

FARM CONSERVATION PLAN

By signing this document the farmer indicates his interest and responsibilities for planning, applying, and maintaining a conservation program as outlined in this plan that has been developed jointly by the farmer and a representative of the Ministry of Agriculture.

This conservation plan will remain in effect on a continuing basis unless either party notifies the other in writing giving a notice of intent to cancel. In such an event, representatives of the two parties will meet and review the matter and decide on a cancellation or continuation of the plan.

This conservation plan may be modified or amended at any future date if changes are accepted by Mutual Agreement of both parties.

FARMER DATE

REPRESENTATIVE OF MINISTRY OF AGRICULTURE DATE