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Case Study No. 3

Lesotho Farming Systems Research Project (632-0065)<sup>1</sup>

by

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Botswana Agricultural Technology Improvement (633-0221)  
Gambia Mixed Farming and Resource Management (635-0203)  
Lesotho Farming Systems Research (632-0065)  
Malawi Agricultural Research (612-0202)  
Senegal Agricultural Research and Planning (685-0223)  
Tanzania Farming Systems Research (621-0156)  
Zambia Agricultural Development Research & Extension (611-0201)  
Nepal Agricultural Research and Production (367-0149)  
Philippines Farming Systems Development-Eastern Visayas (492-0356)  
Guatemala Food Productivity and Nutritional Improvement (520-0232)  
Honduras Agricultural Research (522-0139)  
ROCAP Small Farm Production Systems (596-0083)

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Lesotho Farming Systems Research Project (632-0065)

The Lesotho Farming Systems Research Project (LFSRP) was authorized, as a five-year project, in 1978, for \$8,308,000. The Project Grant Agreement with the Government of Lesotho (GOL) was signed in April, 1978. Technical assistance (TA) to LFSRP was provided by the Consortium for International Development (CID), with Washington State University (WSU) as lead university. The project's TA contract began in March, 1979, providing nine TA positions (chief research officer, agronomist, animal management specialist, range management specialist, farm management economist, sociologist, marketing specialist, information officer, and administrative officer). TA team members began arriving in country in July 1979, and were fully on board by August 1980. The LOP was subsequently extended for two years to March 31, 1986, and later to July 31, 1986.

The LFSRP was evaluated four times: a preliminary evaluation in 1980 (Dunn and Bahl, 1980); an interim evaluation in 1981 (Martin, et al., 1981); a special evaluation in 1983 (Dunn, 1983); and a final evaluation in 1986 (Frolik and Thompson, 1986).

Concept - What was the basic technical idea underlying the project?

Lesotho is exceptional in Africa in that it relies on off-farm income opportunities, principally outside the country, for its people's livelihood. It is estimated that only 17% of household income comes from on-farm, agricultural activity.

According to the PP, the LFSRP had a national goal and a sector goal; the national goal was "to improve the quality of rural life" and the sector goal was "to increase rural income from agriculture." The project's purpose was to create more productive agricultural enterprise mixes which are acceptable to farmers, sensitive to farmers' management ability, appropriate to resource availability, and protective of the land base. More specifically, the LFSRP was conceived to assist the newly established Research Division (RD) of the Ministry of Agriculture (MOA) in conducting agricultural research on farm enterprise mixes. As identified in the PP (p. 13), "the thrust" of the project was "to develop effective means to reach farmers and gain their understanding and acceptance of the practices recommended."

Design - How was this basic technical idea translated into a project?

The project's design provided a standard series of inputs (TA, training, commodities, and construction) to be used to produce a number of outputs, including a farming systems research (FSR) unit, a farming systems (FS) program, strategies for reaching farmers, trained Basotho personnel, and a research and informational base.

Several shortcomings in the project's design were identified in the second and third evaluations. First, the evaluations raised a question concerning how the initial and ultimate beneficiaries had been defined. The third evaluation noted that the PP had envisaged the initial beneficiaries to be farmers indicating both a willingness and ability to try improved farming techniques, with the implication that this group would be composed primarily of the relatively better-off farmers. The ultimate target group was identified as "those farmers or farmer groups who indicate a reluctance to improve traditional agriculture due to a lack of resources, financial or physical, or knowledge that change is possible." This definition of initial and ultimate beneficiaries "tended to overlook the importance of classifying farmers on the basis of resources and/or farming systems practiced and the need to develop agricultural recommendations for each group" (Dunn, 1983:38).

A second design shortcoming was the idea of having extension agents seconded to the Research Division. The third evaluation team found that this idea had proven to be less than satisfactory and that the extension service should have been integrated as a full partner into the project rather than seconding a number of agents to the project. At the time of the third evaluation, a systematic means of liaison between research and extension was being implemented by the project in the form of monthly meetings involving the two groups. However, in the opinion of the evaluation team, the extension service regarded activities in the project's prototype areas (PAs representing the lowlands, foothills, and mountains) as part of the research program rather than an integral part of the extension service. In the team's view, the extension service should have played a major role in planning, designing, staffing, implementing, and monitoring any trials or demonstrations being placed on farmers' fields (Dunn, 1983:43). As the team noted, the project

neglected the development of the district and national extension service. As an example, project funds were unavailable for inservice training costs to hold workshops with district level subject matter specialists and other district agents to participate in routinely held workshops. Field extension [workers] outside of the prototype areas were not provided with a means of transportation, i.e., motorbikes. While the Research Division provided funds for printing and distributing extension circulars, the Agricultural Information Office was constrained financially in the amount of extension materials produced for its farmer audience (Dunn, 1983:46).

A third design shortcoming was the limitation of the FSR effort to the PAs. The implication of this design was that only a small portion (1.0 to 1.5 percent) of the 240,000 households in Lesotho would be potential project beneficiaries. The third evaluation team recommended that a second phase of the LFSRP be designed to cover a greater number of administrative districts so that a greater portion of extension resources could participate with the RD in on-farm research trials and planning extension demonstrations on farmers' fields. The evaluation team also noted that this strategy would reduce the chances of the project favoring one farmer group over another.

Implementation - How was the project managed by the host-country implementing agency, the TA team, and USAID?

The second evaluation of the LFSRP noted a host of problems that the project encountered during its early implementation:

- a slow start by the TA Team (caused by team members being selected without the involvement of the TA team leader, lack of orientation to the project before leaving the States, delays in the arrival of team members in country, team members not arriving in the sequence planned, lack of orientation assistance of USAID/Lesotho when team members arrived in country, inadequate introduction of team members and the project itself to GOL agencies and other entities with which they were expected to work, and delays in housing and office construction);
- inability of project management (MOA, TA team, and USAID/Lesotho) to provide a unified approach to direct and guide planning and implementing activities at the national and PA levels;
- lack of short- and long-term agricultural research policy and strategy in the RD;

- limited number of skilled MOA professionals assigned to the RD;
- delays in assigning counterparts to be trained to replace TA team members (some counterparts were not assigned until almost six months to a year after the arrival of team members);
- delays in selecting and processing participants for academic training (this increased the likelihood that there would not be sufficient overlap with TA team members to provide on-the-job training;
- selection of PAs that did not have access to inputs and markets;
- delays in assigning research extension assistants to the project; and
- minimal previous research on which the TA team could draw.

Another constraint became apparent, namely, that the drop off of GOL budget support to the project hampered the implementation of trials and the provision of required follow-up. Yet, despite budgetary limitations, high expectations were held for the project. At the GOL and donor levels, there were expectations that the project would rapidly develop enterprise mixes which could be used in the country's small farmer development programs. And farmers in the PAs held expectations that the project would provide inputs and services typically provided by other development projects. RD personnel sought to reduce these expectations through repeated explanations that the project was not an area development project but rather an action-oriented research project that would be slow in yielding benefits.

The TA team provided the mix of technical skills in agricultural production and supporting services outlined in the PP. However, TA team effectiveness was hampered by "uneven arrival" of team members in country and "the absence of an ongoing agricultural research program and organizational base" (Martin, et al., 1981:8). While the TA team assisted in strengthening the foundation of the RD as a newly formed research institution, the evaluation team recommended that the TA team needed to play "a stronger role in the management and planning areas...to provide a sharper focus on reaching the specific objectives of conducting relevant research and...transferring technology to small holders" (Martin, et al., 1981:8).

In the view of the second evaluation team, the project's designers had been unrealistic in thinking that a FSR Unit could be established in the RD as a newly created research institution. Indeed, the team found "a divergence [of] thought on the...extent to which a Farming Systems Research Unit is being or should be established within the Research Division" (Martin, et al., 1981:8). Many RD professionals felt that the TA team should support the building of the entire RD. Indeed, at the time, the organizational chart assigned TA team personnel to several sections within the RD (Martin, et al., 1981:8).

Two problems, not anticipated in the PP, were encountered in implementing the project: (1) the absence of a standard, published set of crop production recommendations; and (2) the extremely limited availability, particularly in the PAs, of inputs (fertilizer, seed, chemicals and even simple oxen equipment). Further, the evaluation team found that the project and the RD were not implementing "a program of action specifically designed to follow through on selected alternatives" (Martin, et al., 1981:12). An absence of collaboration between farm management and agronomy to identify constraints specific to each alternative also was noted.

The second evaluation team felt the project's "greatest chance...for...short run impact (probably its only chance)" was to focus on the production of food crops (Martin, et al., 1981:12). The team recommended that the project concentrate on food crop production, that the research program not be restricted to the three PAs, and that an agronomist be assigned to each ecological zone of the country, with the responsibility of attending the PA within the zone but also working as needed outside the PA.

The team also pointed out that the project could address the input problem by reporting and analyzing data on the severity of the problem and the potential profitability of inputs under good farming technology. The project also could assist in developing "a self-sustaining solution of the problem--not a short-run subsidized easing of the problem that cannot be sustained" (Martin, et al., 1981:15). Further, the team suggested, farm management efforts should focus on helping to develop improved technology, by identifying the farmer constraints specific to practices or systems being considered. This, as the team pointed out, involves careful monitoring of the economics of the technologies being tested.

The team noted the importance of the project assisting the RD in developing communication links with the MOA Information Section. Examples of such links could include assisting in the preparation of technical publications and extension training materials, providing research reports to other MOA subject matter divisions, and conducting seminars for technical division chiefs and district agricultural officers to explain the nature of the agricultural research program, the production problems receiving attention, and the results of station and farm-level adaptive research trials which have provided information to disseminate to farmers. These measures to strengthen communication links between the project and other MOA divisions and offices would, the team noted, aid the government's efforts to unify an approach to agricultural development and expand the project's impact to a wider audience than the farmers in the PAs.

Evaluation - How was the project's performance measured or assessed?

At the time of the project's second evaluation, the TA team had been assisting in project implementation for nearly two years. At that point, the evaluation found that

there was no evidence that farmers are adopting...improved farming practices developed under project-initiated activities. The agronomic, range management and livestock research activities already underway are at the beginning stage of an applied research program. These research activities will need to be carried on for a number of years before a proven technology exists which can be disseminated on a broad basis to the farming community. Accordingly, it is uncertain whether or not the Project will reach the stated objective of reaching five percent of the households in the project area with enterprise mixes (Martin, et al., 1981:25).

Consequently, in the team's view, "the normal start up period of settling in and getting organized to do agricultural research work" had impeded achievement of project outputs. In the team's view, it was too early in the research process to determine how farmers would accept and utilize new practices of relevant technology (Martin, et al., 1981:21).

The evaluation team found that the project design team had made a basic assumption that there was a considerable amount of relevant data available that the TA team and the RD could collect, analyze, and use to develop a research program without having to "start from scratch." However, the TA team discovered that the actual data base related to FSR/E was weak and spotty. While TA team members collected and analyzed existing data, their efforts produced mixed results, and there was no attempt to coordinate and synthesize the data collected by individual team members. For example, none of the materials collected had been used to develop a profile of existing farming systems in Lesotho.

Such a profile, the team noted, would be useful in assisting the RD and TA team "to reach a consensus on what type of farmers, what extension strategies and what production technologies should receive priority attention" (Martin, et al., 1981:19). "Lack of consensus 20 months after initiation of the project as to who... the target population is and what types of innovations are most likely to improve his/her farm enterprise is a significant liability" (Martin, et al., 1981:28).

One of the difficulties in reaching consensus was the existing split in policy orientation on agriculture. While donor projects were aimed at the Lesotho small holder, the second evaluation team found that the GOL was "engaged in a substantial program of large-scale mechanized farming to make the country self sufficient in food grains by using modern technology and inputs in a...commercial operation" (Martin, et al., 1981:31). Even within the project, the evaluation team found a split between those who felt the project should aim at improving the level of subsistence versus those who felt the project should develop a viable small-scale commercial agriculture. "The project itself is divided on this issue" (Martin, et al., 1981:31).

Despite splits in policy orientation, a baseline survey of households in the PAs had been initiated and was nearing the analysis stage at the time of the second evaluation. However, the evaluation team felt that the formal baseline survey approach was not an efficient or relevant use of project staff.

A focus on more rapid methods of conducting farming systems research (e.g., following the "Sondeo" method developed in Guatemala or that developed by...CIMMYT for use in East and Southern Africa) would have been a more appropriate approach assuming the availability of local staff to carry out such rapid assessment surveys (Martin, et al., 1981:19).

In a third evaluation of the project (Dunn, 1983:6), the evaluation team found that the contribution of data that were to be provided by the baseline study to the RD had been less than desirable, and that this information should have been provided in year two of the project at the latest.

Farmer records were also being developed by the project at the time of the second evaluation. While the evaluation team felt that this information would be useful in problem identification, the team cautioned that the data largely described what farmers do and needed to be supplemented with information on why farmers do what they do. A subsequent evaluation (Dunn, 1983) found that the project had made progress in identifying and classifying farm households according to availability of resources and agricultural production. However, the team recommended that greater attention be given to matching trials with potential adopter groups.

In terms of strategies for reaching farmers, the project gathered information from farmers through meetings, a baseline survey, farm records, and informal, individual contacts. The project established Village Agricultural Committees to communicate to and receive feedback from farmers. Work was continuing on producing and distributing "Cropping Guidelines" and other technical publications. While crop demonstration plots and/or communal gardens had been established in each of the PAs, the project had taken no steps to monitor and evaluate the effectiveness of alternative strategies for reaching farmers.

A final conclusion of the second evaluation team with respect to project evaluation was that the GOL, TA team, and USAID/Lesotho should be more systematic in their monitoring and evaluation of the project.

The three should plan a truly collaborative evaluation at least once a year and should formulate specific benchmarks directly related to agreed plans of action which can be monitored by all parties on a more frequent basis (Martin, et al., 1981:32).

By the time of the third evaluation, the team found that the FS approach had been integrated into the RD and that farmers were being directly involved in field testing and demonstration (Dunn, 1983:4). Further, training sessions were being held for extension field workers as well as for Village Agricultural Committees. The team also noted that the total work time spent by the TA team in the field had increased measurably over the years, with some professionals now devoting up to 75 percent of their time in the field. More broadly, the project was continuing efforts to establish an Agricultural Research and Planning Coordinating Council and to assist the RD in drafting an agricultural research policy paper.

The increased amount of information on the project available by the time of the third as compared with the second evaluation made it possible for the second team to focus on what the PP referred to as objectively verifiable indicators (OVIs). Evaluation of the project in this respect is now reviewed in terms of each indicator and the project's progress on the indicator at the time of the third evaluation.

#### Farming Systems Research Unit

OVI1. Research priorities are determined through the use of social and economic benefit/cost techniques by 12/79.

The evaluation team found no evidence that either technique was ever applied to selection of research priorities.

OVI2. FSR Unit results are being published and disseminated to all relevant GOL divisions and other donor project activities by 12/79.

A system for reporting research and trial results had been established and a number of publications were prepared and disseminated.

OVI3. The FSR Unit is benefitting from improved professional relationships with worldwide research institutions by 12/79.

Ties had been initiated, maintained, and strengthened with international agricultural research centers (CIMMYT), research stations in the Republic of South Africa, and universities in the U.S. (WSU and Utah State University).

OVI4. The FSR Unit is pursuing or considering a program for replicating FSR/E after the project ends.

Inclusion of the TA team within the RD as a support group for Division activities provided a foundation for institutionalizing FSR/E in the RD; however, the second evaluation team recommended that the concept of a separate FSR Unit within the RD be abandoned.

#### Farming Systems Program

OVI5. Three systems using alternative technologies developed and tested in three physical environments by 8/80.

The second evaluation noted the lack of a reliable set of crop production recommendations for Lesotho. The third evaluation found the number of on-farm trials in place to be a vast improvement over the findings of the second evaluation. However, the team also found

a lack of agreement among RD staff and units as to...what is the FSR methodology being employed by the RD.... . . . The evaluation team feels some concern over the many concepts of FSR held by either WSU or Basotho staff in the RD. While we are very pleased with the effort to develop the Lesotho model of FSR, the fact remains that all station-generated and imported technology must be verified on a representative sample of Lesothoan farms selected from homogeneous agro-climatic regions before such technology is ready to demonstrate (Dunn, 1983:27-28).

The second evaluation proposed steps to strengthen and expand on-farm trials. One step was to give the Deputy Director full responsibility for coordinating farm trials, to facilitate an orderly transition of farm research responsibility from the TA team to Basotho staff. Although the third evaluation voiced "concern over the many concepts of FSR held by either WSU or Basotho staff," it is of interest to note that the evaluation team proposed its own "FSR Methodology" (Dunn, 1983:52-61). The need for clarification on the FSR/E approach to be followed was again echoed by the fourth evaluation's recommendation that "the FSR interpretation (there are many) for Lesotho" be spelled out in writing, with copies...made available to all concerned (Frolik and Thompson, 1986:iv).

#### Strategies for Reaching Farmers

OVI6. Alternative strategies for MOA farmer communication and education developed and tested by 8/80.

The project initiated Village Agricultural Committees as an experimental approach to reaching farmers in the PAs. Also, a group approach was being used on communal vegetable fields and grazing schemes. The team recommended follow-up on these two approaches to assess adoption rates of recommended technologies. The team also recommended that the project consider testing a facilitator approach to communicating with farmers.

#### Trained Basotho Personnel

OVI7. Basotho personnel trained and assigned to 26 positions in FSR Unit of RD by 3/84.

While the short-term training had progressed well, tardiness in obtaining qualified participants for long-term training during the early years of the project had resulted in delays in participants completing training and returning to the RD.

Research and Information Data Base

OVI8. Not stated in Dunn (1983:32-35).

The second evaluation had recommended that the TA team, working jointly with RD staff and USAID/Lesotho, should:

- a) analyze and synthesize the available data related to Farming Systems...; b) identify and classify Farming Systems types; c) identify the immediate beneficiaries of the Project (based on GOL policy and USAID growth-with-equity considerations); and d) establish which farming systems and which potential beneficiaries will receive priority in research activities.
- Identify and disseminate a few proven technologies as soon as possible to give the farming systems approach more credibility (Martin, et al., 1981:58-59).

By the time of the third evaluation, the project had prepared some annotated bibliographies and demonstrated some technologies. However, the evaluation team found "confusion" about which technologies needed to be tried and validated on farmers' fields and those "proven" ready for demonstration and dissemination. Since the second evaluation progress had been made on identifying and classifying households in a PA in terms of the physical resources which influence farming practices and on conducting trials and demonstrations representing a range of complexities and resource requirements. However, the team found that some RD researchers needed to better understand how each research station trial and each farm-level trial or demonstration is related to a potential adopter group.

Various RD units (Range Management, Farm Management, Rural Sociology, Marketing, Extension/Communication) had collaborated in collecting data. However, the third evaluation cautioned that "it is crucial that the data collected be analyzed and taken into consideration when determining priorities for crop, livestock, and range trials and demonstrations" (Dunn, 1983:33). Further, similar to the second evaluation's observation of the need for the project to understand why farmers do what they do, the third evaluation noted that little attention had been given to:

the reasons for the practices followed by the farmers: a sufficient amount of information exists on what farmers do but not why. . . . Collection of information on the Whys requires a very well designed research effort... (Dunn, 1983:33).

Accordingly, the third evaluation recommended that the project:

- Give top priority to research aimed at understanding the farmers' rationale for specific crop and livestock practices and intra-household decision-making related to key variables.
- Continue work on classifying farmers and adapting recommendations to the physical resources of each group.
- Conduct an economic analysis based on data from farmers' fields prior to classifying a technology as ready for demonstration and dissemination.
- Give greater attention to monitoring, to assess adoption rates.

#### End of Project Status (EOPS)

The EOPS was that at least five percent of the farmers (about 146 farm households) in the project's PAs would be using technologies developed by the project. Despite progress made with on-farm trials, the third evaluation team cautioned that:

There is...a difference between on-farm trials and adoption of improved farm technology. ... In the case of all agronomic trials observed..., significant adoption probably cannot be expected to occur before the 1984-85 or the 1985-86 cropping seasons. Again, verification and demonstration must occur before adoption can be expected (Dunn, 1983:36).

However, by the time of the fourth evaluation (Frolik and Thompson, 1968), sufficient data had become available to enable the evaluation team to conclude that the project design target of reaching at least five percent of the farmers in the PAs had been achieved. A factor identified as a major contributor to achievement of the design target was the role of the Village Agricultural Committees (VACs). The VACs had proven to be "an excellent way of getting farmer and community involvement in technology testing, transfer, and adoption" (Frolik and Thompson, 1986:ii). For example, VAC members assisted in the choice of research problems and farmers for on-farm trials.

A study by the LFSRP concluded that VAC members had been "effective disseminators of agricultural information and diffusers of innovations" (cited in Frolik and Thompson, 1986:37), with each VAC member influencing an average of 8.8 persons through a combination of telling, showing, and facilitating the observation of agricultural innovations. Based on an extrapolation from a sample of 54 of the 234 VAC members, the team concluded that "it is likely that farmer contact group members have diffused innovations deriving from farming systems research to nearly 2000 persons" from 1979 to 1984 (cited in Frolik and Thompson, 1986:37). The effectiveness of the VACs in the three PAs resulted in the Extension Division of the Department of Field Services adopting this model for all 10 extension districts of the country.

Institutionalization - How did the project provide for the implementing agency to develop a sustainable capability to continue to perform the types of activities supported by the project?

The second evaluation found that the project design had not adequately addressed the Research Division's manpower and organizational needs. As the team noted, there were not enough trained Basotho agriculturalists to work with the TA team as co-workers and to leave the country for training. Also, existing training plans did not allow sufficient time to recruit and train national staff in functions that would continue after project termination. Further, as earlier noted, the project experienced delays in selecting and processing participants for training. Only three participants had been sent for long-term training in the U.S. as of the date of the second evaluation report. The first of these, sent in 1978, returned with a M.Sc. degree and became Director of the RD. Overall, delays were also encountered in programming short-term external and short-term internal training programs.

To accelerate training and staff development, the second evaluation team recommended that the project assist the RD in preparing a manpower development plan to increase the total number of Basotho receiving specialized training in agriculture. Training could be accelerated by intensive courses and on-the-job training in the RD as well as short-term training at the IARCs. By the end of the project, the fourth evaluation team found that

good progress has been made in degree-level training of RD personnel. However, the process is a slow and costly one with many participants entering U.S. universities at the beginning...level. There has been some, but not extensive, use of non-degree level training at international agricultural research centers and the U.S. There has been an active program of short courses and in-service training with counterparts. Nevertheless, with the departure of the WSU

team, the RD is not a viable research institution in terms of the adaptive research goals set forth in its policy statement (Frolik and Thompson, 1986:28).

Accordingly, the team recommended that USAID/Lesotho continue support for training RD personnel.

The team also recommended that the project reduce "its visibility as a Farming Systems Project" (Martin, et al., 1981:23) and that the TA team identify more closely with the RD, by orienting the project "to the development of the Research Division as a National Institution." The team noted that the RD

needs...to incorporate two fundamental criteria of...Farming Systems Research. One of these is a firm knowledge of the farmer and his system of farming and a sound understanding of why that system. The second fundamental criteria is the inclusion of adaptive or on-farm research, i.e., the testing under farm conditions of technology before it is promoted on a large scale for farmer adoption (Martin, et al., 1981:23).

A second constraint to institutionalizing FSR/E, noted by the team, was the project's "confinement" to the PAs. These areas, the team felt, had been made too small and restrictive, and that work in each had been so intense that the project appeared to be taking on an area development rather than a technology innovation focus. At the same time, while working in the PAs, the TA team had not facilitated the development of an effective working relationship between the RD and the District Agricultural Office structure.

Adaptive on-farm research is only a very small step away from result demonstrations--one of the most effective extension tools and district personnel, in their own interests, not as a favor to research, may participate in trials and be able to move new technology to farmers. ...we see a need for the Research Division and the contractor to initiate more collaborative research/extension activities with the District Agriculture Offices. The district level subject matter specialists could be tapped to assist in the conducting and monitoring of adaptive research trials. This joint collaboration at the district level will aid in strengthening the professional skills of subject matter specialists and provide a background for training the extension officers (Martin, et al., 1981:23-24).

Accordingly, the second evaluation team recommended that the project not establish a FSR Unit and instead focus resources on institutionalizing an effective research and extension capacity in the MOA. While the LFSRP could make progress toward developing this capacity, the evaluation team felt that:

The development of a research/extension project must be considered long term with a planning horizon of ten to twenty years. Given the current state of research in Lesotho it is not realistic to expect that enough can be achieved in five years in developing institutional capacity (Martin, et al., 1981:31).

The second evaluation team also noted that the PP had made "no mention...of a longer horizon (15-20 years) which is always needed to develop a purposeful agricultural research institution" (Martin, et al., 1981:1).

Although the project output of a FSR Unit had not been officially changed by the time of the third evaluation, all parties (GOL, TA team, and USAID/Lesotho) agreed that the project should strengthen the overall RD program rather than establish a FSR Unit. However, while the expansion of the project to work with the entire RD was good for research, the allocation of a greater amount of project staff and counterpart time on non-FSR activities was partially responsible for a delay in implementing farm-level trials. Such a dilution of effort was not necessarily bad. However, the reorientation of the project should be taken into account in evaluating expectations regarding what the reoriented project could reasonably be expected to accomplish as a FSR/E initiative, especially in view of the project having abandoned the output of establishing a FSR Unit and having adopted the output of strengthening the research/extension capacity of the RD.

In terms of institutionalizing a methodology for FSR, the third evaluation report noted that:

the "complete how to" of FSR, from the initial stages of problem diagnosis and farm-level testing to the final stages of demonstration and subsequent adoption, has yet to be developed for Lesotho. Since the 1982-83 crop year represents the first attempt at systematic on-farm trials, much of the planning necessary for subsequent phases of FSR will fall on the RD between the upcoming harvest and the 1983-84 planting season. This evolving methodology, when finished, will allow extension of FSR to other areas of Lesotho. Also, by relying on the many Basotho researchers, extension agents and farm record managers, the Lesotho method of FSR will be developed jointly between the contractor and the local staff. Such a joint development means that the skills to extend FSR to other areas of the country will be left with Basotho researchers in the RD and the extension division (Dunn, 1983:21).

The third evaluation team recommended that the project make a greater effort to involve CIMMYT FSR outreach staff and ICRISAT staff in planning on-farm trials in future cropping seasons. This recommendation implies that the FSR/E expertise required for planning on-farm trials may have gone beyond that of the TA team.

Progress toward institutionalizing FSR/E in Lesotho by the end of the LFSRP was summarized in the project's final evaluation report (Frolik and Thompson, 1986). While the RD has a strong orientation to farmers' problems, excellent links to farmer and community groups, and adaptive research in farm management, marketing, rural sociology, and extension, "with the departure of the WSU team, the RD is not a viable research institution in terms of the adaptive research goals set forth in its policy statement" (Frolik and Thompson, 1986:28). Further,

the RD does not yet have the institutional capacity to carry out an effective adaptive research program without continuing technical assistance. The critical mass of personnel is lacking in all sections and collectively. Some disciplines received little, if any, support from the FSR project. Capacity to plan, lead, and implement an effective, well-balanced, adaptive research program is a critical need (Frolik and Thompson, 1986:iii).

The team felt that the chief problem was the lack of adequately trained and experienced staff members to provide leadership.

But some significant progress had been made. The TA team and the RD had successfully oriented the RD to conducting FSR closely tied to farmers and farm problems. However, while the project had made progress in working with farmers, similar progress had not been made in "building the production research capability of the RD including the...substations" (Frolik and Thompson, 1986:33). Accordingly, the key area identified in the fourth evaluation as needing strengthening was the "research station base of adaptive research in the production disciplines and a clear understanding of the need for a balanced program of research stations and substations and/or PA headquarters experimentation, and on-farm trials, tests, and demonstrations" (Frolik and Thompson, 1986:ii).

The evaluation team called for assistance to the RD to continue as a component of the follow-on Lesotho Agricultural Production and Institutional Support (LAPIS) project. Also, the team recommended that the RD greatly reduce the number of "on-farm" replicated field trials and increase the quality and precision of on-station replicated experiments to maximize production of reliable data, allowing on-farm demonstrations to provide farmers with first-hand information.

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## Annex A. Project Description Sheet.

This Project Description Sheet lists the core, operational, and generic constraints identified in this project, per the following codes: core (C), operational (O), and generic (G). A positive (+) sign after a constraint indicates that the project was effectively coping with the identified constraint.<sup>3</sup>

Core Constraints (C)

- C.1 Farmer Orientation
- C.2 Farmer Participation
- C.3 Locational Specificity of Technical and Human Factors
- C.4 Problem-Solving Approach
- C.5 Systems Orientation
- C.6 Interdisciplinary Approach
- C.7 Complementarity with Commodity and Discipline Research
- C.8 Technology Testing in On-Farm Trials
- C.9 Feedback to Shape:
  - a. Agricultural Research Priorities
  - b. Agricultural Policies

Operational Constraints (O)

- O.1 Stakeholder Understanding of FSR/E
- O.2 Agricultural Research Policy/Strategy Defining Role of FSR/E
- O.3 Long-Term Commitment of Resources
- O.4 Existing Research Capability and Shelf Technology
- O.5 Consensus on FSR/E Methodology
- O.6 Capability to Process Farming Systems Data
- O.7 Consensus on Criteria for Evaluating FSR/E
- O.8 Links with Extension
- O.9 Links with Agri-Support Services
- O.10 Links with Farmer Organizations

Generic Constraints (G)

- G.1 Project Management Structure
- G.2 Government Funding to Meet Recurrent Costs
- G.3 Staffing with Trained Manpower
- G.4 Management of Training
- G.5 Management of Technical Assistance
- G.6 Factors Beyond a Project's Control

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<sup>3</sup>An analysis of these constraints in 12 FSR/E projects appears in A Review of A.I.D. Experience with Farming Systems Research and Extension Projects, A.I.D. Evaluation Special Study (forthcoming), available from A.I.D.'s Document and Information Handling Facility (per instructions on last page of this report).

Lesotho/FSRP - Farming Systems Research Project (632-0065)

Initial Authorization: 1978 (for 5 years)

Goal: "to improve the quality of rural life" and "to increase rural income from agriculture"

Purpose: Assist the newly established Research Division of the Ministry of Agriculture in conducting agricultural research "to create more productive agricultural enterprise mixes which are acceptable to farmers, sensitive to farmers' management ability, appropriate to resource availability, and protective of the land base." Also, "to develop effective means to reach farmers and gain their understanding and acceptance of the practices recommended."

Outputs:

1. Farming Systems Research (FSR) Unit;
2. Farming Systems (FS) program;
3. Strategies for reaching farmers;
4. Trained Basotho personnel;
5. Research and information data base; and
6. Agricultural research library

Implementing Agency: Research Division, Ministry of Agriculture

TA Contractor: Consortium for International Development, with Washington State University as lead university.

Evaluations: Four -- a preliminary evaluation in 1980 (Dunn and Bahl, 1980); an interim evaluation in 1981 (Martin, et al., 1981); a special evaluation in 1983 (Dunn, 1983); and a final evaluation in 1986 (Frolik and Thompson, 1986).

Constraints: C.1, C.3, C.4, C.7, O.1, O.2, O.3, O.4, O.5, O.6, O.7, O.8, O.9, O.10, G.2, G.3, G.4, G.5.

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