0215

Date: June 23, 1984

MEMO

TO: Jim Dunn, Assistant Agricultural Officer, USAID/Maseru
THROUGH: Barry Hill, Agricultural Officer
FROM: Dillard H. Gates, Evaluation Team Leader
SUBJECT: External Evaluation, Land Conservation and Range Development Project (632-0215)

This is to transmit to you a copy of Part II, Project Evaluation Statement (PES) and an Executive Summary for subject project.

It has been a pleasure to work with you and other members of the USAID/Maseru staff during the past three weeks. In behalf of the Evaluation Team I would like to extend our thanks for your helpfulness in completing the assignment.

If I can be of further service please let me know.

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EXECUTIVE SUMMARY

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Prepared by: Dillard H. Gates
Date: June 20, 1984
Project: Land Conservation and Range Development (632-0215)
Country: Lesotho
Cost: $16,000,000 ($12,000,000 U.S. and $4,000,000 GOL)

I. What constraint did the project attempt to relieve?

There are several interrelated constraints to achieving project goal and purpose which the project has attempted to relieve. A major constraint is the relatively low productivity of cropland and over-use of grazing land. This constraint is aggravated by the poor management and use of the land resource base. Land misuse has resulted in severe erosion on both crop and grazing land. Overstocking with the resultant decrease in forage production accompanied by low quality and productivity of livestock is another constraint which the project addresses. Additional constraints which the project attempts to relieve are the inadequate number of trained people in the Conservation and Range Divisions of the MOA, inadequate Range Management and Grazing Control Regulations, failure of GOL to fully implement the 1979 Land Acts and low level of understanding of modern land and livestock management techniques by the farmers.

II. What technology did the project promote to relieve this (these) constraint(s)?

Various technologies, adapted to the Lesotho environment, were utilized to relieve constraints. Soil surveys based upon modern soil classification techniques form the basis for area and on-farm conservation plans, conservation structures, improved cropping guidelines, improved cultural practices and improved land management techniques. Technology in the form of management and organizational skills was introduced to develop and implement a Grazing Association and a rangeland and grazing management system on a selected Range Management Area. New technology of improvement of livestock production, including culling, selection, breeding, animal health and nutrition were introduced. Technology for utilization of satellite imagery and aerial photography for the development of a national rangeland survey/inventory was introduced by the project. The low level of understanding of modern agricultural methods by farmers and manpower constraints within MOA were attacked through a program of training and education. This included academic training at the diploma, A.S., B.S. and M.S. levels for MOA staff. Field trips, tours, workshops and educational meetings are held for farmers. In addition, publications relevant to improved management of crop and grazing land and livestock are developed and distributed.

III. What technology did the project attempt to replace?

The project did not replace technology. The project introduced new technology adapted to the Lesotho environment. This introduced conservation technology will replace outdated and/or traditional practices which have contributed to the present erosion of agricultural

and grazing lands of Lesotho. Range and livestock technology for improved range production and quality livestock breeding and marketing has been introduced.

Cropping practices at high levels of technology have not been accepted by the majority of Basotho farmers. Many factors affect this adoption rate including, tradition, lack of cash flow, lack of storage, need for rodent and insect control, lack of marketing facilities and lack of general managerial skill required to handle fertilizer, pesticides, machinery and credit.

IV. Why did the project planners believe that intended beneficiaries would adopt the proposed technology?

The GOL strongly supported the development and implementation of the project. Verbal support for the project continues despite somewhat reduced funds for the project. Most importantly the intended beneficiaries were to be involved in all stages of planning and implementation processes. The plan was to work with the people and help them solve their agricultural related problems. Planners, extension personnel and technicians were to meet with intended beneficiaries, explain and discuss all aspects of the project. Planning teams were to demonstrate, apply and explain on-farm conservation techniques and practices. Follow-up contacts with farmers to reinforce demonstrations were planned. The Grazing Association was to be developed by the people and their representatives in a location selected by MOA. The people were to manage the Grazing Association through a committee of chiefs and elected representatives. Most importantly beneficiaries would adopt the proposed technology as they saw what benefits would accrue to them as a result of the technology.

V. What characteristics did the intended beneficiaries exhibit that had relevance to their adopting the proposed technology?

Direct intended beneficiaries had a high literacy rate and a low farm income. Intended beneficiaries had an awareness of the visible erosion problems and some perception of the relationship between soil erosion and decreasing land productivity. A high proportion of farm families are headed by women while able bodied men are working in the mines in the Republic of South Africa. In Lesotho women tend to have more education than do men. The farm land tenure system of Lesotho would permit a farmer to benefit from improved land productivity resulting from improved management practices. Livestock producers are aware of declining productivity of rangelands and livestock and desire to increase income. Stockmen in the MVA generally expressed interest in participating in the Grazing Association. An indirect beneficiary, the GOL desires to move toward food self sufficiency and an increase in agricultural exports.

VI. What adoption rate has the project achieved in transferring the proposed technology?

Several area and on-farm plans have been completed with the participation of farmers and village committees. A Range Management Area has been selected and a Grazing Association organized and implemented with the support and help of people living within the RMA. However, to date, there is little or no evidence of adoption of proposed or applied technology outside project areas or without project support. Conservation structures are readily applied in the area plan phase. The crop productivity practices of the on-farm plans are not readily adapted.

VII. Has the project set forces into motion that will induce further exploration of the constraint and improvements to the technical packages proposed to overcome it?

Perceived successes and the degree of progress in the project to date has stimulated an interest in both government and people directly involved in project activities. People are involved and people are participating in project activities including on-farm planning, tours, meetings and other educational opportunities. Interest of GOL is manifested by the expressed desire (premature in the judgment of the Evaluation Team) to establish another RMA and Grazing Association. The National Range Survey/Inventory has created great interest as to its potential contribution to the Highland Water Project. Techniques utilized in the survey can be refined and used as necessary to provide more detailed and specific site information required for management of watersheds within the Highland Water Project. In addition the project has stimulated and assisted the GOL in examining and analyzing land laws and policies which have been constraints to sound land and livestock management. Without strong GOL involvement in financial assistance to farmers, production incentives and marketing facilities it is not likely that the crop production constraints will be overcome.

VIII. Do private input suppliers have an incentive to examine the constraint addressed by the project and to come up with solutions?

The land ownership and tenure system in Lesotho dictates that GOL be deeply involved in overcoming constraints to increased production and farmer income. However, to a large degree the constraint of low rangeland and livestock productivity is a function of viable livestock markets. Increases in livestock quality could provide an incentive for outside suppliers to develop additional competitive livestock market opportunities. Incentives may be developed to stimulate markets for both slaughter and feeder animals. With continued success the Grazing Association may provide the incentive to private lending institutions to make investment capital available for purchase of improved livestock or commodities required to increase livestock production.

Small cropland holdings of most Lesotho farmers make them inherently inefficient and risky for private lending institutions,

agri-business ventures or private marketing facilities to be willing to provide solutions to the constraints. The efficiency of the Republic of South Africa's agricultural sector is extremely difficult to compete with.

IX. What delivery systems did the project employ to transfer technology to intended beneficiaries?

A variety of delivery systems were employed to transfer technology to intended beneficiaries. The primary system was the use of a qualified team of long-term specialists supplemented by short-term consultants. Long-term specialists and short-term consultants effected technology transfer primarily through their contacts and working relationships with Basotho counterparts and other representatives of the GOL. However, in many cases these specialists also interfaced directly with chiefs, District officials and other local leaders. Technology transfer has also been accomplished through academic training provided to qualified Basotho employed by MOA. In the long-run this academic training may be more lasting and effective than other delivery systems utilized. Other delivery systems were related to education and training at informal levels. These included field tours, field trips, meetings and individual contacts and discussions. Extension personnel were provided information and utilized to pass the information on to interested or participating farmers. Project staff, either directly or through counterparts, provided information to village committees to be passed on to local farmers. In the case of the Grazing Association, committee members representing their villages received information passed on to stockmen and carried feed-back to the committee. In addition the pitsos, a traditional method of communicating at the village level, was used extensively to present new information to the people and to receive their responses.

Conservation technology is much more readily transferred by the above delivery systems than changes in crop production techniques for reasons discussed under III.

X. What training techniques did the project use to develop the delivery system?

Training techniques to develop the delivery system were varied. A major technique with lasting implications was the academic training provided for qualified MOA staff. The training of Basotho counterparts working at the side of expatriot specialist and the hands-on training of technical staff working on soil surveys and the national rangeland inventory were also effective techniques. Project specialist staff with the assistance of counterparts also provided training at the District level to extension, conservation, range, and agricultural officers. Village chiefs were also provided training by project staff through field tours and special information meetings. Twenty-five chiefs and farmers were provided a two-week tour to observe and study agriculture, range and livestock management and production in southwestern United States. The Conservation Information Specialist has provided radio broadcast

INTERIM EXTERNAL EVALUATION

Land Conservation and Range Development Project

No. 632-0215

Part II

Project Evaluation Statement (PES)

Maseru, Lesotho

June 23, 1984

Evaluation Team

Rosalie Fanale, Sociologist, REDSO/ESA
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PROJECT EVALUATION SUMMARY (PES)

13. SUMMARY

The Lesotho Land Conservation and Range Development Project No. 632-0215 (LCRD) was initiated on 8/20/80 with the action memorandum for the administrator of that date.

The goal of the Lesotho Land Conservation and Range Development Project is to increase both the productivity and incomes of the rural poor engaged in crop and livestock production. The purpose of the project is to strengthen the capability of the Ministry of Agriculture to plan and implement programs which will increase the productivity of Lesotho's crop and rangelands while conserving the land base through land development and appropriate conservation and land management practices. The project consists of two components, land conservation and range development. The land conservation component involves the preparation and implementation of on-farm plans by the Ministry of Agriculture planning teams who will develop, expand and demonstrate appropriate conservation techniques and improved crop and livestock production practices to the project beneficiaries. 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. As a major subcomponent of the rangeland section a range management area will be selected, established, and developed based on sound management and operation principles for use of the rangeland and related natural resources.

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The project is to extend over a seven year period of time with initial funding in fiscal year 1980 and final funding in fiscal year 1985 with the estimated project completion date scheduled for fiscal year 1987. The life of project funding totals $16,211,000 of which $12,000,000 is a grant from A.I.D. to the Government of Lesotho while the Government of Lesotho will contribute $4,211,000 or 26 percent of the total project costs. The project paper called for A.I.D. funding for the following specific areas: technical assistance, training, construction, commodities, budgetary support, and other activities. The largest single component part was allocated for technical assistance and this item was to be in excess of $5,400,000.

The results of this first major external evaluation which is being conducted at approximately the midpoint in the project life would indicate that the Government of Lesotho and A.I.D. have made satisfactory progress towards the achievement of the stated goals of the project. A full discussion of the inputs and outputs of the project to date are discussed in items 16 and 17 in the following sections of the evaluation. To date the inputs are being supplied on schedule by both A.I.D. and the Government of Leostho and the Government of Lesotho to date has met its financial commitments. The technical assistance component supplied by the contractor has met the required standards both as to quality and quantity of inputs and the anticipated outputs are, for the most part, on schedule to date. The records of the contractor, U.S.A.I.D., and the Government of Lesotho would indicate that all five components have been budgeted and obligated in a manner that is satisfactory for this point in the project.

It is fair to indicate then that significant and satisfactory project accomplishments and progress have been made. Unfortunately, the project goal of a 12 percent increase within three years after participation in an on-farm planning program or a range development program seems unrealistic and the probability that these kinds of goals can be achieved and verified by production and income data from the Ministry of Agriculture seem highly unlikely. This is primarily a criticism of project design rather than a criticism of the implementation activities that has been accomplished by all parties involved. It should also be pointed out that a relatively greater emphasis is being given to the range management area as a prototype for future range management development than as conservation activities. In light of this greater emphasis on the range management area it is not realistic to assume that the desired results can be obtained in the other areas within the desired period of time. Most likely the desired results would not have been realized even with much less attention being given to range activities. The long term beneficial effects of all components of the project will be more easily measured at a future date. At present there is little evidence that the conservation measures or the improved range management practices have been adopted outside of the specific project areas, i.e. those areas supported by funding directly attributable to the project. This would indicate that some of the adoption rates used in the economic analysis in the project paper would seem questionable. The Sehlabathebe range management area is generating a great deal of interest in many sectors of the government. The evaluation team feels quite strongly that the results, to date, are laudable, although very promising, have not

progressed to the point where it could be stated that this prototype model is sustainable or could be replicated in other parts of the country.A fuller discussion of this is found in later parts of this analysis.

14. EVALUATION METHODOLOGY

This in-depth external evaluation is for the purpose of examining progress toward achieving the project purpose and outputs.

This evaluation was conducted by a multi-disciplinary team consisting of R. E. Armstrong and Rosalie Farale, REDSO/ESA, Hans Krauss, USDA/SCS and Dillard H. Gates, Agriculture and Rangeland Consultant. They were assisted by Jim Dunn, USAID/Lesotho Agricultural Officer. In addition Barry Freeman, Team Leader, LCRD Project, and his staff provided valuable insights and information to the evaluation process.

The evaluation was conducted primarily through the technique of interviews and discussions with knowledgeable and appropriate staff members of GOL, USAID, contractor staff, farmers, stockmen, chiefs and others in positions enabling them to provide information about project activities and its impact on Lesotho agriculture and rangelands. The interviews were supplemented by field trips to: (1) the Range Management Area (RMA) at Sehlabathebe, (2) lowland cropping areas where farm plans are being developed and implemented and (3) the foothills to observe field techniques utilized in the development of the National Range Survey/Inventory.

Inventory and results of observations made during field trips and interviews were discussed, evaluated and, as appropriate, fed back into the evaluation process. The multi-disciplinary and diverse backgrounds of evaluation team members provided the opportunity to examine the project from a wide perspective.

15. EXTERNAL FACTORS

A goal of the project is to increase the income of rural poor engaged in crop and livestock production. To a large degree the income of the people participating in the Sehlabathebe Grazing Association is dependent upon sale of livestock.

A. The marketing of livestock from eastern Lesotho, is going to be dependent on the standards established by the Republic of South Africa. For better or worse, the Republic of South Africa is going to control the market, and has done so in the past with the marketing of pork and milk in the Maseru area, as well as imposing the quota system in the marketing of cattle. It is therefore extremely important to work out quotas with the livestock marketing board in the Republic if these markets are going to be successfully maintained.

B. The change in official U.S. government policy under the Reagan Administration concerning relationships with the Republic of South Africa has unquestionably had a beneficial effect in connection with marketing in South Africa. In discussions with government employees and individual citizens in the Republic there is a "stated" willingness to help projects that are sponsored by U.S. AID and the American government in general.

C. The choice of Sehlabathebe for the first Range Management Area benefited from an unplanned external factor in the marketing of small stock in the Republic. There is a major market in the Durban area for grade three "curry quality" mutton carcasses. This market was apparent at the Cato Ridge Abattoir where the principal buyers in the sheep sales arena were purchasing for the Asian community in Durban. This single unplanned external factor may have a significant effect on the success of the overall project.

D. Since the project began the GOL has implemented a program of decentralization. In part this has resulted in a transfer of some technical staff members from the Technical Divisions of the MOA to the Districts. This has reduced and weakened the technical support available from the central staff Technical Divisions cooperating with the LCRD project. This has placed a greater work load on the LCRD project team members, reduced counterpart availability and, in some cases, contributed to the need for contractor team members to serve as Acting Division Chiefs. To some degree this has detracted from their primary role of Advisor to the MOA. While decentralization was supposed to strengthen the technical capabilities of MOA at the District level there is little evidence it has had positive impact on the project.

E. The land tenure system in Lesotho is contributing to the difficulty of effectively implementing the project in both the rangeland and cropland areas. The displacement of people and grazing privileges with the establishment of the Sehlabathebe Grazing Association has created problems, some of which are yet to be solved. The Grazing Association has been established as a legal entity. However, some who

previously grazed livestock within what is now the RNA are no longer permitted to do so. Even within the boundaries of the RNA some were forced to give up traditional grazing privileges and feel they have not been adequately compensated for their presumed sacrifices. The local authorities, MOA and contractor staff are addressing these problems, but success of the project is dependent upon their resolution.

F. The accelerated interest in the development of the Highland Water Project is creating new interest in the ICRD, especially the National Range Survey/inventory. When completed this inventory will provide significant information contributing to the understanding, management, use and conservation of watersheds within the boundaries of the Highland Water Project as well as the rest of the nation.

Validity of Assumptions

Assumption: GOL will retain the high priority accorded soil and water conservation and range management.

Discussion: The GOL appears to have retained a relatively high priority for soil and water conservation and for range management. All members of the GOL interviewed displayed enthusiasm for ICRD and a strong interest in the success of the project. However, funding constraints, general reductions in budgets of MOA and GOL hiring freeze have slowed the rate of progress in some instances. These will be detailed in section 16 (Inputs) and 17 (Outputs).

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

Discussion: The numbers of trainees and training schedules as presented in the Project Paper were revised and updated in 1983. This revision resulted in a significant increase in projected training activities. This increase was due to the critical need for more trained staff in the MOA and made possible by the number of qualified staff available in the MOA for training. (See sections 16 and 17 for details.)

Assumption: Effective implementation of the 1979 Land Act will be carried out.

Discussion: Implementation of the 1979 Land Act is proceeding slower than expected. The act is also undergoing changes which would make the act more useful and effective (Robert O. Buffington report, May 9, 1984). The slowness in implementation of the Land Act should come as no surprise. Implementation of the Act will require changes in traditional land use and chains of authority. A comprehensive and well thought out educational program will be required over a long period of time before the Act is fully implemented. However, the fact that the Grazing Management Specialist of the LCRD team is a member of the MOA working committee reviewing the Act is positive and significant.

The level of implementation of the Act has permitted the establishment and operation of the Sehlabathebe Range Management Area. More effective implementation and further refinement of the Act would contribute to the ease of selection and operation of future RMA's.

Assumption: Funds will be available.

Discussion: Problems of GOL funding were discussed in the December 1984 interval review. It appears that funding problems continue. These problems are reflected by the hiring freeze in MOA and the reduction in

the petrol allotments for project vehicles. A lesser but significant item reflecting inadequate funding is the low subsistence rates paid to MOA project staff while doing field work. This results in a reluctance to spend adequate time in the field on the part of some MOA staff. This has a negative impact on accomplishing project objectives.

It should be pointed out that the level of GOL funding has permitted the project to move forward and much good work is being done. However, it appears the level of output is less than would be the case given additional funding by GOL.

16. INPUTS

The following is a summation of the inputs by category, ie. technical assistance, training, construction, commodities, budgetary support and evaluation. For the most part the quantity and the timeliness of the inputs have been supplied in a satisfactory manner.

The evaluation team examined the records of the contractor, USAID Mission to Lesotho, and the records of the Government of Lesotho in support of this analysis. The principal source of information from the contractor was drawn from the Status Report, October 1982 to December 1983 and the Certified Fiscal Report period April 1, 1984 to April 30, 1984.

Technical Assistance

Approximately half of the 43½ months of long-term technical assistance provided for in the project has been supplied to date, in the specific technical subject areas indicated in the paper. The cost of the [illegible] technical assistance [illegible] differs on the Certified Fiscal Report

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would indicate that 47 percent of the technical assistance has been completed as of April 30, 1984. As the project is at a midway point, this is very satisfactory.

The paper indicated 19 person months of short-term technical assistance would be made available. Eight and one half months have been supplied under the terms of the contract leaving a balance of approximately ten person months. Recommendations from the project team as to the utilization of this short-term technical assistance are made elsewhere in the paper.

The December 1982 internal review suggested that job descriptions for all TA staff be reviewed and if appropriate modified to more accurately reflect the actual work of the specialists. This was done and new job descriptions, with modifications as necessary, were presented in the LCRD Status Report, October 1982-December 1983. In addition, this evaluation team has reviewed the present job descriptions and discussed them with the LCRD team members.

In the Range Management portion of the project the positions of Range Management Specialist-Field Operations and Range Management Specialist-Range Development were changed considerably and brought into line with the work being performed. During early implementation of the project, it became evident that the work to be done and the job descriptions were not fully compatible. Thus, in order to meet the project needs these two specialists in particular adapted to the new and, unforseen at project design stage, demands. Changes of smaller magnitude were also made in two other range positions. The Range Policy and Applications Analyst position was changed to [illegible] specialist

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and also assumed the responsibility of Training Officer for the Project. This position has also been extended an additional year. The job description of Conservation Information Specialist was modified to better reflect his dual role in both the Conservation and Range Divisions.

At first glance this may appear to be a deviation from the project paper. However, this flexibility on the part of the specialists and their ability to carry out the work that needed to be done reflects positively on their capabilities and on project management. The fact that the need for changes in job descriptions was recognized and that necessary action was taken to get them changed also reflects positively on the working relationship and cooperative nature of USAID/Maseru, MOA and the Contractor.

In the Conservation Planning portion of the Project the following positions were evaluated: Conservation Agronomist/Planner, Conservation Soil Scientist, and Agricultural Engineer-Conservation

The quality of the technical services, training, and other inputs has been excellent. They have provided enthusiastic and professional leadership to the Project.

Specific comments in regard to each the above positions are as follows:

<u>Conservation Agronomist/Planner</u> - Job description is basically being followed. The Evaluation Team recommends that more emphasis be placed, during the remaining tenure of this position, on developing and maintaining a written technical guide as discussed under 1b. PROJECT PURPOSE, Area Plans.

Regarding records and reports the team recommends that a system of record keeping be set up for area and on-farm follow-up activities for GCL to maintain after ECP.

The team further recommends that the proficiency of the 9 District Conservationists be raised by providing them with intensive in-service on-the-job training.

The Evaluation Team also recommends that more coordination and effort be made to have the Research Division conduct the research and on-farm evaluations of no-till, grass/legume mixtures, fertility trials and other similar work presently being performed by Conservation.

Conservation Soil Scientist - Job description is basically being followed. Details relating to the job description can also be found under PES 17. PROJECT OUTPUTS.

In addition, the Evaluation Team recommends that the Soil Scientist work closely with the Conservation Agronomist to complete a technical guide prior to the termination of their contracts.

Conservation Information/Education Specialist - See comments relating to this position discussed under PES 18. PROJECT PURPOSE.

Agricultural Engineer/Conservation - Job description is basically being followed. A concern of the Engineer was the increased pressure on the part of GCL to have him work with irrigation. The team considers this an acceptable component of area and on-farm conservation activities. It meets the goal of increased crop production.

The MOA prepared an annual work plan two years ago. Prior to that an annual work plan had not been prepared for two years. The LCRD provided assistance in the development of a new format for preparation of annual work plans. This format includes each District so that District plans, activities and accomplishments can be accumulated by District and evaluated separately or combined into a joint MOA work plan or for reporting.

Each Division within MOA prepares its individual work plans and provides quarterly reports against the annual work plan. LCRD activities and plans are included within the appropriate functional Division in the MOA. In addition each expatriot specialist has a quarterly plan of work reflecting his activities within the Division to which he is assigned. Each specialist prepares and submits a monthly schedule of work to the appropriate Division through the Team Leader.

The project design did not provide for inclusion of a social scientist on its long-term technical assistance team. Project staff have had to operate without benefit of any detailed socioeconomic information from Project sites. Data from the social perspective will be important during the initial years of the RMA, to judge the factors which contribute to its successes or which lead to problems. Similar data gaps exist with reference to conservation activities, especially on-farm plans.

As a result of re-assessing Project needs over the last year, a social scientist position (24 months) has been added. Duties and responsibilities have been defined after a review by the REDSO/EGA

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Behavioral Science Advisor, and incorporate the necessary studies of the social and local institutional aspects of both range and conservation activities. Specifically the social scientist will be charged with (1) baseline studies, (2) evaluation of project impacts on household income, productivity, employment, resource use practices, participation in project activities, and attitudes, (3) research on the social organization of the Sehlabathebe Grazing Association to identify the social authority, incentives for participation, factors conditioning adoption of recommended management practices. The social scientist will work closely with the Grazing Management Specialist regarding the socioeconomic feasibility of compliance with alternative control measures, the social acceptability of prospective regulations, and the practicality of enforcing regulations.

Training

The prime contractor is also responsible for supervision of the training programs undertaken in the project. An examination of the records would indicate that the training is on target. With Government concurrence the numbers of persons being trained at certificate level was greatly reduced and the funding used for master's and bachelor's level programs. Funding for the training component of 2.7 million dollars will be adequate for the completion of the training portion of the project.

Training inputs as presented in the Project paper were revised. These revisions were presented in the LCRD status report covering the period October 1982-December 1983. Revisions were the result of the realization on the part of both USAID/Maseru and the LCRD project that academic training will provide Lesotho with the greatest long-term benefit. The status of academic training as of May 5, 1984 is shown in

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the following table:

Status of Academic Training LCRD Project [1]

Level of training	M.S.	B.S.	Diploma
Number to be trained	8(7)[2]	20(9)[2]	12(6)[2]
Number returned			
Conservation Division	3	1	3
Range Division	0	4	2
Number still in training			
Conservation Division	2	6	0
Range Division	2	4	2
Number yet to be trained [3]	1	5	5

[1] The project paper called for 14 persons to be trained at the Certificate Level. However, all training candidates were found to already qualify at the Certificate Level.

[2] Number in parentheses is original number for trainees in the project paper.

[3] Two additional candidates are scheduled for Associate Degrees; an additional one is currently involved in a drafting and cartographic course in the U.S.

Construction

The project paper called for the $1,034,000 of construction in Maseru, and in a rural area. The construction has gone very well and the contractor's report would indicate that practically all construction is completed with the exception of the corrals and working pens at Sehlabathebe which are now in working order. It was the observation of the team that the wool and mohair sheds at Sehlabathebe, although 85 percent complete, would need to be fully completed prior to the September 1 shearing season if the facility was going to fulfill its required function. It was also noted by the team that Implementation Letter number 31 authorized the change in construction at Sehlabathebe, eliminating the senior staff house and replacing that with a series of three roundavals and an expanded warehouse/office building facility. The budget for construction was adequate and USAID's figures indicate that an expenditure of $883,904 has been spent against a budgeted item of $1,034,000.

Commodities

An examination of AID's records would indicate that the procurement of commodities has progressed satisfactorily although only $601,000 has been expended against a budget item of $1,300,000 and a contractor's projected requirement of $1,000,000. The Evaluation Team visited the workshop and examined the inventory that was prepared by the contractor and the Government of Lesotho and found the physical inventory records to be in proper order. Recommendations concerning commodity maintenance and the operation of the workshop and the field stations have been made by the Evaluation Team under the heading of recommendations.

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Budgetary Support

An examination of records from the Government of Lesotho and USAID would indicate the utilization of funds for budgetary support items have fallen behind schedule. This is not a major problem, as the Government indicates an increase in the intensive labor method of soil conservation over the remainder of the project. To date, against a budgeted item of $1,072,000, AID records show reimbursement to the Government of Lesotho of $225,000 for budgetary support items .

Evaluations

There seems to be some discrepancy in the funding levels for evaluations as indicated in the summary tables of the project paper and in the logical framework. Both seem to be higher than required and could perhaps supply some funding to be used elsewhere in the project.

In conclusion, the "quantities and timeliness" of the project inputs are on a satisfactory schedule with the one noted exception, budget support.

Project Inputs from the Government of Lesotho

An examination of the Recurrent Budget of the Conservation and Range Divisions would indicate that the expenditures by the Government are more than adequately meeting the requirements of the Project. The following statement of the expenditures for the 1980-1984 budget period would indicate expenditure for the Conservation Division in excess of Rand 5,000,000 while the expenditure for the 1983-1984 year is Rand 1,200,000. In addition, the expenditure for the newly formed Range Division is in excess of Rand [illegible],000 for the same period. It can be argued that the total expenditures for the recurrent budget of these two

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divisions cannot be fully attributable to the support of the AID project. On the other hand, since the majority of the work of these two divisions clearly supports the overall activity of the project, it would seem reasonable that a major proportion of these expenditures could justifiably offset the requirements in the project paper.

It should be noted, however, that a more detailed examination of the specific line items of the vote of the Ministries in Agriculture shows a definite decline since 1980 in the funding for operating costs, including petrol and repair parts. If this continues it will be a major constraint to rapid and adequate support of the projects.

Government of Lesotho

Conservation Division	Recurrent Budget 1980/1981	1984/1985
(1) Personal Emoluments	(R) 1,075,000	(R) 770,550
(2) Other Operating Expense	342,160	145,030
(3) Travel and Transportation	130,960	101,560
(4) Administrative	39,910	29,420
Total	(R) 1,588,030	(R) 1,046.560

	Planned Budget Allocation	Authorized Budget by Warrent	Actual Expenditures
1980/1984	(R) 6,057.800	(R) 5,613,170	(R) 5,155,578
1983/1984	1,229,520	1,220,520	1,189.952

Range Division Recurrent Budget

	1981/1982	1982/1983	1983/1984
(1) Personal Emoluments	(R) 203,170	(R) 201,670	(R) 135,400
(2) Other Operating Expense	123,650	67,380	21,250
(3) Travel and Transportation	26,590	22,400	10,450
(4) Administrative	2,800	1,060	1,000
Total	(R) 357,360	(R) 292,510	(R) 176,100

17. OUTPUTS

A. Trained Basotho Staff

The reports of the contractor confirmed by USAID and the Government would indicate that the training of Basotho staff is progressing in a satisfactory manner and that all training will be fulfilled on schedule. The training of staff to the certificate level was eliminated as there were adequate number of certificate holders to fulfill project needs. This funding is being used for more advanced training.

B. On-Farm Plans

Goals were reduced as a result of the internal evaluation from the original 2,440 to 1,220 due to decentralization and changes in staffing. According to the implementation schedule on page 46 of PP, on-farm planning was to begin about October of 1981 and extend to EOP or August 1987. Currently about half-way through the time frame, 209 on-farm plans (17%) have been completed and 1,011 (83%) remain to be accomplished. On a land area basis 541 hectares are under on-farm plans (18%) and 2,509 hectares (82%) remain to be accomplished by E.O.P. Both number of plans and hectares are above the amount projected for June 1984.

If outputs are to be met at EOP it appears that an additional staff person is needed in the Division office with cartographic responsibility. The position of Conservation Agronomist/Planner and advisor to the Conservation Division staff is scheduled for termination on July 1985. If EOP outputs are to be met this position should be extended another two years to coincide with EOP since the major responsibility of this position is training.

There are currently six adequately trained conservationists responsible for on-farm planning. Two are in Maseru district and two in Berea district. One is in Butha-Buthe and one in Leribe. Four of the ten districts have personnel adequately trained for on-farm planning.

In addition, there are 10 conservationists in the field who are not completely or adequately trained at the present time. Nine of them would have on-farm planning responsibility and one (with degree) in Mohales Hoek would be responsible for training. If these people are trained to the desired level of proficiency each district would have one or more on-farm planners. (See Table 17.1 Conservation Staffing Plan)

The goal of 20 planning teams was reduced to 10 after the internal evaluation. A "team" consists of one conservationist adequately trained for on-farm planning and one subject matter specialist in livestock, range, crops, or extension.

Five of the six adequately trained conservationists have a specialist with them in the field. Four of these specialists are in crops, and one in range. One of the conservationists in Berea is alone.

By definition, then, there are currently five adequately trained teams in the field. This is one more than the projected number as of June 1984.

If the partially trained conservationists become adequately trained there is presently the potential for 15 teams in the field providing each of them is paired with another specialist.

The rate of training of replacements in Conservation has dropped from three to four people between 1979 and 1982 to no new trainees from 1983 on. This could cause a problem in achieving the IOP goal of 10

teams and maintaining a cadre of trained district and division-level people.

There needs to be continued effort on the part of the MOA to communicate and coordinate with the District Agricultural Officer in order to establish a good team approach in all activities and operations at the district level.

Table 17.1

Conservation Staffing Plan

District	Adequately Trained	Partially Trained	Staffing Needs
Berea	2	1	
Butha-Buthe	1		
Leribe	1		
Mafeteng		1	
Maseru	2	2	
Mohales Hoek		2	
Mokhotlong		1	
Qacha's Nek		1	
Quthing		1	
Thaba-Tseka		1	
Total	6	10	
Division			
GCL	3		5
Advisor	2		2

C. Area Conservation Plans - The goal is to have 25 area plans covering 50,000 hectares by the EOP. Nine area plans have been completed to date covering 19,657 hectares. Thirty six percent of the number of plans and thirty nine percent of the hectares have been planned at about the half-way point in the project. (See Table 17.2)

It takes anywhere from six months to a year to develop an area plan and five to fifteen years to complete the installation. It is estimated that area plans will be completed at the rate of two per year. The primary goal is the amount of land under plan rather than the number of plans. If this is the case the remaining 16 area plans need to average about 2,000 hectares in size or six more area plans (two per year) need to average over 5,000 hectares to meet the hectare goal at EOP.

Thirty-one area plans were developed under the Land and Water Resource Development Project. Five of these areas have had all the conservation practices applied. Installation of conservation practices at the present time can be in any planned area not just the ones developed under the Land Conservation and Range Development Project.

In Lesotho there are now 40 area conservation plans on file. In any given year there are about 11 areas that can be actively implemented. At the EOP, if goals are met, there will be about 56 area plans.

The rate of application of conservation practices needs to be compared to the rate of planning to avoid a large back-log or time lag between planning and application. If too much time passes the conservation committee, chiefs, and farmers can lose interest. Much of the preliminary information and education work would have to be re-done.

Application of conservation can be any combination of labor intensive, food aid, or heavy equipment as decided by the Conservation Division. Heavy equipment is needed for most dam construction. Much depends on availability of equipment, state of repair, petrol, operators, and desire to employ village labor.

In order to meet planning and training goals it may be necessary to add another area planner to Division staff. This is especially true if the expatriat advisory position is terminated on July 1985 as planned.

The on-farm planning and area planning staff face the same general problems of lack of vehicles, gas rationing, lack of subsistence, and personnel losses that limit most other Divisions.

Table 17.2

Area Conservation Plans[1/]

Name	Location	Date Completed	Hectares
1. Morija West	Maseru District Matsieng Morija	September 1980	1,533
2. Ha Pako	Maseru District Thaba-Bosiu	January 1981	773
3. Sehlabeng	Maseru District Thaba-Bosiu	October 1981	3,500
4. Hololo Valey	Butha Buthe Dist. Hololo	February 1982	298
5. Berea Martins	Berea District	March 1982	1,757
6. Mphasa-Malimong	Mafeteng District Tsoaing Project	May 1982	970
7. Ha Mkhabu	Leribe District Kolonyama	November 1982	850
8. Upper Phuthiatsana	Berea District Phuthiatsana	March 1983	9,416
9. Ha Mosalla	Maseru District Thaba-Bosiu	June 1983	560
Total 9 Plans		19,657 HA	
Goal 25 Plans		50,000 HA	
% Accomplished 36		39	

Soil Survey - The goal is to survey 150,000 hectares in Lesotho during the life of the project. Two-thirds or 100,000 hectares is to be rangeland and one-third or 50,000 hectares is to be cropland.

About 71,300 hectares have been soil mapped as of May 1984. It is anticipated by the soils section that 30,000 ha of detailed survey can be accomplished each year. If this estimate is realistic then the project goal of 150,000 ha should be accomplished at EOP barring any serious constraints in vehicles, staffing, petrol, and subsistence funds.

It is not known how many hectares of soil survey are on range land and how many are on cropland. The Soil Section progress report does not indicate how much of the 71,300 hectares is detailed survey or reconnaissance. It is recommended by the review team that progress data be broken down by these land use and intensity categories.

If progress begins to fall short of goals it may be necessary to curtail such activities as reviewing past mapping, benchmark study, on-site investigations for housing, and field trials. Field trials should be directed to Research and the Farming Systems Research Project. These activities presently take 60% of soil staff time. The soils advisor is scheduled for termination prior to EOP and this may need to be extended to meet goals and GOL training needs.

It is further recommended that after completion of the remaining 6,000 ha soil survey at the Sehlabathebe Project area future surveys be in the highest priority cropland areas of the lowlands.

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There needs to be some national criteria developed by the Conservation Division for establishing priority areas for soil survey and area conservation plans. These activities should be concentrated in the high priority areas rather than on a first-come, first-serve basis.

After a prioritizing process has been employed the project goal of 100,000 hectares rangeland and 50,000 hectares of cropland may need to be revised to reflect the established priorities.

It is imperative that the soils lab in the Research Division begin to function in a professional manner to provide the soil survey section with timely and accurate fertility and characterization data.

D. Conservation Structures - The goal of the project is to protect 4,000 hectares with terraces and 60,000 hectares with diversions, waterways, and other structures.

The progress to date as provided by engineering and summarized by the evaluation team (see Table 17.3) indicates that about 200 hectares of cropland has been protected by donga controls, waterways, grass plantings, tree plantings, silt traps, gabion structures, and road construction.

In addition 11,172 hectares have been protected by terraces and diversions.

The project goals need to be revised to properly reflect the differing amount of protection provided by the various conservation structures.

The team suggests that the goal for area protected by the more localized or site-specific practices such as donga control, waterways, silt traps, and gabion structures be reduced to 500 ha at EOP. The team also suggests that the goal for area protected by the terraces and diversions be increased to 25,000 hectares at EOP.

It is felt that these revised goals would be more realistic. Another option is to goal practices by units, rather than hectares.

The Engineering staff could facilitate quantification of progress by reporting quarterly using a tabular format and showing progress in hectares, as per the grouping of practices recommended in the preceding paragraphs and on Table 17.3.

Progress to date in relation to the revised goals is 40% other structures, 45% terraces and diversions.

Table 17.3 Conservation Structures Summary

1.	Dongas 10.16 Km[1/]	5.6 ha
2.	Waterways	31.69 ha
3.	Silt traps 638[2/]	127.6 ha
4.	Gabion structures 58[2/]	11.6 ha
5.	Grass plantings	14.04 ha
6.	Tree plantings 3,103[3/]	2.6 ha
7.	Road construction 15.42 km[4/]	6.8 ha
	Sub-total:	200 ha
8.	Diversions 4.5 km[5/]	45 ha
9.	Terraces 1,589.5 km[6/]	11,126.5 ha
	Sub-total:	11,172 ha
	Grand Total:	11,372 ha

1/ Compute area based on 5 m average width; add 10%.

2/ Estimated .2 ha for each structure.

3/ 1200 trees per hectare.

4/ Compute area based on 4 m average width; add 10%.

5/ 10 ha/km

6/ 7ha/km

E. Employment Generation

The construction of labor intensive works has not progressed as rapidly as planned and the intensive construction work is somewhat behind target. Discussions with Ministry and project team indicates that this labor intensive program will be increased in the latter part of the project and funding will be utilized as budgeted.

F. 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 on the area: (1) a Grazing Association will be organized, (2) a range recommaissance survey completed, (3) a grazing management plan developed and implemented, (4) an animal health program established and implemented. Based upon experience and informationn acquired from the first range management area, a second range management area will be selected and preliminary plans implemented by the end of the project."

A RMA has been selected at Sehlabathebe. The RMA has been registered and exists as a legal entity. The area is functioning and considerable progress has been made on construction of facilities. The decision was made to eliminate the senior house at the RMA, to reduce the size of the junior house and to build three roundavals. The junior house and the roundavals are now complete.

The decision to eliminate the senior house and build three roundavals for counterparts and short-term expatriat staff is accepted.

However, the decision to reduce the junior house to the size constructed is questionable. The house is only minimally adequate for the Range Management Specialist-Field Operation. It appears that for the sake of economy the comfort and well being of the expatriat and his family, the isolation factor of the location and the professional stature of the expatriat were sacrificed. Though not evident at this time this decision may well have an adverse effect on the project as the liveability of the house affects the specialist and/or his family.

Construction of the warehouse/office, the wool/mohair shed is completed. Plans for construction of wool bins within the shed are complted and construction should be completed soon. The corral/crush pen is essentially completed, lacking only the scales and spray race.

(1) Grazing Association. The Sehlabathebe Grazing Association has been organized, approved by the MOA and is functioning. The Grazing Association is managed by a 33 person Committee. The Committee consists of the Chief of each of the eleven villages included in the RMA and two elected members from each village. The Committee elects it own Chairman and Vice-Chairman.

First year membership in the Grazing Association was 290 which represented approximately 96 percent of the livestock in the RMA. Membership renewals for this year are much less. It is anticipated that most members will renew based upon the time of the year they paid their fees the first year.

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The Evaluation Team visited the RMA and talked with Grazing Association officers, members of the Association and people living within the boundaries of the RMA but not belonging to the Association. The reaction of the people toward the Grazing Association is generally good. However, there were some exceptions. Expressed concerns included the marketing of stock, displacement from traditional graziing areas, the grazing system, changes in grazing patterns and a perceived inequity in the fee structure for membership.

It appears that the Grazing Association is working, though with some problems, as indicated above, yet to be solved. It is apparent that the Grazing Association has not yet been institutionalized. A great amount of education of people within the RMA is still necessary to bring about full acceptance of the Grazing Association and the degree of experience and understanding required for replicating the RMA in another area. It appears that at least another year will be required to consolidate the progress made with the Sehlabathebe Grazing Association. It may take much longer. When consideration is given to selection of another RMA, it is suggested that the area south of and adjacent to the present RMA be given priority status. This would minimize administrative and management problems as well as costs. Lessons learned at Sehlabathebe would be more easily extrapolated to that area than one far removed and less accessible. Recognizing the progress made with the present RMA and Grazing Association, in the viewpoint of the Evaluation Team, the presence of an expatriot will be required for at least another ten years if the experience is to be institutionalized and so far successful nature of the Project is to

(2) Range Reconnaissance Survey completed. A vegetation/range survey and analysis has been completed on the RMA. This provided the basis information required for development and implementation of a grazing management plan. The range survey was made possible by the acquisition of new, natural color aerial photography during the summer of 1983.

(3) Grazing Management Plan developed and implemented on the RMA. Information provided by the vegetation/range survey provided the basis for development of a grazing management plan for the RMA. Estimates were made of the forage production and livestock carrying capacity of each of the vegetation units in the RMA. A four-pasture grazing management plan was developed giving full consideration to vegetation types, topography, grazing season, water availability, kinds of livestock and the traditional grazing patterns of the area. The plan has been implemented and is working though some fine-tuning is still required. Understandably implementation of the grazing management plan caused changes in the grazing pattern of some people living in the RMA. These changes were not all williingly accepted. However, the plan is strongly supported by the local chief. A continuing program of education and humane enforcement of grazing regulations is contributing to the success of the plan.

(4) Animal Health Program. The internal review conducted in December 1982 suggested that animal health be expanded to include animal management and improvement. While the Evaluation Team found

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official documentation to show this has been done, it is apparent that animal management and improvement are an important and integral part of activities in the RMA.

Animal health, other than animal nutrition, is not a serious problem in the RMA. Livestock are subject to infestation by both external and internal parasites, but not excessively so. A dip tank for small stock has been constructed at the RMA headquarters and a spray race for cattle will be installed in the corral facility.

(5) Second Range Management Area. In the judgment of the Evaluation Team it would not be prudent to select a second RMA at this time. As indicated in (1) above additional time, education, experience, and evaluation is necessary before a second RMA should be considered. Other considerations in selection of a second RMA are also discussed in that paragraph.

G. Rangeland and Livestock Management Policies

"By the end of the third year of the project, a report will be prepared providing an analysis of rangeland and livestock management policies and regulations, such as those affecting land use and controlled grazing, with specific proposals and recommendations for policy changes or for new policies or regulations. Prior to commencing development of the second range management area, relevant policies and regulations will be the subject of a joint review by the GOL and USAID/Lesotho."

Rangeland and livestock management policy is a sensitive issue in Lesotho. The position Range Policy and Regulations Analyst presented in the project paper was not approved by MOA until the position title was changed to Grazing Management Specialist. The Grazing Management Specialist is actively involved in matters pertaining to grazing policies and regulations. The success of the position is noted by the fact that the position has been extended for one year.

The Grazing Management Specialist has played a significant role in the analysis and evaluation of existing laws and regulations and in drafting proposals for amendments and revisions. A draft paper covering recommended changes in the Range Management and Grazing Control Regulations of 1980 has been prepared and submitted to GOL in January 1983. Some of the recommendations were adopted by the GOL. The Range Policy Section continues to review policies and regulations and is formulating additional changes for presentation to the MOA.

This is a very critical and sensitive function with continuing long-term impact on the project and the management of rangeland and livestock in Lesotho. In view of the lack of trained and qualified Basotho staff serious consideration should be given to further extending the position of Grazing Management Specialist until the end of the project.

A final range policy report has not been prepared and in view of the sensitivity of the issues involved, the relative newness of grazing management concepts, the great changes from traditional grazing involved it is unlikely that a final policy will be forthcoming in the near future.

H. Other Outputs

The internal evaluation conducted in December 1982 suggested that an additional 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."

The project paper called for a National Range Survey/Inventory. The inventory was to provide the basic resource information for development of sound rangeland and livestock grazing programs in Lesotho. The survey would also provide information contributing to the development of sound rangeland policies and regulations. However, the design of the project paper appears to have overlooked the need for suitable aerial photography, the need to collect extensive field data and the need for and lack of qualified Basotho staff.

As a result of these apparent oversights in project design implementation of the range survey/inventory was delayed. However, the importance of the survey was recognized by USAID/Lesotho, GOL and the Contractor. Arrangements were made to acquire new aerial photography for the entire country. Specifications were drawn up, bids let and accepted and the photography was flown during the period January-April 1983. High quality, natural color imagery at the scale 1:20,000 was available to the project in August 1983.

In order to overcome the lack of trained Basotho to collect field data the Range Management Specialist-Range/Inventory taught a course at LAC and during weekends, after hours and during school breaks trained local range technicians to collect field data and work with aerial photography.

The Range Survey/Inventory Section, in addition to the expatriat specialist, now includes a counterpart and three two-man field teams trained at the diploma and certificate level. In addition there are two technicians in the office transferring data from aerial photographs to 1:50,000 overlays. The survey teams live in field camps. During the winter of 1983 the team worked in the office but this winter (1984) they are staying in the field but working in the lowlands.

At the present time the field work is 25 percent completed. It is expected that all field work will be completed by December 1985. It is further expected that all office work, drafting, analysis, descriptions and reports will be completed and an atlas of the ecological units of Lesotho will be published by the end of the project.

In addition to its value to management of rangelands and livestock in Lesotho the completed atlas will provide invaluable information and data to the Highland Water Project. The ultimate long-term success of the scheme will depend in part upon the condition and management of the watershed draining into the reservoirs. The vegetation, soils and erosion information developed by the survey and presented in the atlas will be extremely useful in watershed analysis and in preparation of management practices and guidelines for watershed management to optimize water harvest. While this is an extra national benefit the range survey/inventory may in the long-run prove to be even more valuable to the Highland Water Project than to the LCTD project.

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I. Rangeland and Livestock Management Policies

According to the Project Paper (p. 9),

> By the end of the third year of the Project, a report will be prepared providing an analysis of rangeland and livestock management policies and regulations, such as those affecting land use and controlled grazing, with specific proposals and recommendations for policy changes or for new policies or regulations. Prior to commencing development of the second range management area, relevant policies and regulations will be the subject of a joint review by the GOL and USAID/Lesotho.

The policy position has been filled since 30 March 1982, with a new contract to run from May 1984 for one year. Evaluation of existing laws, rules and regulations was conducted and draft proposals for amendments and revisions were submitted for MOA and GOL consideration, with reference to Grazing Control Regulations, Selected Agricultural Area Regulations and Agricultural Lease Regulations. Amendments and changes to the Grazing Control Regulations of 1980 were drafted, and selected revisions accepted by the MOA and gazetted on December 31, 1982. Largely as a result of the work of the policy advisor, the Range Division has been able to carry on a dialogue with high level MOA staff concerning the advisability of working toward a nationwide grazing fee structure intended to generate revenue for range and livestock improvement.

Each of these accomplishments are backed by behind-the-scenes analysis of rules, laws, policies, land use custom and practice. Characteristically, discussion and dialogue take place over a period of many months, weighing the pros and cons of alternate options, and many drafts are prepared. The working style adopted by the Grazing Management Specialist suggests that he has recognized that for regulations to be

successfully implemented, they must carry the approval of leaders at all levels, and be socially feasible and enforceable.

The Grazing Management Specialist has participated and will continue to participate in activities related to land tenure and land use policy, among them representing the Division on the MOA committee charged to review and analyze current information pertaining to Special Agricultural Areas under the 1979 Land Act. This has involved a review of current forms of land use in the light of how these might be affected by changes resulting from implementation of land tenure clauses. He participated in the national Land Act Policy Seminar in March, 1984, at which representatives from several areas of government and traditional (chiefs) leaders discussed the social, political and developmental implications of implementation of the 1979 Act. He has also participated in meetings and a working group which is looking at the range management and regulatory implications of the development of the Highland Water Scheme.

The advisor has become a trusted participant in the GOL policy making process concerning range management, land tenure and land use. He has, after two years in place, gained the respect and confidence of highly placed officials in an area which is notoriously thorny, one in which outside "advice" is frequently resisted. He may have greatly increased the awareness on the part of government officials of the importance of appropriate policies, rules and regulations for range management. Over the long term Project impact may be influenced as much by these developments at the level of national policy, as by any other Project activities. There is potential for the Project to have

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significant impact on the development of a national structure to ensure economically and socially appropriate management and tenure of the nation's rangelands.

It is the opinion of the evaluation team that the requirement for a single policy analysis report with specific recommendations was inappropriate. Collaborative policy development requires that the expert engage in dialogue, prepare working papers on specific topics, and assist government to modify policy and regulations based on improved information. It is not a task which works according to a rigid timetable for prescription of recommendations — in fact, to do so could negate progress already made. The strategy that has been followed has been an appropriate one of collaboration and flexibility. It has already led to significant input into and impact upon regulations and policies concerning land use.

Demand on the part of the GOL for advice is likely to continue. Over the next year, the advisor will work toward formulation of rangeland use policies including measures for implementation. Work on grazing fee structures will continue and issues of allocation of grazing rights and privileges and ways to strengthen the role of chiefs in advising stocking rates, will be examined. Increased involvement is anticipated in refining by laws, guidelines and procedures for grazing associations as management units for controlled use of common range. Other areas which might be tackled include broader aspects of range and livestock policies, including issues concerning the shift to intensive livestock production technologies in the lowlands, and livestock marketing and importation policies. This will require working closely with the Livestock Division.

The policy advisor will also be able to benefit from first hand information on social acceptability of regulations, social and economic incentives to participation, and practicality of administration and enforcement of regulations as provided by the social scientist. Significantly, the social scientist will also address the impact of the association on livestock owners who customarily grazed in range management areas but who have been excluded from grazing rights, and examine appropriate actions to minimize negative impacts and assist those who may be at an economic disadvantage. However, this is a two-year position and many of his findings will not be available until the latter part of his tenure.

Given the successes to date, the potential importance of the work, the timing of input from the social scientist and the fact that probably the most significant decisions on the part of the GOL concerning range management areas are likely to be made over the time span remaining in the Project, there are extremely strong arguments in favor of extending this position through Project Life.

10. PURPOSE

The project purpose is to conserve and develop national farm land and rangeland resources by carrying out appropriate conservation measures, land use plans, 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.

There are ten positions identified in the Range Management Division. At the present time all but two of the positions are filled by Basotho staff. It is anticipated that the high level of staffing will continue and be enhanced as trainees return from training programs in the U.S. Conservation Division staffing has been reduced as a result of decentralization and the transfer of trained persons to other divisions. Many District Agricultural Officers were staffed from Conservation Division ranks.

It is estimated that the Conservation Division will be 60% staffed by trained Basotho personnel at EOP unless measures are taken to correct the situation.

B. EOPS

Cooperation and Coordination among divisions within the MOA will be significantly strengthened and institutionalized.

Lesotho is a small and underdeveloped country with limited trained manpower and financial resources. Full cooperation among various administrative units in MOA is essential if the development process in Lesotho is to be optimized and project purpose achieved.

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Cooperation and coordination between the Conservation and Range Divisions is generally good. This is understandable as the Conservation Division has been involved in conservation and land development projects for many years. To a degree the decision to form a Range Management Division in the MOA grew out of needs recognized during implementation of past land conservation projects. Both divisions are land and conservation oriented and recognize that a productive land base is essential to economic development of Lesotho. In addition both divisions are directly involved in and a part of the LCRD project. Also the Contract Team Leader has administrative responsibility over expatriat specialist assigned to both divisions.

While the Conservation and Range Divisions work in close concert, unfortunately, there appears to be minimal cooperation between them and other divisionsn within MOA. Considering the developmental needs of the country and the nature of the LCRD project there should be close cooperation especially with the Livestock and Crops Divisions.

Discussions with some division staff members and MOA administrative personnel leave the impression that reasons for lack of cooperation are varied and sometimes unclear. However, stated or implied reasons for lack of cooperation include but are not limited to: (1) development of the Range Division out of the Livestock Division thereby reducing its perceived scope of work and authority, (2) problems of "protecting turf," that is, a desire of a Division to retain personnel and areas of responsibility which is perceived to be theirs, (3) a narrow viewpoint and the inability of some Division personnel to grasp the critical need for coordination and cooperation if development in Lesotho is to proceed,

(4) a competitive or adversarial attitude between some Divisions and (5) the ever present human problem of personality conflicts.

Regardless of the reasons, it is obvious that cooperation among divisions in MOA is less than optimal. The MOA, the authority with administrative responsibility over all Divisions, should examine critically the problems related to lack of cooperation and move decisively to develop and implement solutions. Such action is needed if the project is to be deemed a success. More importantly such action is needed to contribute to the development and conservation of the land and livestock resources of Lesotho and advance the economic and social welfare of its people.

Progress toward reaching this EOPS is less than satisfactory at this time.

C. EOPS. "A system of developing and implementing cropping and conservation plans with farmer involvement will be established."

A system has been established for developing area plans and on-farm plans. This system generally follows an eight step process:

1. Conservation information and education.
2. Soil surveys and interpretations for multiple uses.
3. Development of area plans.
4. Forestry planning and assistance to land users.
5. Engineering survey, design, layout and supervision of installation of structural measures.
6. Operations such as supervision and management of equipment and labor to install the conservation practices.

7. Maintenance program for the upkeep of installed practices.

8. On-farm plans to improve production where the soil is protected from erosion.

The involvement of local people is very well incorporated throughout this process. The details can be found in H. W. Fausch's "Summary of Activities and Accomplishments in the LCRD Project to 31 May 1984."

Additional observations and recommendations of the evaluation team relative to the above process are as follows:

The Information and Education Head in the Planning Section is doing most of the conservation information and the expatriat advisor is with range information 65% of his time. Since the Range Management Specialist-Field Operations is also covering information programs on range in the RMA it seems that the proportion of time devoted to conservation planning information and education by the advisor could be increased to 70 percent. Much benefit could derive from the advisor's concentration on developing training and technology transfer material for use by Planning, Soils, Engineering, and Forestry.

The facilities of AGINF (MOA) are available for weekly radio broadcasts (conservation, Mondays; range, Fridays;), press releases of Conservation Division activities for Radio Lesotho, quarterly newsletter to farmers, posters, films, leaflets to farmers to remind them of important monthly farm operation, and information to extension agents. The AGINF has also graphics capability for posters and flip charts and slide presentations.

The IMRC (MOE) made a video tape of the Senlabathebe RM Project. A Lesotho sound tract could be added.

They can also help with video or other movie films of dongas or other conservation subjects at a relatively reasonable cost.

Frequent I&E follow-up is necessary to keep conservation committees and farmers informed about methods of farming, erosion control, structure maintenance, improving yields, benefits of fodder, and soils.

A soil conservation theme at the next National Farmers' Conference could reach many farmers, chiefs, and committees.

The successful application and maintenance of area and on-farm plans depends on active, well-informed conservation committees and involves lots of follow-up work.

Another beneficial and necessary activity is training the counterpart in all of the activities just described.

Area Plans

Area plans precede the on-farm plan and incorporate all the needed structural and vegetative erosion control such as grassed waterways, diversions, terraces, donga control, desilting basins, tree planting, and fodder on Class IV land. These area plans are developed by the Division Planning staff consisting of the head, a planner, and an advisor. They work with local committees who provide input by identifying eroding fields.

The Division Planner will be trained to do area plans along with the Planning section head. They use soils information to determine the suitable practices. Engineers follow-up and determine specific locations of structures. If there is a problem or major change they go back to the Conservation Committee.

The application of area plans provides for most, if not all, of the erosion control needed on the land. This is an important point to consider when evaluating the future direction of the project. Should the emphasis be on area planning and application at the exclusion of on-farm planning? Should on-farm planning be a function of Extension? If GOL inputs are severely restricted where would they best be utilized? Should district staff be trained and equipped to do area plans? Do they have the needed education to be proficient in area planning?

The Evaluation Team notes that there is very good erosion control being applied to the land as a result of area plan implementation. GOL and donor should explore ways to accelerate this aspect of the project. If application can not keep pace with planning then perhaps the planning teams (Division and District) should shift into more follow-up work with area conservation committees and individual farmers and reduce goals accordingly. Every attempt should be made to train the nine District conservationists to be proficient in all aspects of planning and follow-up. They should be involved in area plan development so they can provide day to day follow-up, advice and encouragement.

The Evaluation Team recommends the development of a "technical guide" that builds upon the general information in the "Land Capability Guide" and the production details of the "Cropping Guidelines."

Conservation planners at all levels of GOL will need a technical guide particularly after the departure of the expatriat advisor. The technical guide should bridge the present gap and provide the basis for determining land use and cropland suitability, essential conservation practices, and adapted agronomic practices. It could include seeding

guides, irrigation guides, soil condition indices, soils interpretations for various uses, practice specifications or guidelines, and exhibits of conservation plans.

On-farm Plans

The major emphasis of the on-farm plan is maintenance of structural conservation practices and crop productivity. They are developed by the six conservationists assigned to the Districts. There are six Conservationists in four districts who are "adequately" trained to do on-farm plans. There are nine other potential conservation planners needing additional training. (See Table 17.1)

The Division Planner is primarily training field people to do on-farm plans. The Head of Planning and the planner have done on-farm plans in the past.

The Division and District staff are devoting most of their time to new plans leaving very little time for follow-up. A system needs to be established for keeping records of follow-up in area and on-farm folders. Extension could play a major role in follow-up.

Only progressive farmers or 5% of the people show interest in on-farm plans. It is said that farmers lose interest in the recommendations in the plan.

The Evaluation Team, in an attempt to be constructive rather than critical, suggests that several alternatives be explored by the planning teams as soon as possible. One is to provide more soils information in the plan about the specific mapping units. The "Land Capability Guide" shows capability units but the "Sketch of Soil Survey" does not show capability class or capability unit. The description of the capability unit might be beneficial in the plan folder, also.

Field boundaries are made to coincide with soil boundaries especially between Class III and Class IV land. This, along with the installation of a terrace or waterway can create even smaller fields. This may not cause a problem with oxen but farmers have raised this as an issue. The smaller fields would definitely be much less efficient for mechanization and could cause future destruction of structural practices. On-site investigation may justify straighter field boundary alignment in some cases.

The "Sketch of Farm" could benefit the farmer more if a legend was provided for the symbols used.

The plan itself should be developed with any farmer in the area even if he is only willing to make one small step to change his operation. The plan should distinguish between actual "decisions" and additional practices needed that have not yet been accepted.

The "Farm Conservation Plan" sheet needs revision to provide more than 25% of the space to the farmers' land use and treatment. The Evaluation Team suggests that at least two sheets be used. One for the sketches and legends, the second for decisions and recommendations. The more progressive farmers could benefit from the "Farmers Cropping Guidelines" as a third sheet.

The Evaluation Team believes that the "Farm Conservation Plan" can gain more acceptance and more likely be applied with one or more of the following interim changes until a detailed evaluation can be made by a sociologist/agronomist team:

a) The "plan" can be divided into four parts. The first part dealing with maintenance requirements of area structures and

installations; the second part dealing with very basic additional on-farm erosion control remaining to be applied by the farmer; the third dealing with very basic changes in the farming system that will provide an increment of productivity increase. It may be only one item that they agree to do. The other additional small steps that they could take to further improve yields could be described. (See Sample Plan 18.1)

b) The fourth part of the plan can be the more detailed "Cropping Guidelines" table which can either be provided to the more progressive farmers or routinely to every farmer.

c) The Evaluation Team further suggests that these plans be in narrative rather than in tabular format. It is the Team's assumption that short, simple sentences in a few concise paragraphs may be more understandable and acceptable to the farmers. (See Sample Plan 18.1)

18.1 SAMPLE FARM CONSERVATION PLAN[1/]

Part I. Maintenance Requirements

The farmer agrees not to use grassed waterway as a road-way to and from the fields. Do not graze waterway.

(or: graze lightly from _____ to _____ or cut for fodder or other village grass needs from _____ to _____ and no shorter than 10 cm.)

The farmer also agrees not to plow across terraces. Remove accumulations of sediment periodically. Repair any breaks or rodent holes as soon as possible or report them to the village maintenance committee.

Additional need:

Protect the donga trees from animal browsing and from cutting.

Part II On-Farm Erosion Control

The farmer agreed not to plow fields until _____ which will leave them in the most protective condition during the erosion period; (from _____ to _____) Do not plow up and down the hill but follow the terrace across the slope.

Additional need:

Plant field no. 2 (Class IVe 1) to fodder during _____ for most successful establishment. Use _____ grass (or grass/legume) at a rate of _____Kg/ha. Plant by broadcasting seed and harrowing lightly. Exclude cattle from the planting. Fertilize at _____ Kg at _____ time of (plowing or harrowing) using 5 pockets of 2:3:0(21), LAN 3 Pkts, and _____ lime.

or

The farmer agreed to: Retain and protect fodder planted two years ago by using the following management practices. (fertilizer, weed control, livestock exclusion, etc.)

This field should be in grass for six or eight years out of every ten. It is fair for wheat but poorly suited to most other crops. It is unsuited for potatoes and asparagus.

Part III Increased Production

The farmer agreed to change the seeding date of maize from _____ to _____ . In this area yields generally increase when this is done.

The farmer also agreed to control weeds in the _____ crop by _____ before planting. Rogue or hoe early in the season before _____ to eliminate the competition for mositure and nutrients.

Additional needs:

Because the rainfall here is _____ mm sorghum will produce better than maize.

Fertilizer of the following type _____ at the following rate _____ applied at the following time _____ inn the following manner will give excellent yield response under normal conditions.

Changing from maize to forage on field 3 (Class IVe 2) will actually produce more income since this steep, erosive, infertile soil will produce more forage than maize.

The level terrace in field No. 1 can be used to hand plant and raise the following specialty crops (or garden crops) _____, _____, _____.

Part IV Farmers Cropping Guidelines

1/This is merely a sample format. It is not intended to represent actual local conditions or recommendations.

The Evaluation Committee believes that the most important part of the planning process is follow-up and should be added as a 9th step in the Conservation Operational Procedures discussed earlier. Follow-up can be provided by any or all team members whether they are conservationists, subject matter specialists, information specialists, or other District level or Division level staff working together in a common effort.

D. EOPS - Technical procedures for development and management of rangelands will be prepared and demonstrated.

Technical procedures for development and management of rangeland are being prepared and demonstrated as the project moves ahead. These procedures are manifested in the progress made in developing and implementing a simple grazing management system in the Sehlabathebe RMA. While the grazing system is technically simple it represents a vast departure from the traditional and its implementation impinged directly upon established social and cultural mores. Thus, the procedures for implementation are an essential part of the rangeland development and management process.

More specifically technical procedures have been developed and demonstrated (or are being demonstrated) in the development of livestock water, establishment of livestock handling facilities, establishment of a livestock improvement program which involves not only culling but use of improved stud animals and a Rangeland Improvement Handbook adapted to Lesotho conditions is being prepared.

In addition, the National Range Survey/Inventory has required the development of technical procedures for acquisition of aerial photography and its use in preparation of the inventory. Technical procedures for the classification of ecological units, mapping and cartographic techniques and description and analysis of the ecological units were also prepared and are being demonstrated. Technical procedures for the final publication of the Range Survey/Inventory Atlas are being prepared.

The preparation of technical procedures for development and management of rangelands is a continuing process. New techniques will evolve as project implementation takes place. The EOPS should find a set of development and management techniques that have been demonstrated and are workable. It should also find trained Basotho staff capable of applying the techniques and with the ability to comprehend, develop and apply new techniques as needed.

Satisfactory progress is being made toward meeting this EOPS.

19. GOAL/SUBGOAL

The stated goal of the project is to increase productivity and incomes of rural poor engaged in crop and livestock production. As a suitable measure of progress toward this goal, the Project Paper states that: "Income of cooperating farmers (is to be) increased by 12 percent within 3 years after participating in on-farm planning or range development programs.

Neither the on-farm plans nor the range development programs (through the RMA at Sehlabathebe) have been in place long enough to permit any reasonable assessment of progress toward Project Goal. There are currently about 200 farmers who have on-farm plans, but in no case has their experience with them been tested for more than two years. At Sehlabathebe, although the Grazing Association has been in existence since early 1983, many of the management practices were initiated only in the past summer grazing season.

However, it may be unrealistic to assume that beneficiaries should experience the anticipated changes within three years after participating in on-farm or range management activities. In both cases, the project is introducing a series of new production and resource management practices which are likely to be fully adopted only after many years of experience with them on the part of the participants. For example, farmers may at first be enthusiastic about the on-farm plans, but follow them only in part. The effect on productivity could be quite limited during this stage. The increased production of farmers, with on-farm plans, may fall short of 12%. However, the average of all participating farmers could well surpass the goal by EOP.

In the RMA, initial enthusiasm has been high, but many details will take time to work out. For example, association members have agreed to follow the new rotational grazing system, but not all of them understood it, nor were all of them who were required to shift to new cattlepost areas able to arrange access to them. That the first years after initiation of project activities would be a period of trial, learning and adjustment should have been realized at the time of project design, and a more realistic time frame for increases in productivity and income should have been included.

The Project is taking appropriate steps to ensure progress toward its goal. However, we would like to add that continued progress will depend on sustained extension assistance and educational efforts with farmers in both on-farm planning and range management areas. In the RMA, progress will depend upon the effectiveness of the Project team in building a local management structure strong enough to sustain the

technical innovations introduced during the life of the project. For on-farm planning, farmer adoption of recommended practices will depend on the Project assisting the GOL to evolve an extension approach and technical package which addresses the constraints and is responsive to the abilities of more farmers. This will require adequate resources and a sustained commitment on the part of the Conservation Division.

The evaluation team would like to comment on Purpose to Goal linkages of the conservation activities. The continuing efforts of the Conservation Division in implementing area wide plans should contribute to continued stabilization of erosion and possible lengthening of the productive life span of the resource base. Any productivity changes resulting from protection of the soil with area conservation structures are long-term and not easily quantifiable. Evaluations of predecessor AID-supported conservation projects have pointed out that the goal, in those cases, was inappropriate, as conservation efforts in the absence of improved management and productive practices on protected land are not likely to result in increases in productivity. In this project the need for better management and production practices as a required step for production increases was realized, and the above stated goal refers only to the on-farm aspects of conservation activities, which incorporate improved practices in areas which already have area plans in place. The "loss" of crop productivity as a result of removal of land from production by grassed waterways and terraces may or may not be off-set by the increased production resulting from the reclamation of severely eroded land which had been left idle.

The Project Paper (p. 6) assumed that attainment of the Goal could be verified by production and income data already available from the MOA. As the 1982 Interim Evaluation noted, however, such data do not exist. That evaluation (p. 33) discusses the adequacy of the data base from which the projected change in incomes and productivity might be measured, and mentioned the lack of any systematic effort to collect data on the beneficiaries of the Project or the impact of new technology. Included in that Evaluation was the recommendation that representative baseline and monitoring studies be included in the Project to permit measurement of benefits accruing to those cooperating in Project activities, including if possible comparison with non-cooperating farmers.

Documentation needs should be evaluated. The requirement for assessment of project social and economic impact (and of progress toward the goal) might well be met by the inclusion of a social scientist on the Project team whose responsibilities will include studies over a two year period in order to provide data necessary to monitor income, employment, productivity and other direct and indirect impacts related to project activities.

The increase in production of farmers applying one or more on-farm production practices can be documented even though their number is small.

On-farm plan records should permit estimation of changes in production practices and crop yield per hectare, using farmer estimates. Record keeping originally included in the Cropping Guidelines was found to be somewhat impractical to implement and the system has been adjusted and improved based on initial experience. The records should provide useful data if field officers continue to follow up with farmers to assist them in recording the required information.

We are concerned that the Conservation Division has no system which is systematically recording information to document productivity or economic impact in areas where area plans have been applied. There is no way that the Division can access and compare the efffectiveness of its efforts, since there are no records of the maintenance of conservation works. This gap bears further review, if the Division is to make the best of some 15 years of experience, and adopt planning and extension approaches which are likely to minimize maintenance problems and increase farmer support.

20. BENEFICIARIES

The primary beneficiaries of the Project are to be (Project Paper, p. 28) rural farmers and their families who participate in on-farm conservation programs or grazing associations. At the time of design this was estimated to involve farmers in about 120 villages. It was also estimated that construction and other conservation-related labor would provide approximately 7800 person months of employment per year. Indirectly, an estimated 50,000 people would also benefit through exposure to new and useful information through pitsos, training and other meetings. It was stated that women, particularly, would be sought out for employment opportunities in conservation.

Other categories of beneficiaries include participants who are recieving training; counterparts and MOA staff who have contact with Project staff and who recieve in-service training; chiefs and leaders who benefit from in-country training (including the special categories of conservation committee members, and grazing association committee members

who recieve special training to undertake their jobs). Given the incorporation into mass media of both range and conservation education as part of the Project, those who recieve information via these media should also benefit.

A special two-week tour of the southwestern United States has just been completed, with 12 Principal Chiefs, 10 leading farmers, and three GOL representatives attending. Based on the opinions of returnees, the tour has met its objective of familiarizing leadership on alternate approaches to managing lands under different systems of administration. The tour covered range/livestock production activities as practiced on public lands, private lands, and Indian Reservations.

By category of activity, an estimation of beneficiaries and benefits to date from the Project is as follows:

A. On-Farm Plans. As of 31 May, 1984, 209 farm households had on-farm plans. These tend to be farmers who have larger land holdings and who are generally considered "progressive." In most cases, these farmers are recieving seed and fertilizer for fodder production on marginal lands.

B. Area Conservation Plans. Since September 1980, nine area plans have been developed and are in the process of being implemented. Plans are covering an estimated 20,000 hectares, and affect a total of about 2,300 households in 33 villages. Residents of the villages incorporated in the area plans are benefitting through conservation training provided to them by Conservation staff, and by the elected Conservation committees. They benefit, as well, from the stabilization of the resource base which should occur. Committee members benefit from special training.

At present, approximately 150 people are benefitting from employment provided through the labor intensive program. This number is behind the anticipated level. All of those currently employed are men, and the evaluation team heard several complaints by women conservation committee members that women have not been given the chance to work. In at least one community, women have complained to other authorities about the situation. When queried, men workers stated that they had no objections to women joining them. How women are being excluded is not well undertood. The degree of women's participation could potentially be constrained by the long working day.

C. Range Management Area. The association area includes about 3200 people who live in 11 villages under the jurisdiction of one chief. During the 1983 membership year, 294 livestock owners had joined the association, representing about 90 percent of the stock in the area, and about 60 to 70 percent of the households. There is a delay in payment of 1984 dues, and as of March 1, only 46 had joined for the year. The reasons for the delay are not yet well understood, but the Project team feels that it is reasonable to assume membership of 200 to 250 families for 1984. Association members have benefitted to date from improved winter pasture (as a result of moving to cattleposts last summer), and from additional range land as a result of the restriction of access to the area. They have benefitted, as well, from opportunities to market stock, use breeding animals, and (to some extent) animal health programs. Most of the residents of the association area have been able to learn about livestock production, animal health, marketing, and other topics through the educational meetings (pitsos). Benefits of

association membership are anticipated to increase over the next years, as additional facilities are constructed, marketing and fodder production are expanded, and members become more familiar with the advantages.

Conservation

In Lesotho, conservation programs date to the beginning of the century. Programs began in earnest in the 1930's and 1940's, and U.S. assistance dates to the mid-1960's. In the Colonial period, few steps were taken to ensure farmer participation, and most farmers had little understanding of the reasons for conservation. People tended to resent the imposition of structures which disrupted land use patterns. In later years, especially from the 1960's, government liaison with farmers involved much more extension and education, and closer cooperation, through elected village committees, in the development of plans. Since the 1960's, there has been emphasis on working with farmers to address land use practices which contribute to conservation. The LCRD has continued this approach.

However, problems remain regarding farmer participation and enthusiasm for the conservation effort --except as paid laborers -- in part due to lack of understanding, but also because of the nature of the programs and the limited production benefits they bring. Committee members cite seeing that structures are maintained (including the control of livestock trespass on protected areas) as their most important task. However, they also see this as their most difficult one.

Due to the long history of conservation efforts, causes of erosion and measures to control it are quite widely known. Farmers appreciate the Government's conservation efforts. However, few people are likely to

refer to erosion when asked about their contraints and needs in crop production; rather, they refer to measures which seem to them to bring a more direct economic advantage, for example, fertilizer, and small dams to permit irrigation of vegetables. Another factor is that, despite the more participatory approach developed by the Division in recent years for area conservation planning, people still interpret the plans, and conservation activities as a whole, as the Government's responsibility, and not their own. Elected conservation committees may still be seen as organizations imposed from the outside, rather than as part of the community fabric.

In the case of on-farm plans, it seems that the recommended practices are too complex and too expensive for most farmers to apply. To date it is only the relatively well-off farmers who have expressed much interest. If on-farm plans are to bring production benefits to a wide range of farmers, it may be necessary to review the approach taken, and the appropriateness of the recommended practices from the point of view of the farmer's constraints. The exception appears to be the interest by farmers in fodder production on lands unsuitable (any longer) for other crops. In the case of fodder, however, there may be a need to ensure that people in the communities understand that fodder is considered a crop, and not subject to open grazing as traditionally it was.

More education, over a long time period, will be required if farmers are to take more initiative in conservation. Even so, farmer priorities are likely to remain, with good reason, in activities which bring more direct economic return. Changes which bring more secure

tenure of land may increase farmer interest in maintaining long term productivity. For the MOA Conservation Program to be as effective as possible, it will be necessary for a better understanding, on the government side, of farmer understanding, attitudes and constraints. It will be necessary to gear the education effort more closely to the perceptions and knowledge of the audience. Where possible, conservation activities should be coordinated with production programs.

Range Management

Much of the success to date of the RMA at Sehlabathebe is due to the training, educational and participatory focus taken by the Project team. There was a strong emphasis on consultation with local chiefs, and the constitution and by-laws were developed in close association with the Association's elected committee. The project site and its boundaries were selected based upon social and local political considerations. The rotational grazing pattern is built upon the traditional transhumance patterns followed by the villagers.

In discussions with Association members and non-members concerning their understanding of and concerns about Association activities, many people raised similar concerns . The closing of the Association's summer grazing areas to individuals who customarily used the area but who are resident outside of Association villages is already creating friction and problems of trespass. Given that available estimates suggest that summer use of the area included about 11,000 livestock units, and only about 7,000 of these belonged to those resident in Association villages, the number of livestock owners displaced is significant. The likelihood

that friction will increase, that there will be incidents associated with attempts to impound animals, or that acts of sabotage might occur, is unknown. It is worth mentioning, however, that restricting access to previous users was a major contributing factor in the failure Grazing Associations set up in the past in Lesotho.

According to traditional law, Principal Chiefs, not local chiefs, allocate summer cattlepost areas. As a result, in most areas people who hold cattleposts are likely to come from a geographic area wider than that of the nearest villages. Recent research findings suggest that livestock owners' association with cattleposts is permanent, and that range use within cattlepost areas is regularized. The current situation at Sehlabathebe raises equity issues, as some displaced users are probably at a strong economic disadvantage. Given the context, trying to "solve" what has been defined as a trespass problem through an increase in impoundment fees alone also raises equity issues.

In part as a result of traditional tenure at mountain grazing points, and in part because more intensive educational efforts are needed, the new rotational grazing system will take several years to become successful. Many Association members must now move to areas where they do not have a cattlepost. Members appear to be working this out among themselves, by trading access to cattleposts, by sharing them, or by occupying posts left by outsiders. The need to establish cattleposts is probably the main reason why there is so much confusion about the dual summer rotation.

There has been a delay in renewal of membership. One reason seems to be that many residents are waiting for confirmation -- in the form of the woolshed, a bigger fodder program, marketing for small stock, and other activities -- of the benefits that have been explained to them at pitsos. Some of the smaller livestock holders are unhappy with the membership fee, which is structured to favor larger livestock holders. Another concern raised was that the Association's decision to prohibit mafisa, or the customary loaning of livestock, has had unpleasant social and economic ramifications.

We are concerned about the time and steps which will be required for the Association to become independent, self-supporting, and capable of managing its affairs without substantial outside assistance. At this time the level of extension and financial assistance to the Association is very high. In addition, the presence of outsiders who are seen as sources of authority may moderate some of the organizational problems which might otherwise develop. There may be a need to look closely at the kinds of training which will be required for the association to develop a strong management and authority structure. In a recent assessment of agricultural cooperation in Lesotho, it was stressed that in most cases, government was providing a management function which would have to be eventually transferred to the group if it was to become successful. The best cases were those where there was a hired manager. Another factor in the viability of the RMA in the long run will be the parallel development of national range regulations which can provide the regulatory framework for the local cooperative institution.

The above topics should be examined by the Project team social scientist, and be studied before a second RMA is instituted. Before Grazing Associations are widely replicated, the pilot effort should prove itself as a viable economic institution which can serve its members needs and at the same time be effective in controlling range use.

21. UNPLANNED EFFECTS

The project has not had significant unplanned effects on social structure, environment, health, technical or the economic situation. However, some of these factors have had an impact on the rate of project implementation. For example: (1) the complex social structure and land use system has had an impact on the development and implementation of the RMA and Grazing System. It has also influenced the development and potential utilization of area and on-farm plans, (2) the recent drought has contributed to the low productivity of both crop and rangelands. This contributed to the economic stress of farmers and stockmen. On the other hand, the severe death loss of livestock on the RMA, resulting from the drought, contributed greatly toward bringing livestock numbers in balance with available forage and (3) the budget constraints of the MOA. Some of these factors were also discussed in Section 15, External Factors.

At Sehlabathebe, the significance of the grazing patterns in the Association area was underestimated. Residents from outside have customarily had access to the area's range and developed cattleposts there, and these stock holders may be at a strong disadvantage as a result of the Association. The extent of unplanned, negative impact occurring outside the Association area warrant further investigation.

The likelihood that opposition from displaced outsiders may threaten the viability of the Association should also be assessed.

An examination of the increased quantity of land being plowed or fitted for cultivation in the Sehlabathebe RMA would indicate that the positive effects of increased quality of grassland and grazing is going to cause an increase in the numbers of people requesting permission to settle in the Sehlabathebe area. This, in turn, will place greater stress on the range as these people will also want to produce livestock.

22. LESSONS LEARNED

It is often difficult to identify lessons learned as a result of a given activity or set of activities. Depending upon experience and background a lesson learned for one may be merely the reiteration of a fact or falsehood for another. Thus, it may be prudent to reiterate some concepts that have influenced the implementation and prpgress of the LCRD.

A. There is a critical need for project design which reflects a comprehension of the actual situation in the developing country and presents a logical approach to problem solving. There is no room for the "Pollyanna" approach or the notion that development will be achieved or that successful projects will result from invalid assumptions.

B. The ultimate success of a project is highly dependent upon the people selected to implement the project. The importance of selection of a qualified contractor who in turn fields a competent staff cannot be overemphasized. Development is a people to people process and contract staff (as well as USAID staff) must be able to live and work effectively with local people in their environment as well as being technically competent.

C. It is also essential that USAID project management recognize the sometimes subtle differences between monitoring and management and to fulfill his/her responsibilities while allowing sufficient flexibility for the contractor to adjust to change or unforeseen events within the intended scope of the project. Development is a dynamic process.

D. The project in both design and implementation must work closely with the people, including government and intended beneficiaries to help them identify and solve their problems. It should also recognize and respect local cultural and social mores and leadership and authority chains within the country.

E. Follow-on in this country will depend to some degree upon the ultimate progress of the project during the next couple of years. If progress continues in the Sehlabathebe Grazing Association and the grazing association concept is institutionalized additional RMA's and GA's should be considered. The economic development of Lesotho will continue to be a function of the productivity of its rangeland and livestock resources.

The Highlands Water Project (HWP) may present an opportunity to participate in an undertaking with great economic implications for Lesotho. The LCRD project may have already opened the door to follow-on involvement. The National Range Survey/Inventory activity of LCRD project will provide much information required by the HWP to design and implement a watershed management project for the catchment basin of the HWP. The ultimate long-term success of HWP will be a function of a sustained water flow from well managed and productive watersheds.

F. Most USAID projects are designed based on the hypothesis that some group will automatically benefit from the outputs of the project. Too often little effort is given to demand estimation. In this project, what seems to be a supply or production motivated activity turns out to be dependent on a demand or market driven model. This is certainly the case with the portion of the Project in the Sehlabathebe RMA. The success of the project will depend on a demand for the small stock that will result from the reduction in stocking rates which are necessary if the quality of the rangeland is to be improved. Many production oriented projects are dependent upon external markets which are often not properly analyzed.

G. A corollary to a demand driven model suggests that this demand forces the developing nation to compete in international markets. With the exception of the traditional cash crops developed under former colonial powers, such as coffee and tea, many of the third world nations are not prepared nor qualified to produce products that will meet the competition in international market places. The issue then of dealing with demand driven models suggests that a great deal more emphasis needs to be placed on market analysis, not only in the design, but also in the implementation stage of AID projects.

23. SPECIAL COMMENTS OR REMARKS

This section will be addressed by a series of issues and recommendations.

A. Issue: The Land Conservation and Range Development Project has considerable need for research data in both the Range Management and Cropland Conservation Divisions. Apparently there has been considerable pasture and range research and close collaboration between LCRD Project range staff and Research staff. There seems to be less collaboration between the Conservation Division and Research except for the jointly developed Cropping Guidelines.

Specifically, Conservation Planning staff has been attempting to accumulate data on no-till maize production and associated herbicide effectiveness. They are also involved in legume/grass mixture trials. The Soils section has been involved in fertility trials comparing zinc and phosphorus. They also have need for the Soils Laboratory facilities of the Research Division. Both Conservation and Soils have need of yield data.

Recommendation: That the Research Division and the Farming Systems Research Project work closely with the Conservation Division to determine conservation and cropping system research needs and incorporate these needs into the on-going research program.

That the Director of Technical Services coordinate regular meetings to facilitate the exchange of research needs and research findings.

That the publication of available cropland research findings that are applicable to the Conservation Planning Section be funded with assistance from USAID and distributed to LAC and all appropriate Subject Matter Specialists, Extension, and Conservation.

B. Issue: There seems to be some question regarding the effectiveness of on-farm planning in producing tangible changes in production methods on the part of the farmer. The question is whether there is a whole set of inter-related social and economic constraints such as credit, acceptance of new ideas, storage and marketing problems, and others that inhibit the acceleration of production or whether it is the format and language of the on-farm plan itself, or both. The on-farm plans may be proposing solutions which are too complex and which require resources unavailable to farmers. Also, problems remain with reference to sustained commitment on the part of farmers to maintain conservation structures. Much better understanding is needed of farmer participation, and of problems, where they have occurred so that the long-term effectiveness of the Division's work may be improved.

Recommendation: Consultant resources may be required for special studies. These should be under the direction of the Project Social Scientist. Alternative on-farm plan styles and formats should be evaluated for their comprehension and acceptance on the part of the farmer.

C. Issue: The role of MOA in effecting coordination among the various divisions that are directly or indirectly associated with the activities of the LCRD Project, including: Range, Conservation, Livestock and Crops.

To a large degree the eventual success of the Project is dependent upon the full cooperation of the various government units involved with the Project. The Evaluation Team has observed that in some cases the level of inter-division cooperation has been less than desired. The MOA has the administrative responsibility for the concerned units under its jurisdiction.

Recommendation: The MOA take appropriate action to ensure the necessary inter-division cooperation.

D. Issue: Timeliness of consideration for selection of a second RMA.

Progress is being made toward accomplishment of the objectives for the Sehlabathebe RMA. The Grazing Association has been organized, facilities constructed, stud animals purchased, an educational program implemented and a simple grazing management scheme started. Despite this progress the concept of a Grazing Association has not been institutionalized nor completely accepted by the people in the RMA. Over the next one to two years results of studies by the Project social scientist will provide extremely important information, including an assessment of problems resulting from displacement of livestock owners.

Recommendation: A minimum of another year of study and experience should be allowed before consideration is given to a second RMA.

E. Area selection for RMAs.

There will be significant differences in the feasibility, from place to place, for an RMA. For logistical reasons, distant cattlepost areas may pose serious implementation problems. Isolated grazing lands may be more likely to be used by people from

diverse locations, and this implies problems in selecting who is to be included, and who excluded, from an Association. At this stage, locations in which a great majority of users originate from a nearby, bounded area are preferred.

An area should be selected for the second RMA where the likelihood of adverse effects is minimized. A second RMA, wherever located, will require the commitment of additional GOL resources. As consideration is given to selection of a second site, a location should be considered that will allow optimum utilization of resources expended at Sehlabathebe and the applicability of the Rehlabathebe experience.

Recommendation: Over the next two years, the LCRD staff should devote attention to the development of guidelines and procedures for Grazing Associations which take into account both economic and social issues.

Prior to the selection of the area for the second RMA and organization of the Association a social study will be required to assess and make recommendations concerning likely impacts on the area's users.

An area adjacent to and to the south of the Sehlabathebe RMA should be given first priority for the second RMA.

F. Issue: The loss of returned trainees from Divisions from which they were selected.

Participant training represents a significant commitment of Project funds. Trainees are selected and resources committed to meet specific Project objectives. When returned trainees are not assigned to the Division from which they were selected it represents a loss to the Division and to the Project, even though

it may otherwise benefit the MOA. If the MOA has demands for additional trained staff then other arrangements or funding sources should be utilized to meet the need.

Recommendation: Returned trainees be assigned back to the Division from which they were selected for training.

G. Issue: Women have been excluded to date from the employment opportunities available through labor intensive conservation. How the decision was made to restrict employment to men is not known. Many households most in need of employment may not be reached, and equity is a concern.

Recommendation: That the issue be reviewed and a report on the outcome be submitted to USAID.

H. Issue: Utilization of the approximately ten months of short-term consultancies still available to the project.

Recommendations:

(1) A detailed analysis be made of the potential demand for cattle and small stock that could be marketed fromm the Sehlabathebe RMA into the Natal District of the Republic of South Africa.

(2) A thorough study be conducted to determine the operational and maintenance requirements of the Soil Conservation Equipment pool at the workshop and in rural area equipment pools.

I. Issue: Availability of emergency operational funds for the Prime Contractor.

Recommendation: Follow-up action be taken on PIL number 29 and 36 to insure that the Prime Contractor has adequate emergency operational funds to avoid unnecessary delays in the purchase of "off-the-shelf" equipment and to meet other operational emergencies.

J. Issue: The need for additional expatriat staff at Sehlabathebe to assist with additional data collection. The additional data

resulting from reduced stocking rates, increased rangeland productivity, improved levels of productivity resulting from the introduction of new stud animals. The data will include such things as rangeland production, birth weights of lambs and calves, sale weights, and production of wool and mohair.

Recommendation: An additional expatriat, possible a Peace Corps Volunteer, be posted at Sehlabathebe to assist with data collection.

K. Issue: Long-term funding requirements for the Sehlabathebe RMA. It now appears that additional funding levels will be required if the Project is to be sustained and or replicated.

Recommendation: A detailed economic analysis be made of the specific costs associated with the Sehlabathebe RMA.

L. Issue: Need for long-term expatriat commitment at the Sehlabathebe RMA. It is obvious that the Sehlabathebe RMA and Grazing Association will not be sufficiently institutionalized by the end of the present project to be sustained without continuing expatriat presence.

Recommendation: Expatriat support should be provided to the Sehlabathebe RMA for at least another ten years.

M. Issue: Prime Contractor overhead rate. Article 9 of the contract calls for the establishment of a final overhead rate which will replace the negotiated rate that has been used since the inception of the contract.

Recommendation: The Prime Contractor should supply USAID/Lesotho with a current audited overhead rate.

N. Issue: Subsequent evaluation of the Range component of the LCRD Project. Progress on the range component of the Project is satisfactory. However, many new concepts are being presented which can impact success and replicability of the Project.

Recommendation: The range component of the LCRD be subjected to futher external evaluation in mid-1985.

23. ADDITIONAL SPECIAL COMMENTS

Livestock

The Evaluation Team visited the Sehlabathebe Range Management Area (RMA). The visit indicated a number of specific livestock marketing and production improvement problems. The Sehlabathebe model presents a number of unique opportunities; it is primarily a demand driven model in contrast with the typical AID supply or production driven approach. The stated goals of the Sehlabathebe RMA are to improve the productivity of the range and to conserve the natural resource base. This requires an increase in the vegetative cover, primarily grass, which requires a reduction in the stocking rates. To reduce the stocking rates a market "demand" must be found for the excess livestock in the area. This logical sequence indicates a thorough examination of a potential and sustainable market for both cattle and small stock. The team was asked to develop recommendations for a marketing program.

A review of the secondary data sources indicates that the market for livestock from the Sehlabathebe area would most logically be found in the Republic of South Africa. The transport interstructure and the market potential for livestock moving into the Maseru area did not appear to be realistic or viable. An examination of a market study done in connection with the Maseru abbatoir by Dr. Don Bostwick of the Planning Division of the Ministry of Agriculture was an excellent source of information and suggested that there were adequate supplies of livestock in the western portion of the country to more than satisfy the demand for

the feedlot and the abbatoir. Dr. Bostwick concurred in the opinion that the potential market for Sehlabathebe stock would be in the Republic. A member of the contractor staff and an evaluation team member visited with the staff of the Stockowners Cooperative Limited at the Cato Ridge Abbatoir and also with the Ministry of Agriculture personnel at the Research Station at Cedara.

Mr. Smith of the Stockowners Cooperative stationed at the Cato Ridge Abbatoir was a good source of information and supplied adequate data for a "directional" starting point for the marketing program. Mr. Smith indicated that there were at least three potential markets for livestock originating in the eastern part of Lesotho. The largest is the "controlled" market at Cato Ridge Abattoir. This is a quota system run by the Government of the RSA. A quota is given to each of the marketing organizations of which Stockowners Coop is the largest with approximately 75 percent of the market quota and Stockowners makes a quota available to various producers In the times of excessive supplies the quota would restrict the market to those producers supplying the market on a regular basis. A second market is the country market which would include both auction sales and consignment selling. These sales which supply local butchers are conducted both in Lesotho and in the Republic and are often operated by the Stockowners Cooperative. A third market would be local sale to other individuals for general consumption. Discussions with Mr. Smith indicated that the Stockowners Coop would be more than willing to market cattle or sheep for the Sehlabathebe Range Management Association or some representative of their organization. Mr. Smith said that some advanced planning would be necessary so that the Coop could schedule the livestock into their general quota. The one apparent requirement would be that the sheep be certified clean of scab disease which would require

the implementation of the dipping program that is part of the Sehlabathebe project.

The visit with the people at the abattoir indicates that there is a considerable demand for grade three, mature sheep or mutton, animals in the Durban market. The Asian communities' consumption of curries, demands a relatively lean, mature carcas and results in a reasonable price for this grade of carcasses. These carcasses would be typical of the animals produced in the Sehlabathebe RMA . On the day we visited the abattoir the price for grade 3 carcasses was Rand 2.50 per kilo. The average dressed weight of the carcasses was 18 kilogram or approximately 40-45 kilol live weight. The net value of those carcasses, allowing for a 26 percent cost for killing and handling, was in the neighborhood of Rand 35 per carcass. Mr. Smith said that the value of the hides and/or skins plus the ofal would be about equal to the transportation cost. As the development of a small stock market is important to the Sehlabathebe project, it would seem that a concerted effort should be made to develop such a market through the Stockowners Cooperative at Cato Ridge. A third option, in addition to the sales being run in Sehlabathebe RMA, would be the development, through the Stockowners Coop, of a consignment market for direct placement to local butchers. Apparently the Stockowners Coop has standing orders for certain types of stock with local dealers or local butchers.

Mr. Smith said that our very brief interview would simply develop some "direction" that might be followed in the future. He agreed that a more extensive study would be required to analyze the total market for

the sale of both cattle and small stock through marketing channels in the Republic. The Bostwick study suggests that the situation in Lesotho is not one of a lack of livestock nor a lack of the physical intrastructure required for marketing. The issue is whether the farmers are willing to sell the livestock at realistic market prices and enter a market oriented system rather than their more traditional system which stressed the owning of cattle and small stock as a store of wealth for prestige or dowry purposes. There seems to be a "gentlemen farmer syndrome." The people in the mountain areas are apparently receiving sufficient remittances of funds from the men working in the mines and are not dependent on a market for their stock. The primary issue then is the educational process which will be required in order to bring about a cultural change and introduce these people to a cash market society. This in itself is not an impossible task, as many have pointed out. The conversion from one system to another has been achieved in Botswana and Kenya and took place some time ago in Somalia.

As part of this overall marketing activity the issue of livestock improvement becomes a critical issue. The team has taken the first step by purchasing improved stud stock. Continued emphasis should be give to the upgrading of the livestock in the Sehlabathebe RMA and the initial contacts made with the breeders in the Republic should be maintained. The staff at the RSA research and herd improvement stations are doing an extremely fine job analyzing and developing seed stock that will help the farmers in the Sehlabathebe RMA develop the kinds of livestock that are

in demand.

The final necessary part of the project is the health improvement aspect. To satisfy the requirements in the market place the health programs must be developed to the point that the cattle and sheep are not penalized in the market place for disease or health reasons.

The constraints to an effective livestock and range improvement program in the Sehlabathebe RMA require the following action: 1) the education of the indigenous populataion concerning the market value of livestock, 2) the general acceptance of improved seed stock, 3) the maintenance of an adequate health care program, particularly to certify that sheep are free of scab. If the people of the Sehlabathebe RMA are interested in competing in a market economy they are going to have to meet the terms and conditions of that market.

Livestock Marketing Policy and Credit

A review of the work done by the policy advisor in the livestock sector would indicate that his general activities have been conducted in the right areas and that the issues of grazing rights, enforcement of trespass and similar issues have to be followed by the government in support of the integrity of the Grazing Association if the overall program is to be effective.

Another corollary to a successful marketing activity is the availability of credit for the sustained operation of the Livestock Association. The team met with Mr. Dale Majors and Mr. Bohloa of the LCCUL and discussed the issue of the availability of credit to the rural areas. Careful consideration should be given to a recently completed study of the credit needs in the rural areas. The LCRD Team should continue to work with the LCCUL and its affiliated local coop credit unions to make funding available for the purchase of improved seed stock

in the RMA. The credit needs of the RMA must be met in order to achieve the Project goals.